

gsasl

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Chapter 1

GNU SASL Library

1.1 Introduction

GNU SASL is an implementation of the Simple Authentication and Security Layer framework and a few common SASL mechanisms. SASL is used by network servers (e.g., IMAP, SMTP) to request authentication from clients, and in clients to authenticate against servers.

GNU SASL consists of a library ('libgsasl'), a command line utility ('gsasl') to access the library from the shell, and a manual. The library includes support for the framework (with authentication functions and application data privacy and integrity functions) and at least partial support for the CRAM-MD5, EXTERNAL, GSSAPI, ANONYMOUS, PLAIN, SECURID, DIGEST-MD5, LOGIN, and NTLM mechanisms.

The library is easily ported because it does not do network communication by itself, but rather leaves it up to the calling application. The library is flexible with regards to the authorization infrastructure used, as it utilizes a callback into the application to decide whether a user is authorized or not.

GNU SASL is developed for the GNU/Linux system, but runs on over 20 platforms including most major Unix platforms and Windows, and many kind of devices including iPAQ handhelds and S/390 mainframes.

GNU SASL is written in pure ANSI C89 to be portable to embedded and otherwise limited platforms. The entire library, with full support for ANONYMOUS, EXTERNAL, PLAIN, LOGIN and CRAM-MD5, and the front-end that support client and server mode, and the IMAP and SMTP protocols, fits in under 60kb on an Intel x86 platform, without any modifications to the code. (This figure was accurate as of version 0.0.13.)

The library is licensed under the GNU Lesser General Public License, and the command-line interface, self-tests and examples are licensed under the GNU General Public License.

The project web page:

<http://www.gnu.org/software/gsas1/>

The software archive:

<ftp://alpha.gnu.org/pub/gnu/gsas1/>

Further information and paid contract development:

Simon Josefsson <simon@josefsson.org>

1.2 Logical overview

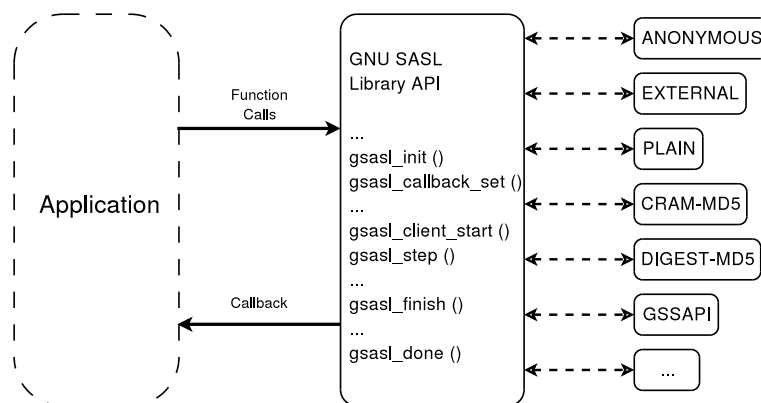


Figure 1.1: Logical overview

1.3 Control flow in application using the library

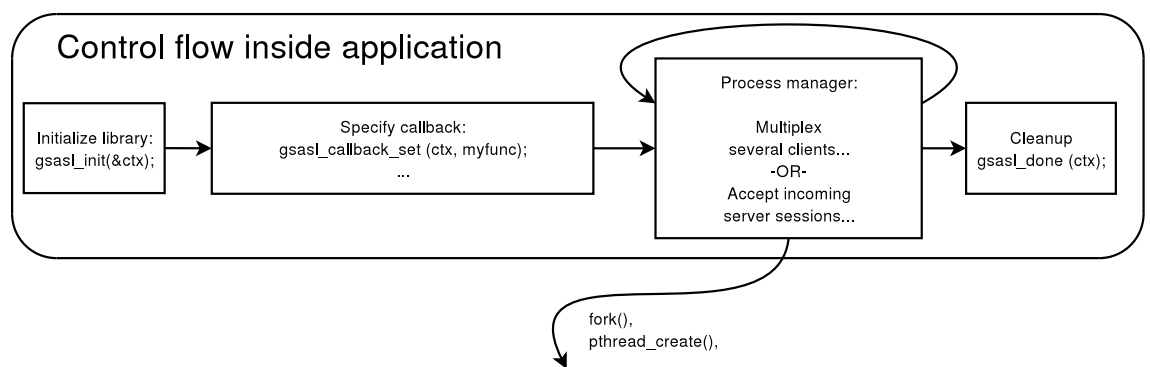


Figure 1.2: Control flow

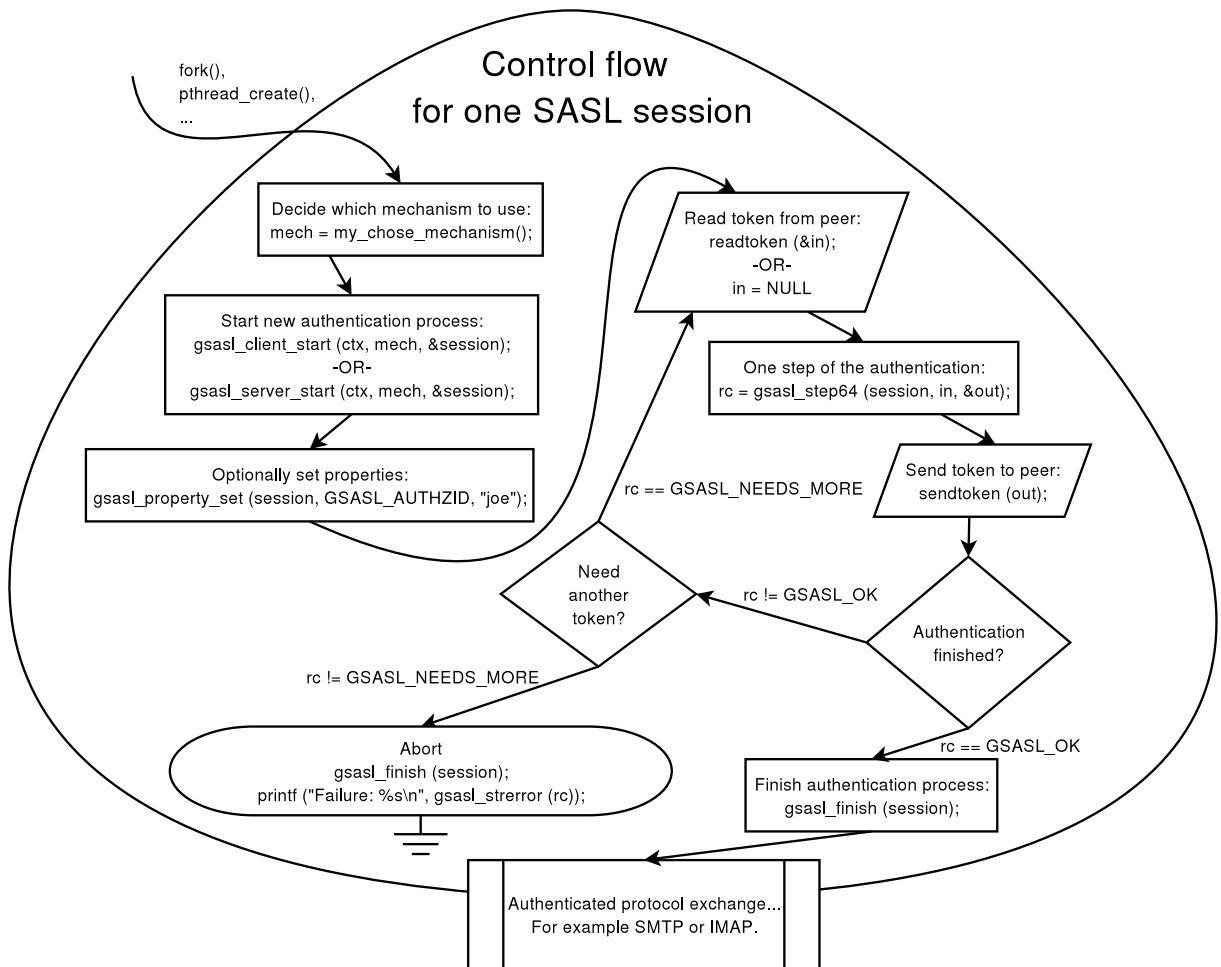


Figure 1.3: Control flow

1.4 Examples

```

/* client.c --- Example SASL client.
 * Copyright (C) 2004-2012 Simon Josefsson
 *
 * This file is part of GNU SASL.
 *
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 * it under the terms of the GNU General Public License as published by
 * the Free Software Foundation, either version 3 of the License, or
 * (at your option) any later version.
 *
 * This program is distributed in the hope that it will be useful,
 * but WITHOUT ANY WARRANTY; without even the implied warranty of

```

```
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* GNU General Public License for more details.
*
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* along with this program. If not, see <http://www.gnu.org/licenses/>.
*
*/

#include <config.h>
#include <stdarg.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#include <gsasl.h>

static void
client_authenticate (Gsasl_session * session)
{
    char buf[BUFSIZ] = "";
    char *p;
    int rc;

    /* This loop mimics a protocol where the client send data first. */

    do
    {
        /* Generate client output. */
        rc = gsasl_step64 (session, buf, &p);

        if (rc == GSASL_NEEDS_MORE || rc == GSASL_OK)
        {
            /* If successful, print it. */
            printf ("Output:\n%s\n", p);
            gsasl_free (p);
        }

        if (rc == GSASL_NEEDS_MORE)
        {
            /* If the client need more data from server, get it here. */
            printf ("Input base64 encoded data from server:\n");
            p = fgets (buf, sizeof (buf) - 1, stdin);
            if (p == NULL)
            {
                perror ("fgets");
                return;
            }
            if (buf[strlen (buf) - 1] == '\n')
                buf[strlen (buf) - 1] = '\0';
        }
    }
    while (rc == GSASL_NEEDS_MORE);

    printf ("\n");

    if (rc != GSASL_OK)
    {
        printf ("Authentication error (%d): %s\n", rc, gsasl_strerror (rc));
        return;
    }

    /* The client is done. Here you would typically check if the server
```

```
    let the client in.  If not, you could try again. */

    printf ("If server accepted us, we're done.\n");
}

static void
client (Gsasl * ctx)
{
    Gsasl_session *session;
    const char *mech = "PLAIN";
    int rc;

    /* Create new authentication session. */
    if ((rc = gsasl_client_start (ctx, mech, &session)) != GSASL_OK)
    {
        printf ("Cannot initialize client (%d): %s\n", rc, gsasl_strerror (rc));
        return;
    }

    /* Set username and password in session handle.  This info will be
       lost when this session is deallocated below.  */
    gsasl_property_set (session, GSASL_AUTHID, "jas");
    gsasl_property_set (session, GSASL_PASSWORD, "secret");

    /* Do it. */
    client_authenticate (session);

    /* Cleanup. */
    gsasl_finish (session);
}

int
main (int argc, char *argv[])
{
    Gsasl *ctx = NULL;
    int rc;

    /* Initialize library. */
    if ((rc = gsasl_init (&ctx)) != GSASL_OK)
    {
        printf ("Cannot initialize libgsasl (%d): %s", rc, gsasl_strerror (rc));
        return 1;
    }

    /* Do it. */
    client (ctx);

    /* Cleanup. */
    gsasl_done (ctx);

    return 0;
}

/* client-serverfirst.c --- Example SASL client, where server send data first.
 * Copyright (C) 2004-2012 Simon Josefsson
 *
 * This file is part of GNU SASL.
 *
 * This program is free software: you can redistribute it and/or modify
 * it under the terms of the GNU General Public License as published by
 * the Free Software Foundation, either version 3 of the License, or
 * (at your option) any later version.
```

```

*
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* GNU General Public License for more details.
*
* You should have received a copy of the GNU General Public License
* along with this program. If not, see <http://www.gnu.org/licenses/>.
*
*/

#include <config.h>
#include <stdarg.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#include <gsasl.h>

static void
client_authenticate (Gsasl_session * session)
{
    char buf[BUFSIZ] = "";
    char *p;
    int rc;

    /* This loop mimics a protocol where the server send data first. */

    do
    {
        printf ("Input base64 encoded data from server:\n");
        p = fgets (buf, sizeof (buf) - 1, stdin);
        if (p == NULL)
        {
            perror ("fgets");
            return;
        }
        if (buf[strlen (buf) - 1] == '\n')
            buf[strlen (buf) - 1] = '\0';

        rc = gsasl_step64 (session, buf, &p);

        if (rc == GSASL_NEEDS_MORE || rc == GSASL_OK)
        {
            printf ("Output:\n%s\n", p);
            gsasl_free (p);
        }
    }
    while (rc == GSASL_NEEDS_MORE);

    printf ("\n");

    if (rc != GSASL_OK)
    {
        printf ("Authentication error (%d): %s\n", rc, gsasl_strerror (rc));
        return;
    }

    /* The client is done. Here you would typically check if the server
    let the client in. If not, you could try again. */

    printf ("If server accepted us, we're done.\n");

```



```
}

static void
client (Gsasl * ctx)
{
    Gsasl_session *session;
    const char *mech = "CRAM-MD5";
    int rc;

    /* Create new authentication session. */
    if ((rc = gsasl_client_start (ctx, mech, &session)) != GSASL_OK)
    {
        printf ("Cannot initialize client (%d): %s\n", rc, gsasl_strerror (rc));
        return;
    }

    /* Set username and password in session handle.  This info will be
       lost when this session is deallocated below. */
    gsasl_property_set (session, GSASL_AUTHID, "jas");
    gsasl_property_set (session, GSASL_PASSWORD, "secret");

    /* Do it. */
    client_authenticate (session);

    /* Cleanup. */
    gsasl_finish (session);
}

int
main (int argc, char *argv[])
{
    Gsasl *ctx = NULL;
    int rc;

    /* Initialize library. */
    if ((rc = gsasl_init (&ctx)) != GSASL_OK)
    {
        printf ("Cannot initialize libgsasl (%d): %s", rc, gsasl_strerror (rc));
        return 1;
    }

    /* Do it. */
    client (ctx);

    /* Cleanup. */
    gsasl_done (ctx);

    return 0;
}

/* client-mech.c --- Example SASL client, with a choice of mechanism to use.
 * Copyright (C) 2004-2012 Simon Josefsson
 *
 * This file is part of GNU SASL.
 *
 * This program is free software: you can redistribute it and/or modify
 * it under the terms of the GNU General Public License as published by
 * the Free Software Foundation, either version 3 of the License, or
 * (at your option) any later version.
 *
 * This program is distributed in the hope that it will be useful,
 * but WITHOUT ANY WARRANTY; without even the implied warranty of
```

```

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* GNU General Public License for more details.
*
* You should have received a copy of the GNU General Public License
* along with this program. If not, see <http://www.gnu.org/licenses/>.
*
*/

#include <config.h>
#include <stdarg.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#include <gsasl.h>

static void
client_authenticate (Gsasl_session * session)
{
    char buf[BUFSIZ] = "";
    char *p;
    int rc;

    /* This loop mimics a protocol where the server send data first. */

    do
    {
        printf ("Input base64 encoded data from server:\n");
        p = fgets (buf, sizeof (buf) - 1, stdin);
        if (p == NULL)
        {
            perror ("fgets");
            return;
        }
        if (buf[strlen (buf) - 1] == '\n')
            buf[strlen (buf) - 1] = '\0';

        rc = gsasl_step64 (session, buf, &p);

        if (rc == GSASL_NEEDS_MORE || rc == GSASL_OK)
        {
            printf ("Output:\n%s\n", p);
            gsasl_free (p);
        }
    }
    while (rc == GSASL_NEEDS_MORE);

    printf ("\n");

    if (rc != GSASL_OK)
    {
        printf ("Authentication error (%d): %s\n", rc, gsasl_strerror (rc));
        return;
    }

    /* The client is done. Here you would typically check if the server
       let the client in. If not, you could try again. */

    printf ("If server accepted us, we're done.\n");
}

static const char *

```

```

client_mechanism (Gsassl * ctx)
{
    static char mech[GSASL_MAX_MECHANISM_SIZE + 1] = "";
    char mechlist[BUFSIZ] = "";
    const char *suggestion;
    char *p;

    printf ("Enter list of server supported mechanisms, separate by SPC:\n");
    p = fgets (mechlist, sizeof (mechlist) - 1, stdin);
    if (p == NULL)
    {
        perror ("fgets");
        return NULL;
    }

    suggestion = gsassl_client_suggest_mechanism (ctx, mechlist);
    if (suggestion)
        printf ("Library suggests use of '%s'.\n", suggestion);

    printf ("Enter mechanism to use:\n");
    p = fgets (mech, sizeof (mech) - 1, stdin);
    if (p == NULL)
    {
        perror ("fgets");
        return NULL;
    }

    mech[strlen (mech) - 1] = '\0';

    return mech;
}

static void
client (Gsassl * ctx)
{
    Gsassl_session *session;
    const char *mech;
    int rc;

    /* Find out which mechanism to use. */
    mech = client_mechanism (ctx);

    /* Create new authentication session. */
    if ((rc = gsassl_client_start (ctx, mech, &session)) != GSASL_OK)
    {
        printf ("Cannot initialize client (%d): %s\n", rc, gsassl_strerror (rc));
        return;
    }

    /* Set username and password in session handle. This info will be
       lost when this session is deallocated below. */
    gsassl_property_set (session, GSASL_AUTHID, "jas");
    gsassl_property_set (session, GSASL_PASSWORD, "secret");

    /* Do it. */
    client_authenticate (session);

    /* Cleanup. */
    gsassl_finish (session);
}

int

```

```

main (int argc, char *argv[])
{
    Gsasl *ctx = NULL;
    int rc;

    /* Initialize library. */
    if ((rc = gsasl_init (&ctx)) != GSASL_OK)
    {
        printf ("Cannot initialize libgsasl (%d): %s", rc, gsasl_strerror (rc));
        return 1;
    }

    /* Do it. */
    client (ctx);

    /* Cleanup. */
    gsasl_done (ctx);

    return 0;
}

/* client-callback.c --- Example SASL client, with callback for user info.
 * Copyright (C) 2004-2012 Simon Josefsson
 *
 * This file is part of GNU SASL.
 *
 * This program is free software: you can redistribute it and/or modify
 * it under the terms of the GNU General Public License as published by
 * the Free Software Foundation, either version 3 of the License, or
 * (at your option) any later version.
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 * GNU General Public License for more details.
 *
 * You should have received a copy of the GNU General Public License
 * along with this program. If not, see <http://www.gnu.org/licenses/>.
 */

#include <config.h>
#include <stdarg.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#include <gsasl.h>

static void
client_authenticate (Gsasl_session * session)
{
    char buf[BUFSIZ] = "";
    char *p;
    int rc;

    /* This loop mimics a protocol where the server send data first. */

    do
    {
        printf ("Input base64 encoded data from server:\n");
        p = fgets (buf, sizeof (buf) - 1, stdin);

```

```
    if (p == NULL)
    {
        perror ("fgets");
        return;
    }
    if (buf[strlen (buf) - 1] == '\n')
        buf[strlen (buf) - 1] = '\0';

    rc = gsasl_step64 (session, buf, &p);

    if (rc == GSASL_NEEDS_MORE || rc == GSASL_OK)
    {
        printf ("Output:\n%s\n", p);
        gsasl_free (p);
    }
}
while (rc == GSASL_NEEDS_MORE);

printf ("\n");

if (rc != GSASL_OK)
{
    printf ("Authentication error (%d): %s\n", rc, gsasl_strerror (rc));
    return;
}

/* The client is done. Here you would typically check if the server
   let the client in. If not, you could try again. */

printf ("If server accepted us, we're done.\n");
}

static void
client (Gsasl * ctx)
{
    Gsasl_session *session;
    const char *mech = "SECURID";
    int rc;

    /* Create new authentication session. */
    if ((rc = gsasl_client_start (ctx, mech, &session)) != GSASL_OK)
    {
        printf ("Cannot initialize client (%d): %s\n", rc, gsasl_strerror (rc));
        return;
    }

    /* Do it. */
    client_authenticate (session);

    /* Cleanup. */
    gsasl_finish (session);
}

static int
callback (Gsasl * ctx, Gsasl_session * sctx, Gsasl_property prop)
{
    char buf[BUFSIZ] = "";
    int rc = GSASL_NO_CALLBACK;
    char *p;

    /* Get user info from user. */
```

```

printf ("Callback invoked, for property %d.\n", prop);

switch (prop)
{
case GSASL_PASSCODE:
printf ("Enter passcode:\n");
p = fgets (buf, sizeof (buf) - 1, stdin);
if (p == NULL)
{
perror ("fgets");
break;
}
buf[strlen (buf) - 1] = '\0';

gsasl_property_set (sctx, GSASL_PASSCODE, buf);
rc = GSASL_OK;
break;

case GSASL_AUTHID:
printf ("Enter username:\n");
p = fgets (buf, sizeof (buf) - 1, stdin);
if (p == NULL)
{
perror ("fgets");
break;
}
buf[strlen (buf) - 1] = '\0';

gsasl_property_set (sctx, GSASL_AUTHID, buf);
rc = GSASL_OK;
break;

default:
printf ("Unknown property! Don't worry.\n");
break;
}

return rc;
}

int
main (int argc, char *argv[])
{
Gsasl *ctx = NULL;
int rc;

/* Initialize library. */
if ((rc = gsasl_init (&ctx)) != GSASL_OK)
{
printf ("Cannot initialize libgsasl (%d): %s", rc, gsasl_strerror (rc));
return 1;
}

/* Set the callback handler for the library. */
gsasl_callback_set (ctx, callback);

/* Do it. */
client (ctx);

/* Cleanup. */
gsasl_done (ctx);

```

```
    return 0;  
}
```


Chapter 2

Directory Hierarchy

2.1 Directories

This directory hierarchy is sorted roughly, but not completely, alphabetically:

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|-----------------------|----|
| lib | 25 |
| anonymous | 23 |
| cram-md5 | 23 |
| digest-md5 | 23 |
| external | 24 |
| gs2 | 24 |
| gssapi | 25 |
| kerberos_v5 | 25 |
| login | 26 |
| ntlm | 26 |
| openid20 | 26 |
| plain | 26 |
| saml20 | 26 |
| scram | 27 |
| securid | 27 |
| src | 27 |

Chapter 3

Data Structure Index

3.1 Data Structures

Here are the data structures with brief descriptions:

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| _Gsasl_digest_md5_server_state | 31 |
| _gsasl_gs2_client_state | 32 |
| _Gsasl_gs2_server_state | 33 |
| _Gsasl_gssapi_client_state | 34 |
| _Gsasl_gssapi_server_state | 35 |
| _Gsasl_kerberos_v5_client_state | 36 |
| _Gsasl_kerberos_v5_server_state | 38 |
| _Gsasl_login_client_state | 41 |
| _Gsasl_login_server_state | 41 |
| _Gsasl_ntlm_state | 42 |
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| Gsasl_mechanism | 50 |
| Gsasl_mechanism_functions | 50 |
| Gsasl_session | 52 |
| openid20_client_state | 55 |
| openid20_server_state | 56 |
| saml20_client_state | 56 |
| saml20_server_state | 57 |
| scram_client_final | 57 |
| scram_client_first | 58 |
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| scram_server_first | 61 |
| scram_server_state | 62 |

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

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| base64.c | 66 |
| callback.c | 67 |
| challenge.c | 70 |
| challenge.h | 71 |
| anonymous/client.c | 71 |
| cram-md5/client.c | 72 |
| digest-md5/client.c | 72 |
| external/client.c | 74 |
| gs2/client.c | 74 |
| gssapi/client.c | 75 |
| kerberos_v5/client.c | 76 |
| login/client.c | 78 |
| openid20/client.c | 79 |
| plain/client.c | 80 |
| saml20/client.c | 81 |
| scram/client.c | 81 |
| securid/client.c | 83 |
| cram-md5.h | 84 |
| crypto.c | 85 |
| digest-md5.h | 87 |
| digest.c | 90 |
| digest.h | 90 |
| digesthmac.c | 91 |
| digesthmac.h | 94 |
| done.c | 94 |
| doxygen.c | 94 |
| error.c | 95 |
| external.h | 97 |

| | |
|-----------------------|-----|
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| src/free.c | 98 |
| free.h | 99 |
| getsubopt.c | 100 |
| gs2.h | 100 |
| gs2helper.c | 102 |
| gs2helper.h | 102 |
| gsasl-compat.h | 102 |
| gsasl-mech.h | 142 |
| gsasl.h | 144 |
| init.c | 174 |
| internal.h | 176 |
| kerberos_v5.c | 176 |
| kerberos_v5.h | 177 |
| listmech.c | 179 |
| login.h | 180 |
| md5pwd.c | 182 |
| anonymous/mechinfo.c | 183 |
| cram-md5/mechinfo.c | 183 |
| digest-md5/mechinfo.c | 184 |
| external/mechinfo.c | 184 |
| gs2/mechinfo.c | 185 |
| gssapi/mechinfo.c | 185 |
| login/mechinfo.c | 186 |
| ntlm/mechinfo.c | 186 |
| openid20/mechinfo.c | 186 |
| plain/mechinfo.c | 187 |
| saml20/mechinfo.c | 188 |
| scram/mechinfo.c | 188 |
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| openid20.h | 225 |
| digest-md5/parser.c | 226 |
| scram/parser.c | 229 |
| digest-md5/parser.h | 230 |
| scram/parser.h | 231 |
| plain.h | 232 |
| digest-md5/printer.c | 233 |
| scram/printer.c | 233 |
| digest-md5/printer.h | 234 |
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| property.c | 235 |
| qop.c | 238 |
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| register.c | 239 |
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| scram.h | 241 |
| securid.h | 243 |
| anonymous/server.c | 245 |
| cram-md5/server.c | 245 |
| digest-md5/server.c | 246 |
| external/server.c | 248 |
| gs2/server.c | 248 |
| gssapi/server.c | 249 |
| kerberos_v5/server.c | 250 |
| login/server.c | 251 |
| openid20/server.c | 252 |
| plain/server.c | 253 |
| saml20/server.c | 253 |
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| securid/server.c | 256 |
| session.c | 256 |
| session.h | 258 |
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| suggest.c | 260 |
| supportp.c | 261 |
| test-parser.c | 262 |
| tokens.c | 262 |
| digest-md5/tokens.h | 263 |
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| digest-md5/validate.h | 267 |
| scram/validate.h | 268 |
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| x-gssapi.h | 269 |
| x-ntlm.h | 271 |
| xcode.c | 272 |
| xfinish.c | 273 |
| xstart.c | 274 |
| xstep.c | 275 |

Chapter 5

Directory Documentation

5.1 `/home/jas/src/gsas/lib/anonymous/` Directory Reference

Files

- file [anonymous.h](#)
- file [anonymous/client.c](#)
- file [anonymous/mechinfo.c](#)
- file [anonymous/server.c](#)

5.2 `/home/jas/src/gsas/lib/cram-md5/` Directory Reference

Files

- file [challenge.c](#)
- file [challenge.h](#)
- file [cram-md5/client.c](#)
- file [cram-md5.h](#)
- file [digest.c](#)
- file [digest.h](#)
- file [cram-md5/mechinfo.c](#)
- file [cram-md5/server.c](#)

5.3 `/home/jas/src/gsas/lib/digest-md5/` Directory Reference

Files

- file [digest-md5/client.c](#)
- file [digest-md5.h](#)

- file [digesthmac.c](#)
- file [digesthmac.h](#)
- file [digest-md5/free.c](#)
- file [free.h](#)
- file [getsubopt.c](#)
- file [digest-md5/mechinfo.c](#)
- file [nonascii.c](#)
- file [nonascii.h](#)
- file [digest-md5/parser.c](#)
- file [digest-md5/parser.h](#)
- file [digest-md5/printer.c](#)
- file [digest-md5/printer.h](#)
- file [qop.c](#)
- file [qop.h](#)
- file [digest-md5/server.c](#)
- file [session.c](#)
- file [session.h](#)
- file [test-parser.c](#)
- file [digest-md5/tokens.h](#)
- file [digest-md5/validate.c](#)
- file [digest-md5/validate.h](#)

5.4 /home/jas/src/gsas/lib/external/ Directory Reference

Files

- file [external/client.c](#)
- file [external.h](#)
- file [external/mechinfo.c](#)
- file [external/server.c](#)

5.5 /home/jas/src/gsas/lib/gs2/ Directory Reference

Files

- file [gs2/client.c](#)
- file [gs2.h](#)
- file [gs2helper.c](#)
- file [gs2helper.h](#)
- file [gs2/mechinfo.c](#)
- file [gs2/server.c](#)

5.6 /home/jas/src/gsas/lib/gssapi/ Directory Reference

Files

- file [gssapi/client.c](#)
- file [gssapi/mechinfo.c](#)
- file [gssapi/server.c](#)
- file [x-gssapi.h](#)

5.7 /home/jas/src/gsas/lib/kerberos_v5/ Directory Reference

Files

- file [kerberos_v5/client.c](#)
- file [kerberos_v5.c](#)
- file [kerberos_v5.h](#)
- file [kerberos_v5/server.c](#)
- file [shared.h](#)

5.8 /home/jas/src/gsas/lib/ Directory Reference

Directories

- directory [anonymous](#)
- directory [cram-md5](#)
- directory [digest-md5](#)
- directory [external](#)
- directory [gs2](#)
- directory [gssapi](#)
- directory [kerberos_v5](#)
- directory [login](#)
- directory [ntlm](#)
- directory [openid20](#)
- directory [plain](#)
- directory [saml20](#)
- directory [scram](#)
- directory [securid](#)
- directory [src](#)

5.9 /home/jas/src/gsas/lib/login/ Directory Reference

Files

- file [login/client.c](#)
- file [login.h](#)
- file [login/mechinfo.c](#)
- file [login/server.c](#)

5.10 /home/jas/src/gsas/lib/ntlm/ Directory Reference

Files

- file [ntlm/mechinfo.c](#)
- file [ntlm.c](#)
- file [x-ntlm.h](#)

5.11 /home/jas/src/gsas/lib/openid20/ Directory Reference

Files

- file [openid20/client.c](#)
- file [openid20/mechinfo.c](#)
- file [openid20.h](#)
- file [openid20/server.c](#)

5.12 /home/jas/src/gsas/lib/plain/ Directory Reference

Files

- file [plain/client.c](#)
- file [plain/mechinfo.c](#)
- file [plain.h](#)
- file [plain/server.c](#)

5.13 /home/jas/src/gsas/lib/saml20/ Directory Reference

Files

- file [saml20/client.c](#)
- file [saml20/mechinfo.c](#)
- file [saml20.h](#)
- file [saml20/server.c](#)

5.14 /home/jas/src/gsas/lib/scram/ Directory Reference

Files

- file [scram/client.c](#)
- file [scram/mechinfo.c](#)
- file [scram/parser.c](#)
- file [scram/parser.h](#)
- file [scram/printer.c](#)
- file [scram/printer.h](#)
- file [scram.h](#)
- file [scram/server.c](#)
- file [tokens.c](#)
- file [scram/tokens.h](#)
- file [scram/validate.c](#)
- file [scram/validate.h](#)

5.15 /home/jas/src/gsas/lib/securid/ Directory Reference

Files

- file [securid/client.c](#)
- file [securid/mechinfo.c](#)
- file [securid.h](#)
- file [securid/server.c](#)

5.16 /home/jas/src/gsas/lib/src/ Directory Reference

Files

- file [base64.c](#)
- file [callback.c](#)
- file [crypto.c](#)
- file [done.c](#)
- file [doxygen.c](#)
- file [error.c](#)
- file [src/free.c](#)
- file [gsasl-compat.h](#)
- file [gsasl-mech.h](#)
- file [gsasl.h](#)
- file [init.c](#)
- file [internal.h](#)
- file [listmech.c](#)
- file [md5pwd.c](#)

- file [mechname.c](#)
- file [mechtools.c](#)
- file [mechtools.h](#)
- file [obsolete.c](#)
- file [property.c](#)
- file [register.c](#)
- file [saslprep.c](#)
- file [suggest.c](#)
- file [supportp.c](#)
- file [version.c](#)
- file [xcode.c](#)
- file [xfinish.c](#)
- file [xstart.c](#)
- file [xstep.c](#)

Chapter 6

Data Structure Documentation

6.1 `_Gssl_digest_md5_client_state` Struct Reference

Data Fields

- int `step`
- unsigned long `readseqnum`
- unsigned long `sendseqnum`
- char `secret` [DIGEST_MD5_LENGTH]
- char `kic` [DIGEST_MD5_LENGTH]
- char `kcc` [DIGEST_MD5_LENGTH]
- char `kis` [DIGEST_MD5_LENGTH]
- char `kcs` [DIGEST_MD5_LENGTH]
- `digest_md5_challenge` challenge
- `digest_md5_response` response
- `digest_md5_finish` finish

6.1.1 Detailed Description

Definition at line 48 of file `digest-md5/client.c`.

6.1.2 Field Documentation

6.1.2.1 `digest_md5_challenge` `_Gssl_digest_md5_client_state::challenge`

Definition at line 57 of file `digest-md5/client.c`.

6.1.2.2 `digest_md5_finish` `_Gssl_digest_md5_client_state::finish`

Definition at line 59 of file `digest-md5/client.c`.

6.1.2.3 `char _Gssasl_digest_md5_client_state::kcc[DIGEST_MD5_LENGTH]`

Definition at line 54 of file digest-md5/client.c.

6.1.2.4 `char _Gssasl_digest_md5_client_state::kcs[DIGEST_MD5_LENGTH]`

Definition at line 56 of file digest-md5/client.c.

6.1.2.5 `char _Gssasl_digest_md5_client_state::kic[DIGEST_MD5_LENGTH]`

Definition at line 53 of file digest-md5/client.c.

6.1.2.6 `char _Gssasl_digest_md5_client_state::kis[DIGEST_MD5_LENGTH]`

Definition at line 55 of file digest-md5/client.c.

6.1.2.7 `unsigned long _Gssasl_digest_md5_client_state::readseqnum`

Definition at line 51 of file digest-md5/client.c.

6.1.2.8 `digest_md5_response _Gssasl_digest_md5_client_state::response`

Definition at line 58 of file digest-md5/client.c.

6.1.2.9 `char _Gssasl_digest_md5_client_state::secret[DIGEST_MD5_LENGTH]`

Definition at line 52 of file digest-md5/client.c.

6.1.2.10 `unsigned long _Gssasl_digest_md5_client_state::sendseqnum`

Definition at line 51 of file digest-md5/client.c.

6.1.2.11 `int _Gssasl_digest_md5_client_state::step`

Definition at line 50 of file digest-md5/client.c.

The documentation for this struct was generated from the following file:

- [digest-md5/client.c](#)

6.2 `_Gsassl_digest_md5_server_state` Struct Reference

Data Fields

- int `step`
- unsigned long `readseqnum`
- unsigned long `sendseqnum`
- char `secret` [`DIGEST_MD5_LENGTH`]
- char `kic` [`DIGEST_MD5_LENGTH`]
- char `kcc` [`DIGEST_MD5_LENGTH`]
- char `kis` [`DIGEST_MD5_LENGTH`]
- char `kcs` [`DIGEST_MD5_LENGTH`]
- `digest_md5_challenge` `challenge`
- `digest_md5_response` `response`
- `digest_md5_finish` `finish`

6.2.1 Detailed Description

Definition at line 49 of file `digest-md5/server.c`.

6.2.2 Field Documentation

6.2.2.1 `digest_md5_challenge` `_Gsassl_digest_md5_server_state::challenge`

Definition at line 58 of file `digest-md5/server.c`.

6.2.2.2 `digest_md5_finish` `_Gsassl_digest_md5_server_state::finish`

Definition at line 60 of file `digest-md5/server.c`.

6.2.2.3 `char` `_Gsassl_digest_md5_server_state::kcc`[`DIGEST_MD5_LENGTH`]

Definition at line 55 of file `digest-md5/server.c`.

6.2.2.4 `char` `_Gsassl_digest_md5_server_state::kcs`[`DIGEST_MD5_LENGTH`]

Definition at line 57 of file `digest-md5/server.c`.

6.2.2.5 `char` `_Gsassl_digest_md5_server_state::kic`[`DIGEST_MD5_LENGTH`]

Definition at line 54 of file `digest-md5/server.c`.

6.2.2.6 char `_Gssasl_digest_md5_server_state::kis`[DIGEST_MD5_LENGTH]

Definition at line 56 of file `digest-md5/server.c`.

6.2.2.7 unsigned long `_Gssasl_digest_md5_server_state::readseqnum`

Definition at line 52 of file `digest-md5/server.c`.

6.2.2.8 `digest_md5_response` `_Gssasl_digest_md5_server_state::response`

Definition at line 59 of file `digest-md5/server.c`.

6.2.2.9 char `_Gssasl_digest_md5_server_state::secret`[DIGEST_MD5_LENGTH]

Definition at line 53 of file `digest-md5/server.c`.

6.2.2.10 unsigned long `_Gssasl_digest_md5_server_state::sendseqnum`

Definition at line 52 of file `digest-md5/server.c`.

6.2.2.11 int `_Gssasl_digest_md5_server_state::step`

Definition at line 51 of file `digest-md5/server.c`.

The documentation for this struct was generated from the following file:

- [digest-md5/server.c](#)

6.3 `_gssasl_gs2_client_state` Struct Reference

Data Fields

- int `step`
- `gss_name_t` `service`
- `gss_ctx_id_t` `context`
- `gss_OID` `mech_oid`
- `gss_buffer_desc` `token`
- struct `gss_channel_bindings_struct` `cb`

6.3.1 Detailed Description

Definition at line 39 of file `gs2/client.c`.

6.3.2 Field Documentation

6.3.2.1 `struct gss_channel_bindings_struct _gssasl_gs2_client_state::cb`

Definition at line 47 of file `gs2/client.c`.

6.3.2.2 `gss_ctx_id_t _gssasl_gs2_client_state::context`

Definition at line 44 of file `gs2/client.c`.

6.3.2.3 `gss_OID _gssasl_gs2_client_state::mech_oid`

Definition at line 45 of file `gs2/client.c`.

6.3.2.4 `gss_name_t _gssasl_gs2_client_state::service`

Definition at line 43 of file `gs2/client.c`.

6.3.2.5 `int _gssasl_gs2_client_state::step`

Definition at line 42 of file `gs2/client.c`.

6.3.2.6 `gss_buffer_desc _gssasl_gs2_client_state::token`

Definition at line 46 of file `gs2/client.c`.

The documentation for this struct was generated from the following file:

- [gs2/client.c](#)

6.4 `_Gssasl_gs2_server_state` Struct Reference

Data Fields

- `int` [step](#)
- `gss_name_t` [client](#)
- `gss_cred_id_t` [cred](#)
- `gss_ctx_id_t` [context](#)
- `gss_OID` [mech_oid](#)
- `struct gss_channel_bindings_struct` [cb](#)

6.4.1 Detailed Description

Definition at line 40 of file `gs2/server.c`.

6.4.2 Field Documentation

6.4.2.1 struct gss_channel_bindings_struct _Gssasl_gs2_server_state::cb

Definition at line 48 of file gs2/server.c.

6.4.2.2 gss_name_t _Gssasl_gs2_server_state::client

Definition at line 44 of file gs2/server.c.

6.4.2.3 gss_ctx_id_t _Gssasl_gs2_server_state::context

Definition at line 46 of file gs2/server.c.

6.4.2.4 gss_cred_id_t _Gssasl_gs2_server_state::cred

Definition at line 45 of file gs2/server.c.

6.4.2.5 gss_OID _Gssasl_gs2_server_state::mech_oid

Definition at line 47 of file gs2/server.c.

6.4.2.6 int _Gssasl_gs2_server_state::step

Definition at line 43 of file gs2/server.c.

The documentation for this struct was generated from the following file:

- [gs2/server.c](#)

6.5 _Gssasl_gssapi_client_state Struct Reference

Data Fields

- int [step](#)
- gss_name_t [service](#)
- gss_ctx_id_t [context](#)
- gss_qop_t [qop](#)

6.5.1 Detailed Description

Definition at line 46 of file gssapi/client.c.

6.5.2 Field Documentation

6.5.2.1 `gss_ctx_id_t _Gssasl_gssapi_client_state::context`

Definition at line 50 of file `gssapi/client.c`.

6.5.2.2 `gss_qop_t _Gssasl_gssapi_client_state::qop`

Definition at line 51 of file `gssapi/client.c`.

6.5.2.3 `gss_name_t _Gssasl_gssapi_client_state::service`

Definition at line 49 of file `gssapi/client.c`.

6.5.2.4 `int _Gssasl_gssapi_client_state::step`

Definition at line 48 of file `gssapi/client.c`.

The documentation for this struct was generated from the following file:

- [gssapi/client.c](#)

6.6 `_Gssasl_gssapi_server_state` Struct Reference

Data Fields

- `int` [step](#)
- `gss_name_t` [client](#)
- `gss_cred_id_t` [cred](#)
- `gss_ctx_id_t` [context](#)

6.6.1 Detailed Description

Definition at line 46 of file `gssapi/server.c`.

6.6.2 Field Documentation

6.6.2.1 `gss_name_t _Gssasl_gssapi_server_state::client`

Definition at line 49 of file `gssapi/server.c`.

6.6.2.2 `gss_ctx_id_t _Gssasl_gssapi_server_state::context`

Definition at line 51 of file `gssapi/server.c`.

6.6.2.3 gss_cred_id_t _Gssapi_server_state::cred

Definition at line 50 of file gssapi/server.c.

6.6.2.4 int _Gssapi_server_state::step

Definition at line 48 of file gssapi/server.c.

The documentation for this struct was generated from the following file:

- [gssapi/server.c](#)

6.7 _Gssapi_kerberos_v5_client_state Struct Reference

Data Fields

- int [step](#)
- char [serverhello](#) [BITMAP_LEN+MAXBUF_LEN+RANDOM_LEN]
- int [serverqops](#)
- int [clientqop](#)
- int [servermutual](#)
- uint32_t [servermaxbuf](#)
- uint32_t [clientmaxbuf](#)
- Shishi * [sh](#)
- Shishi_tkt * [tk](#)
- Shishi_as * [as](#)
- Shishi_ap * [ap](#)
- Shishi_key * [sessionkey](#)
- Shishi_safe * [safe](#)

6.7.1 Detailed Description

Definition at line 30 of file kerberos_v5/client.c.

6.7.2 Field Documentation

6.7.2.1 Shishi_ap* _Gssapi_kerberos_v5_client_state::ap

Definition at line 42 of file kerberos_v5/client.c.

6.7.2.2 Shishi_as* _Gssapi_kerberos_v5_client_state::as

Definition at line 41 of file kerberos_v5/client.c.

6.7.2.3 uint32_t _Gssasl_kerberos_v5_client_state::clientmaxbuf

Definition at line 38 of file kerberos_v5/client.c.

6.7.2.4 int _Gssasl_kerberos_v5_client_state::clientqop

Definition at line 35 of file kerberos_v5/client.c.

6.7.2.5 Shishi_safe* _Gssasl_kerberos_v5_client_state::safe

Definition at line 44 of file kerberos_v5/client.c.

6.7.2.6 char _Gssasl_kerberos_v5_client_state::serverhello[BITMAP_LEN+MAXBUFL-UF_LEN+RANDOM_LEN]

Definition at line 33 of file kerberos_v5/client.c.

6.7.2.7 uint32_t _Gssasl_kerberos_v5_client_state::servermaxbuf

Definition at line 37 of file kerberos_v5/client.c.

6.7.2.8 int _Gssasl_kerberos_v5_client_state::servermutual

Definition at line 36 of file kerberos_v5/client.c.

6.7.2.9 int _Gssasl_kerberos_v5_client_state::serverqops

Definition at line 34 of file kerberos_v5/client.c.

6.7.2.10 Shishi_key* _Gssasl_kerberos_v5_client_state::sessionkey

Definition at line 43 of file kerberos_v5/client.c.

6.7.2.11 Shishi* _Gssasl_kerberos_v5_client_state::sh

Definition at line 39 of file kerberos_v5/client.c.

6.7.2.12 int _Gssasl_kerberos_v5_client_state::step

Definition at line 32 of file kerberos_v5/client.c.

6.7.2.13 Shishi_tkt*_GsasI_kerberos_v5_client_state::tkt

Definition at line 40 of file kerberos_v5/client.c.

The documentation for this struct was generated from the following file:

- [kerberos_v5/client.c](#)

6.8 _GsasI_kerberos_v5_server_state Struct Reference

Data Fields

- int [firststep](#)
- Shishi * [sh](#)
- char [serverhello](#) [BITMAP_LEN+MAXBUF_LEN+RANDOM_LEN]
- char * [random](#)
- int [serverqops](#)
- uint32_t [servermaxbuf](#)
- int [clientqop](#)
- int [clientmutual](#)
- uint32_t [clientmaxbuf](#)
- char * [username](#)
- char * [userrealm](#)
- char * [serverrealm](#)
- char * [serverservice](#)
- char * [serverhostname](#)
- char * [password](#)
- Shishi_key * [userkey](#)
- Shishi_key * [sessionkey](#)
- Shishi_key * [sessiontktkey](#)
- Shishi_ap * [ap](#)
- Shishi_as * [as](#)
- Shishi_safe * [safe](#)

6.8.1 Detailed Description

Definition at line 30 of file kerberos_v5/server.c.

6.8.2 Field Documentation

6.8.2.1 Shishi_ap*_GsasI_kerberos_v5_server_state::ap

Definition at line 50 of file kerberos_v5/server.c.

6.8.2.2 Shishi_as* _Gsassl_kerberos_v5_server_state::as

Definition at line 51 of file kerberos_v5/server.c.

6.8.2.3 uint32_t _Gsassl_kerberos_v5_server_state::clientmaxbuf

Definition at line 40 of file kerberos_v5/server.c.

6.8.2.4 int _Gsassl_kerberos_v5_server_state::clientmutual

Definition at line 39 of file kerberos_v5/server.c.

6.8.2.5 int _Gsassl_kerberos_v5_server_state::clientqop

Definition at line 38 of file kerberos_v5/server.c.

6.8.2.6 int _Gsassl_kerberos_v5_server_state::firststep

Definition at line 32 of file kerberos_v5/server.c.

6.8.2.7 char* _Gsassl_kerberos_v5_server_state::password

Definition at line 46 of file kerberos_v5/server.c.

6.8.2.8 char* _Gsassl_kerberos_v5_server_state::random

Definition at line 35 of file kerberos_v5/server.c.

6.8.2.9 Shishi_safe* _Gsassl_kerberos_v5_server_state::safe

Definition at line 52 of file kerberos_v5/server.c.

6.8.2.10 char _Gsassl_kerberos_v5_server_state::serverhello[BITMAP_LEN+MAX-BUF_LEN+RANDOM_LEN]

Definition at line 34 of file kerberos_v5/server.c.

6.8.2.11 char* _Gsassl_kerberos_v5_server_state::serverhostname

Definition at line 45 of file kerberos_v5/server.c.

6.8.2.12 uint32_t _Gsassl_kerberos_v5_server_state::servermaxbuf

Definition at line 37 of file kerberos_v5/server.c.

6.8.2.13 int _Gsassl_kerberos_v5_server_state::serverqops

Definition at line 36 of file kerberos_v5/server.c.

6.8.2.14 char* _Gsassl_kerberos_v5_server_state::serverrealm

Definition at line 43 of file kerberos_v5/server.c.

6.8.2.15 char* _Gsassl_kerberos_v5_server_state::serverservice

Definition at line 44 of file kerberos_v5/server.c.

6.8.2.16 Shishi_key* _Gsassl_kerberos_v5_server_state::sessionkey

Definition at line 48 of file kerberos_v5/server.c.

6.8.2.17 Shishi_key* _Gsassl_kerberos_v5_server_state::sessiontktkey

Definition at line 49 of file kerberos_v5/server.c.

6.8.2.18 Shishi* _Gsassl_kerberos_v5_server_state::sh

Definition at line 33 of file kerberos_v5/server.c.

6.8.2.19 Shishi_key* _Gsassl_kerberos_v5_server_state::userkey

Definition at line 47 of file kerberos_v5/server.c.

6.8.2.20 char* _Gsassl_kerberos_v5_server_state::username

Definition at line 41 of file kerberos_v5/server.c.

6.8.2.21 char* _Gsassl_kerberos_v5_server_state::userrealm

Definition at line 42 of file kerberos_v5/server.c.

The documentation for this struct was generated from the following file:

- [kerberos_v5/server.c](#)

6.9 `_Gsassl_login_client_state` Struct Reference

Data Fields

- int [step](#)

6.9.1 Detailed Description

Definition at line 36 of file `login/client.c`.

6.9.2 Field Documentation

6.9.2.1 `int _Gsassl_login_client_state::step`

Definition at line 38 of file `login/client.c`.

The documentation for this struct was generated from the following file:

- [login/client.c](#)

6.10 `_Gsassl_login_server_state` Struct Reference

Data Fields

- int [step](#)
- char * [username](#)
- char * [password](#)

6.10.1 Detailed Description

Definition at line 36 of file `login/server.c`.

6.10.2 Field Documentation

6.10.2.1 `char* _Gsassl_login_server_state::password`

Definition at line 40 of file `login/server.c`.

6.10.2.2 `int _Gsassl_login_server_state::step`

Definition at line 38 of file `login/server.c`.

6.10.2.3 char* `_Gssasl_login_server_state::username`

Definition at line 39 of file login/server.c.

The documentation for this struct was generated from the following file:

- [login/server.c](#)

6.11 `_Gssasl_ntlm_state` Struct Reference

Data Fields

- int [step](#)

6.11.1 Detailed Description

Definition at line 38 of file ntlm.c.

6.11.2 Field Documentation

6.11.2.1 int `_Gssasl_ntlm_state::step`

Definition at line 40 of file ntlm.c.

The documentation for this struct was generated from the following file:

- [ntlm.c](#)

6.12 `digest_md5_challenge` Struct Reference

```
#include <tokens.h>
```

Data Fields

- size_t [nrealms](#)
- char ** [realms](#)
- char * [nonce](#)
- int [qops](#)
- int [stale](#)
- unsigned long [servermaxbuf](#)
- int [utf8](#)
- int [ciphers](#)

6.12.1 Detailed Description

Definition at line 82 of file digest-md5/tokens.h.

6.12.2 Field Documentation

6.12.2.1 int digest_md5_challenge::ciphers

Definition at line 91 of file digest-md5/tokens.h.

6.12.2.2 char* digest_md5_challenge::nonce

Definition at line 86 of file digest-md5/tokens.h.

6.12.2.3 size_t digest_md5_challenge::nrealms

Definition at line 84 of file digest-md5/tokens.h.

6.12.2.4 int digest_md5_challenge::qops

Definition at line 87 of file digest-md5/tokens.h.

6.12.2.5 char** digest_md5_challenge::realms

Definition at line 85 of file digest-md5/tokens.h.

6.12.2.6 unsigned long digest_md5_challenge::servermaxbuf

Definition at line 89 of file digest-md5/tokens.h.

6.12.2.7 int digest_md5_challenge::stale

Definition at line 88 of file digest-md5/tokens.h.

6.12.2.8 int digest_md5_challenge::utf8

Definition at line 90 of file digest-md5/tokens.h.

The documentation for this struct was generated from the following file:

- [digest-md5/tokens.h](#)

6.13 digest_md5_finish Struct Reference

```
#include <tokens.h>
```

Data Fields

- char [rspauth](#) [DIGEST_MD5_RESPONSE_LENGTH+1]

6.13.1 Detailed Description

Definition at line 146 of file digest-md5/tokens.h.

6.13.2 Field Documentation

6.13.2.1 char [digest_md5_finish::rspauth](#)[DIGEST_MD5_RESPONSE_LENGTH+1]

Definition at line 148 of file digest-md5/tokens.h.

The documentation for this struct was generated from the following file:

- [digest-md5/tokens.h](#)

6.14 digest_md5_response Struct Reference

```
#include <tokens.h>
```

Data Fields

- char * [username](#)
- char * [realm](#)
- char * [nonce](#)
- char * [cnonce](#)
- unsigned long [nc](#)
- [digest_md5_qop](#) qop
- char * [digesturi](#)
- unsigned long [clientmaxbuf](#)
- int [utf8](#)
- [digest_md5_cipher](#) cipher
- char * [authzid](#)
- char [response](#) [DIGEST_MD5_RESPONSE_LENGTH+1]

6.14.1 Detailed Description

Definition at line 126 of file digest-md5/tokens.h.

6.14.2 Field Documentation**6.14.2.1 char* digest_md5_response::authzid**

Definition at line 138 of file digest-md5/tokens.h.

6.14.2.2 digest_md5_cipher digest_md5_response::cipher

Definition at line 137 of file digest-md5/tokens.h.

6.14.2.3 unsigned long digest_md5_response::clientmaxbuf

Definition at line 135 of file digest-md5/tokens.h.

6.14.2.4 char* digest_md5_response::cnonce

Definition at line 131 of file digest-md5/tokens.h.

6.14.2.5 char* digest_md5_response::digesturi

Definition at line 134 of file digest-md5/tokens.h.

6.14.2.6 unsigned long digest_md5_response::nc

Definition at line 132 of file digest-md5/tokens.h.

6.14.2.7 char* digest_md5_response::nonce

Definition at line 130 of file digest-md5/tokens.h.

6.14.2.8 digest_md5_qop digest_md5_response::qop

Definition at line 133 of file digest-md5/tokens.h.

6.14.2.9 char* digest_md5_response::realm

Definition at line 129 of file digest-md5/tokens.h.

6.14.2.10 char digest_md5_response::response[DIGEST_MD5_RESPONSE_LENGTH+1]

Definition at line 139 of file digest-md5/tokens.h.

6.14.2.11 `char* digest_md5_response::username`

Definition at line 128 of file `digest-md5/tokens.h`.

6.14.2.12 `int digest_md5_response::utf8`

Definition at line 136 of file `digest-md5/tokens.h`.

The documentation for this struct was generated from the following file:

- [digest-md5/tokens.h](#)

6.15 Gsasl Struct Reference

```
#include <internal.h>
```

Data Fields

- `size_t n_client_mechs`
- `Gsasl_mechanism * client_mechs`
- `size_t n_server_mechs`
- `Gsasl_mechanism * server_mechs`
- `Gsasl_callback_function cb`
- `void * application_hook`
- `Gsasl_client_callback_authorization_id cbc_authorization_id`
- `Gsasl_client_callback_authentication_id cbc_authentication_id`
- `Gsasl_client_callback_password cbc_password`
- `Gsasl_client_callback_passcode cbc_passcode`
- `Gsasl_client_callback_pin cbc_pin`
- `Gsasl_client_callback_anonymous cbc_anonymous`
- `Gsasl_client_callback_qop cbc_qop`
- `Gsasl_client_callback_maxbuf cbc_maxbuf`
- `Gsasl_client_callback_service cbc_service`
- `Gsasl_client_callback_realm cbc_realm`
- `Gsasl_server_callback_validate cbs_validate`
- `Gsasl_server_callback_secured cbs_secured`
- `Gsasl_server_callback_retrieve cbs_retrieve`
- `Gsasl_server_callback_cram_md5 cbs_cram_md5`
- `Gsasl_server_callback_digest_md5 cbs_digest_md5`
- `Gsasl_server_callback_external cbs_external`
- `Gsasl_server_callback_anonymous cbs_anonymous`
- `Gsasl_server_callback_realm cbs_realm`
- `Gsasl_server_callback_qop cbs_qop`
- `Gsasl_server_callback_maxbuf cbs_maxbuf`
- `Gsasl_server_callback_cipher cbs_cipher`
- `Gsasl_server_callback_service cbs_service`
- `Gsasl_server_callback_gssapi cbs_gssapi`

6.15.1 Detailed Description

Definition at line 40 of file internal.h.

6.15.2 Field Documentation

6.15.2.1 void* Gsasl::application_hook

Definition at line 48 of file internal.h.

6.15.2.2 Gsasl_callback_function Gsasl::cb

Definition at line 47 of file internal.h.

6.15.2.3 Gsasl_client_callback_anonymous Gsasl::cbc_anonymous

Definition at line 56 of file internal.h.

6.15.2.4 Gsasl_client_callback_authentication_id Gsasl::cbc_authentication_id

Definition at line 52 of file internal.h.

6.15.2.5 Gsasl_client_callback_authorization_id Gsasl::cbc_authorization_id

Definition at line 51 of file internal.h.

6.15.2.6 Gsasl_client_callback_maxbuf Gsasl::cbc_maxbuf

Definition at line 58 of file internal.h.

6.15.2.7 Gsasl_client_callback_passcode Gsasl::cbc_passcode

Definition at line 54 of file internal.h.

6.15.2.8 Gsasl_client_callback_password Gsasl::cbc_password

Definition at line 53 of file internal.h.

6.15.2.9 Gsasl_client_callback_pin Gsasl::cbc_pin

Definition at line 55 of file internal.h.

6.15.2.10 Gsasl_client_callback_qop Gsasl::cbc_qop

Definition at line 57 of file internal.h.

6.15.2.11 Gsasl_client_callback_realm Gsasl::cbc_realm

Definition at line 60 of file internal.h.

6.15.2.12 Gsasl_client_callback_service Gsasl::cbc_service

Definition at line 59 of file internal.h.

6.15.2.13 Gsasl_server_callback_anonymous Gsasl::cbs_anonymous

Definition at line 67 of file internal.h.

6.15.2.14 Gsasl_server_callback_cipher Gsasl::cbs_cipher

Definition at line 71 of file internal.h.

6.15.2.15 Gsasl_server_callback_cram_md5 Gsasl::cbs_cram_md5

Definition at line 64 of file internal.h.

6.15.2.16 Gsasl_server_callback_digest_md5 Gsasl::cbs_digest_md5

Definition at line 65 of file internal.h.

6.15.2.17 Gsasl_server_callback_external Gsasl::cbs_external

Definition at line 66 of file internal.h.

6.15.2.18 Gsasl_server_callback_gssapi Gsasl::cbs_gssapi

Definition at line 73 of file internal.h.

6.15.2.19 Gsasl_server_callback_maxbuf Gsasl::cbs_maxbuf

Definition at line 70 of file internal.h.

6.15.2.20 Gsasl_server_callback_qop Gsasl::cbs_qop

Definition at line 69 of file internal.h.

6.15.2.21 Gsasl_server_callback_realm Gsasl::cbs_realm

Definition at line 68 of file internal.h.

6.15.2.22 Gsasl_server_callback_retrieve Gsasl::cbs_retrieve

Definition at line 63 of file internal.h.

6.15.2.23 Gsasl_server_callback_securid Gsasl::cbs_securid

Definition at line 62 of file internal.h.

6.15.2.24 Gsasl_server_callback_service Gsasl::cbs_service

Definition at line 72 of file internal.h.

6.15.2.25 Gsasl_server_callback_validate Gsasl::cbs_validate

Definition at line 61 of file internal.h.

6.15.2.26 Gsasl_mechanism* Gsasl::client_mechs

Definition at line 43 of file internal.h.

6.15.2.27 size_t Gsasl::n_client_mechs

Definition at line 42 of file internal.h.

6.15.2.28 size_t Gsasl::n_server_mechs

Definition at line 44 of file internal.h.

6.15.2.29 Gsasl_mechanism* Gsasl::server_mechs

Definition at line 45 of file internal.h.

The documentation for this struct was generated from the following file:

- [internal.h](#)

6.16 Gsasl_mechanism Struct Reference

```
#include <gsasl-mech.h>
```

Data Fields

- const char * [name](#)
- struct [Gsasl_mechanism_functions](#) client
- struct [Gsasl_mechanism_functions](#) server

6.16.1 Detailed Description

Definition at line 52 of file [gsasl-mech.h](#).

6.16.2 Field Documentation

6.16.2.1 struct [Gsasl_mechanism_functions](#) [Gsasl_mechanism::client](#)

Definition at line 56 of file [gsasl-mech.h](#).

6.16.2.2 const char* [Gsasl_mechanism::name](#)

Definition at line 54 of file [gsasl-mech.h](#).

6.16.2.3 struct [Gsasl_mechanism_functions](#) [Gsasl_mechanism::server](#)

Definition at line 57 of file [gsasl-mech.h](#).

The documentation for this struct was generated from the following file:

- [gsasl-mech.h](#)

6.17 Gsasl_mechanism_functions Struct Reference

```
#include <gsasl-mech.h>
```

Data Fields

- [Gsasl_init_function](#) init
- [Gsasl_done_function](#) done
- [Gsasl_start_function](#) start
- [Gsasl_step_function](#) step

- [Gsasl_finish_function finish](#)
- [Gsasl_code_function encode](#)
- [Gsasl_code_function decode](#)

6.17.1 Detailed Description

Definition at line 39 of file gsasl-mech.h.

6.17.2 Field Documentation

6.17.2.1 Gsasl_code_function Gsasl_mechanism_functions::decode

Definition at line 47 of file gsasl-mech.h.

6.17.2.2 Gsasl_done_function Gsasl_mechanism_functions::done

Definition at line 42 of file gsasl-mech.h.

6.17.2.3 Gsasl_code_function Gsasl_mechanism_functions::encode

Definition at line 46 of file gsasl-mech.h.

6.17.2.4 Gsasl_finish_function Gsasl_mechanism_functions::finish

Definition at line 45 of file gsasl-mech.h.

6.17.2.5 Gsasl_init_function Gsasl_mechanism_functions::init

Definition at line 41 of file gsasl-mech.h.

6.17.2.6 Gsasl_start_function Gsasl_mechanism_functions::start

Definition at line 43 of file gsasl-mech.h.

6.17.2.7 Gsasl_step_function Gsasl_mechanism_functions::step

Definition at line 44 of file gsasl-mech.h.

The documentation for this struct was generated from the following file:

- [gsasl-mech.h](#)

6.18 Gsasl_session Struct Reference

```
#include <internal.h>
```

Data Fields

- [Gsasl](#) * `ctx`
- `int` `clientp`
- [Gsasl_mechanism](#) * `mech`
- `void` * `mech_data`
- `void` * `application_hook`
- `char` * `anonymous_token`
- `char` * `authid`
- `char` * `authzid`
- `char` * `password`
- `char` * `passcode`
- `char` * `pin`
- `char` * `suggestedpin`
- `char` * `service`
- `char` * `hostname`
- `char` * `gssapi_display_name`
- `char` * `realm`
- `char` * `digest_md5_hashed_password`
- `char` * `qops`
- `char` * `qop`
- `char` * `scram_iter`
- `char` * `scram_salt`
- `char` * `scram_saltd_password`
- `char` * `cb_tls_unique`
- `char` * `saml20_idp_identifier`
- `char` * `saml20_redirect_url`
- `char` * `openid20_redirect_url`
- `char` * `openid20_outcome_data`
- `void` * `application_data`

6.18.1 Detailed Description

Definition at line 78 of file `internal.h`.

6.18.2 Field Documentation

6.18.2.1 `char*` `Gsasl_session::anonymous_token`

Definition at line 87 of file `internal.h`.

6.18.2.2 void* Gsasl_session::application_data

Definition at line 114 of file internal.h.

6.18.2.3 void* Gsasl_session::application_hook

Definition at line 84 of file internal.h.

6.18.2.4 char* Gsasl_session::authid

Definition at line 88 of file internal.h.

6.18.2.5 char* Gsasl_session::authzid

Definition at line 89 of file internal.h.

6.18.2.6 char* Gsasl_session::cb_tls_unique

Definition at line 104 of file internal.h.

6.18.2.7 int Gsasl_session::clientp

Definition at line 81 of file internal.h.

6.18.2.8 Gsasl* Gsasl_session::ctx

Definition at line 80 of file internal.h.

6.18.2.9 char* Gsasl_session::digest_md5_hashed_password

Definition at line 98 of file internal.h.

6.18.2.10 char* Gsasl_session::gssapi_display_name

Definition at line 96 of file internal.h.

6.18.2.11 char* Gsasl_session::hostname

Definition at line 95 of file internal.h.

6.18.2.12 Gsasl_mechanism* Gsasl_session::mech

Definition at line 82 of file internal.h.

6.18.2.13 void* Gsasl_session::mech_data

Definition at line 83 of file internal.h.

6.18.2.14 char* Gsasl_session::openid20_outcome_data

Definition at line 108 of file internal.h.

6.18.2.15 char* Gsasl_session::openid20_redirect_url

Definition at line 107 of file internal.h.

6.18.2.16 char* Gsasl_session::passcode

Definition at line 91 of file internal.h.

6.18.2.17 char* Gsasl_session::password

Definition at line 90 of file internal.h.

6.18.2.18 char* Gsasl_session::pin

Definition at line 92 of file internal.h.

6.18.2.19 char* Gsasl_session::qop

Definition at line 100 of file internal.h.

6.18.2.20 char* Gsasl_session::qops

Definition at line 99 of file internal.h.

6.18.2.21 char* Gsasl_session::realm

Definition at line 97 of file internal.h.

6.18.2.22 char* Gsasl_session::saml20_idp_identifier

Definition at line 105 of file internal.h.

6.18.2.23 char* Gsasl_session::saml20_redirect_url

Definition at line 106 of file internal.h.

6.18.2.24 char* Gsasl_session::scram_iter

Definition at line 101 of file internal.h.

6.18.2.25 char* Gsasl_session::scram_salt

Definition at line 102 of file internal.h.

6.18.2.26 char* Gsasl_session::scram_salted_password

Definition at line 103 of file internal.h.

6.18.2.27 char* Gsasl_session::service

Definition at line 94 of file internal.h.

6.18.2.28 char* Gsasl_session::suggestedpin

Definition at line 93 of file internal.h.

The documentation for this struct was generated from the following file:

- [internal.h](#)

6.19 openid20_client_state Struct Reference**Data Fields**

- int [step](#)

6.19.1 Detailed Description

Definition at line 42 of file openid20/client.c.

6.19.2 Field Documentation

6.19.2.1 int openid20_client_state::step

Definition at line 44 of file openid20/client.c.

The documentation for this struct was generated from the following file:

- [openid20/client.c](#)

6.20 openid20_server_state Struct Reference

Data Fields

- int [step](#)
- int [allow_error_step](#)

6.20.1 Detailed Description

Definition at line 39 of file openid20/server.c.

6.20.2 Field Documentation

6.20.2.1 int openid20_server_state::allow_error_step

Definition at line 42 of file openid20/server.c.

6.20.2.2 int openid20_server_state::step

Definition at line 41 of file openid20/server.c.

The documentation for this struct was generated from the following file:

- [openid20/server.c](#)

6.21 saml20_client_state Struct Reference

Data Fields

- int [step](#)

6.21.1 Detailed Description

Definition at line 42 of file saml20/client.c.

6.21.2 Field Documentation

6.21.2.1 int saml20_client_state::step

Definition at line 44 of file saml20/client.c.

The documentation for this struct was generated from the following file:

- [saml20/client.c](#)

6.22 saml20_server_state Struct Reference

Data Fields

- int [step](#)

6.22.1 Detailed Description

Definition at line 39 of file saml20/server.c.

6.22.2 Field Documentation

6.22.2.1 int saml20_server_state::step

Definition at line 41 of file saml20/server.c.

The documentation for this struct was generated from the following file:

- [saml20/server.c](#)

6.23 scram_client_final Struct Reference

```
#include <tokens.h>
```

Data Fields

- char * [cbind](#)
- char * [nonce](#)
- char * [proof](#)

6.23.1 Detailed Description

Definition at line 45 of file scram/tokens.h.

6.23.2 Field Documentation

6.23.2.1 `char* scram_client_final::cbind`

Definition at line 47 of file `scram/tokens.h`.

6.23.2.2 `char* scram_client_final::nonce`

Definition at line 48 of file `scram/tokens.h`.

6.23.2.3 `char* scram_client_final::proof`

Definition at line 49 of file `scram/tokens.h`.

The documentation for this struct was generated from the following file:

- [scram/tokens.h](#)

6.24 `scram_client_first` Struct Reference

```
#include <tokens.h>
```

Data Fields

- `char cbflag`
- `char * cbname`
- `char * authzid`
- `char * username`
- `char * client_nonce`

6.24.1 Detailed Description

Definition at line 29 of file `scram/tokens.h`.

6.24.2 Field Documentation

6.24.2.1 `char* scram_client_first::authzid`

Definition at line 33 of file `scram/tokens.h`.

6.24.2.2 `char scram_client_first::cbflag`

Definition at line 31 of file `scram/tokens.h`.

6.24.2.3 `char* scram_client_first::cbname`

Definition at line 32 of file `scram/tokens.h`.

6.24.2.4 `char* scram_client_first::client_nonce`

Definition at line 35 of file `scram/tokens.h`.

6.24.2.5 `char* scram_client_first::username`

Definition at line 34 of file `scram/tokens.h`.

The documentation for this struct was generated from the following file:

- [scram/tokens.h](#)

6.25 `scram_client_state` Struct Reference

Data Fields

- int [plus](#)
- int [step](#)
- char * [cfmb](#)
- char * [serversignature](#)
- char * [authmessage](#)
- char * [cbtlsunique](#)
- size_t [cbtlsuniqueLen](#)
- struct [scram_client_first](#) *cf*
- struct [scram_server_first](#) *sf*
- struct [scram_client_final](#) *cl*
- struct [scram_server_final](#) *sl*

6.25.1 Detailed Description

Definition at line 47 of file `scram/client.c`.

6.25.2 Field Documentation

6.25.2.1 `char* scram_client_state::authmessage`

Definition at line 53 of file `scram/client.c`.

6.25.2.2 char* scram_client_state::cbtlsunique

Definition at line 54 of file scram/client.c.

6.25.2.3 size_t scram_client_state::cbtlsuniqueLen

Definition at line 55 of file scram/client.c.

6.25.2.4 struct scram_client_first scram_client_state::cf

Definition at line 56 of file scram/client.c.

6.25.2.5 char* scram_client_state::cfmb

Definition at line 51 of file scram/client.c.

6.25.2.6 struct scram_client_final scram_client_state::cl

Definition at line 58 of file scram/client.c.

6.25.2.7 int scram_client_state::plus

Definition at line 49 of file scram/client.c.

6.25.2.8 char* scram_client_state::serversignature

Definition at line 52 of file scram/client.c.

6.25.2.9 struct scram_server_first scram_client_state::sf

Definition at line 57 of file scram/client.c.

6.25.2.10 struct scram_server_final scram_client_state::sl

Definition at line 59 of file scram/client.c.

6.25.2.11 int scram_client_state::step

Definition at line 50 of file scram/client.c.

The documentation for this struct was generated from the following file:

- [scram/client.c](#)

6.26 `scram_server_final` Struct Reference

```
#include <tokens.h>
```

Data Fields

- char * [verifier](#)

6.26.1 Detailed Description

Definition at line 52 of file `scram/tokens.h`.

6.26.2 Field Documentation

6.26.2.1 char* `scram_server_final::verifier`

Definition at line 54 of file `scram/tokens.h`.

The documentation for this struct was generated from the following file:

- [scram/tokens.h](#)

6.27 `scram_server_first` Struct Reference

```
#include <tokens.h>
```

Data Fields

- char * [nonce](#)
- char * [salt](#)
- size_t [iter](#)

6.27.1 Detailed Description

Definition at line 38 of file `scram/tokens.h`.

6.27.2 Field Documentation

6.27.2.1 size_t `scram_server_first::iter`

Definition at line 42 of file `scram/tokens.h`.

6.27.2.2 char* `scram_server_first::nonce`

Definition at line 40 of file `scram/tokens.h`.

6.27.2.3 char* `scram_server_first::salt`

Definition at line 41 of file `scram/tokens.h`.

The documentation for this struct was generated from the following file:

- [scram/tokens.h](#)

6.28 `scram_server_state` Struct Reference

Data Fields

- int [plus](#)
- int [step](#)
- char * [cbind](#)
- char * [gs2header](#)
- char * [cfmb_str](#)
- char * [sf_str](#)
- char * [snonce](#)
- char * [clientproof](#)
- char * [storedkey](#)
- char * [serverkey](#)
- char * [authmessage](#)
- char * [cbtlsunique](#)
- size_t [cbtlsuniqueLen](#)
- struct [scram_client_first](#) [cf](#)
- struct [scram_server_first](#) [sf](#)
- struct [scram_client_final](#) [cl](#)
- struct [scram_server_final](#) [sl](#)

6.28.1 Detailed Description

Definition at line 51 of file `scram/server.c`.

6.28.2 Field Documentation

6.28.2.1 char* `scram_server_state::authmessage`

Definition at line 63 of file `scram/server.c`.

6.28.2.2 char* scram_server_state::cbind

Definition at line 55 of file scram/server.c.

6.28.2.3 char* scram_server_state::cbtlsunique

Definition at line 64 of file scram/server.c.

6.28.2.4 size_t scram_server_state::cbtlsuniquelen

Definition at line 65 of file scram/server.c.

6.28.2.5 struct scram_client_first scram_server_state::cf

Definition at line 66 of file scram/server.c.

6.28.2.6 char* scram_server_state::cfmb_str

Definition at line 57 of file scram/server.c.

6.28.2.7 struct scram_client_final scram_server_state::cl

Definition at line 68 of file scram/server.c.

6.28.2.8 char* scram_server_state::clientproof

Definition at line 60 of file scram/server.c.

6.28.2.9 char* scram_server_state::gs2header

Definition at line 56 of file scram/server.c.

6.28.2.10 int scram_server_state::plus

Definition at line 53 of file scram/server.c.

6.28.2.11 char* scram_server_state::serverkey

Definition at line 62 of file scram/server.c.

6.28.2.12 struct scram_server_first scram_server_state::sf

Definition at line 67 of file scram/server.c.

6.28.2.13 char* scram_server_state::sf_str

Definition at line 58 of file scram/server.c.

6.28.2.14 struct scram_server_final scram_server_state::sl

Definition at line 69 of file scram/server.c.

6.28.2.15 char* scram_server_state::snonce

Definition at line 59 of file scram/server.c.

6.28.2.16 int scram_server_state::step

Definition at line 54 of file scram/server.c.

6.28.2.17 char* scram_server_state::storedkey

Definition at line 61 of file scram/server.c.

The documentation for this struct was generated from the following file:

- [scram/server.c](#)

Chapter 7

File Documentation

7.1 anonymous.h File Reference

```
#include <gsasl.h>
```

Defines

- `#define GSASL_ANONYMOUS_NAME "ANONYMOUS"`

Functions

- `int _gsasl_anonymous_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int _gsasl_anonymous_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

Variables

- `Gsasl_mechanism gsasl_anonymous_mechanism`

7.1.1 Define Documentation

7.1.1.1 `#define GSASL_ANONYMOUS_NAME "ANONYMOUS"`

Definition at line 28 of file anonymous.h.

7.1.2 Function Documentation

7.1.2.1 `int _gsasl_anonymous_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 34 of file anonymous/client.c.

7.1.2.2 `int _gsasl_anonymous_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 31 of file anonymous/server.c.

7.1.3 Variable Documentation

7.1.3.1 `Gsasl_mechanism gsasl_anonymous_mechanism`

Definition at line 30 of file anonymous/mechinfo.c.

7.2 base64.c File Reference

```
#include "internal.h" #include "base64.h"
```

Functions

- [int gsasl_base64_to](#) (const char *in, size_t inlen, char **out, size_t *outlen)
- [int gsasl_base64_from](#) (const char *in, size_t inlen, char **out, size_t *outlen)

7.2.1 Function Documentation

7.2.1.1 `int gsasl_base64_from(const char * in, size_t inlen, char ** out, size_t * outlen)`

gsasl_base64_from:

Parameters

| | |
|---------------|--|
| <i>in</i> | input byte array |
| <i>inlen</i> | size of input byte array |
| <i>out</i> | pointer to newly allocated output byte array |
| <i>outlen</i> | pointer to size of newly allocated output byte array |

Decode Base64 data. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK on success, GSASL_BASE64_ERROR if input was invalid, and GSASL_MALLOC_ERROR on memory allocation errors.

Since: 0.2.2

Definition at line 74 of file base64.c.

7.2.1.2 `int gsasl_base64_to(const char * in, size_t inlen, char ** out, size_t * outlen)`

gsasl_base64_to:

Parameters

| | |
|---------------|--|
| <i>in</i> | input byte array |
| <i>inlen</i> | size of input byte array |
| <i>out</i> | pointer to newly allocated output byte array |
| <i>outlen</i> | pointer to size of newly allocated output byte array |

Encode data as base64. The string is zero terminated, and holds the length excluding the terminating zero. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK on success, or GSASL_MALLOC_ERROR if input was too large or memory allocation fail.

Since: 0.2.2

Definition at line 44 of file base64.c.

7.3 callback.c File Reference

```
#include "internal.h"
```

Functions

- void `gsasl_callback_set` (`Gsasl *ctx`, `Gsasl_callback_function cb`)
- int `gsasl_callback` (`Gsasl *ctx`, `Gsasl_session *sctx`, `Gsasl_property prop`)
- void `gsasl_callback_hook_set` (`Gsasl *ctx`, void *hook)
- void * `gsasl_callback_hook_get` (`Gsasl *ctx`)
- void `gsasl_session_hook_set` (`Gsasl_session *sctx`, void *hook)
- void * `gsasl_session_hook_get` (`Gsasl_session *sctx`)

7.3.1 Function Documentation

7.3.1.1 `int gsasl_callback(Gsasl * ctx, Gsasl_session * sctx, Gsasl_property prop)`

gsasl_callback:

Parameters

| | |
|-------------|--|
| <i>ctx</i> | handle received from <code>gsasl_init()</code> , may be NULL to derive it from . |
| <i>sctx</i> | session handle. |
| <i>prop</i> | enumerated value of <code>Gsasl_property</code> type. |

Invoke the application callback. The value indicate what the callback is expected to do. For example, for `GSASL_ANONYMOUS_TOKEN`, the function is expected to invoke `gsasl_property_set(, GSASL_ANONYMOUS_TOKEN, "token")` where "token" is the anonymous token the application wishes the SASL mechanism to use. See the manual for the meaning of all parameters.

Note that if no callback has been set by the application, but the obsolete callback interface has been used, this function will translate the old callback interface into the new. This interface should be sufficient to invoke all callbacks, both new and old.

Return value: Returns whatever the application callback returns, or `GSASL_NO_CALLBACK` if no application was known.

Since: 0.2.0

Definition at line 75 of file `callback.c`.

7.3.1.2 void* `gsasl_callback_hook_get(Gsasl * ctx)`

`gsasl_callback_hook_get`:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Retrieve application specific data from libgsasl handle.

The application data is set using [gsasl_callback_hook_set\(\)](#). This is normally used by the application to maintain a global state between the main program and callbacks.

Return value: Returns the application specific data, or `NULL`.

Since: 0.2.0

Definition at line 128 of file `callback.c`.

7.3.1.3 void `gsasl_callback_hook_set(Gsasl * ctx, void * hook)`

`gsasl_callback_hook_set`:

Parameters

| | |
|-------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>hook</i> | opaque pointer to application specific data. |

Store application specific data in the libgsasl handle.

The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_callback_hook_get\(\)](#). This is normally used by the application to maintain a global state between the main program and callbacks.

Since: 0.2.0

Definition at line 108 of file `callback.c`.

7.3.1.4 void `gsasl_callback_set(Gsasl * ctx, Gsasl_callback_function cb)`

`gsasl_callback_set`:

Parameters

| | |
|------------------|---|
| <code>ctx</code> | handle received from gsasl_init() . |
| <code>cb</code> | pointer to function implemented by application. |

Store the pointer to the application provided callback in the library handle. The callback will be used, via [gsasl_callback\(\)](#), by mechanisms to discover various parameters (such as username and passwords). The callback function will be called with a `Gsasl_property` value indicating the requested behaviour. For example, for `GSASL_ANONYMOUS_TOKEN`, the function is expected to invoke `gsasl_property_set(GSASL_ANONYMOUS_TOKEN, "token")` where "token" is the anonymous token the application wishes the SASL mechanism to use. See the manual for the meaning of all parameters.

Since: 0.2.0

Definition at line 44 of file `callback.c`.

7.3.1.5 void* `gsasl_session_hook_get(Gsasl_session * sctx)`

`gsasl_session_hook_get`:

Parameters

| | |
|-------------------|--------------------------|
| <code>sctx</code> | libgsasl session handle. |
|-------------------|--------------------------|

Retrieve application specific data from libgsasl session handle.

The application data is set using [gsasl_callback_hook_set\(\)](#). This is normally used by the application to maintain a per-session state between the main program and callbacks.

Return value: Returns the application specific data, or NULL.

Since: 0.2.14

Definition at line 168 of file `callback.c`.

7.3.1.6 void `gsasl_session_hook_set(Gsasl_session * sctx, void * hook)`

`gsasl_session_hook_set`:

Parameters

| | |
|-------------------|--|
| <code>sctx</code> | libgsasl session handle. |
| <code>hook</code> | opaque pointer to application specific data. |

Store application specific data in the libgsasl session handle.

The application data can be later (for instance, inside a callback) be retrieved by calling `gsasl_session_hook_get()`. This is normally used by the application to maintain a per-session state between the main program and callbacks.

Since: 0.2.14

Definition at line 148 of file `callback.c`.

7.4 challenge.c File Reference

```
#include <stdio.h> #include <string.h> #include <assert.-
h> #include "challenge.h" #include <gc.h>
```

Defines

- `#define NONCELEN 10`
- `#define TEMPLATE "<XXXXXXXXXXXXXXXXXXXXX.0@localhost>"`
- `#define DIGIT(c)`

Functions

- `int cram_md5_challenge (char challenge[CRAM_MD5_CHALLENGE_LEN])`

7.4.1 Define Documentation

7.4.1.1 `#define DIGIT(c)`

Value:

```
((c) & 0x0F) > 9 ? \
    '0' + ((c) & 0x0F) - 10 : \
    '0' + ((c) & 0x0F)
```

Definition at line 59 of file `challenge.c`.

7.4.1.2 `#define NONCELEN 10`

Definition at line 54 of file `challenge.c`.

7.4.1.3 `#define TEMPLATE "<XXXXXXXXXXXXXXXXXXXXX.0@localhost>"`

Definition at line 55 of file `challenge.c`.

7.4.2 Function Documentation

7.4.2.1 int cram_md5_challenge(char challenge[CRAM_MD5_CHALLENGE_LEN])

Definition at line 64 of file challenge.c.

7.5 challenge.h File Reference

Defines

- #define [CRAM_MD5_CHALLENGE_LEN](#) 35

Functions

- int [cram_md5_challenge](#) (char challenge[[CRAM_MD5_CHALLENGE_LEN](#)])

7.5.1 Define Documentation

7.5.1.1 #define [CRAM_MD5_CHALLENGE_LEN](#) 35

Definition at line 26 of file challenge.h.

7.5.2 Function Documentation

7.5.2.1 int cram_md5_challenge(char challenge[CRAM_MD5_CHALLENGE_LEN])

Definition at line 64 of file challenge.c.

7.6 client.c File Reference

```
#include "anonymous.h" #include <string.h>
```

Functions

- int [_gsasl_anonymous_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

7.6.1 Function Documentation

7.6.1.1 `int _gsasl_anonymous_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 34 of file anonymous/client.c.

7.7 client.c File Reference

```
#include "cram-md5.h" #include <stdlib.h> #include <string.-
h> #include "digest.h"
```

Functions

- `int _gsasl_cram_md5_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

7.7.1 Function Documentation

7.7.1.1 `int _gsasl_cram_md5_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 40 of file cram-md5/client.c.

7.8 client.c File Reference

```
#include "digest-md5.h" #include <stdlib.h> #include <string.-
h> #include "nonascii.h" #include "tokens.h" #include
"parser.h" #include "printer.h" #include "free.h" #include
"session.h" #include "digesthmac.h" #include "qop.h"
```

Data Structures

- `struct _Gsasl_digest_md5_client_state`

Defines

- `#define CNONCE_ENTROPY_BYTES 16`

Typedefs

- `typedef struct _Gsasl_digest_md5_client_state _Gsasl_digest_md5_client_state`

Functions

- `int _gsasl_digest_md5_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_digest_md5_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_digest_md5_client_finish (Gsasl_session *sctx, void *mech_data)`
- `int _gsasl_digest_md5_client_encode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int _gsasl_digest_md5_client_decode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

7.8.1 Define Documentation

7.8.1.1 `#define CNONCE_ENTROPY_BYTES 16`

Definition at line 46 of file digest-md5/client.c.

7.8.2 Typedef Documentation

7.8.2.1 `typedef struct _Gsasl_digest_md5_client_state` `_Gsasl_digest_md5_client_state`

Definition at line 61 of file digest-md5/client.c.

7.8.3 Function Documentation

7.8.3.1 `int _gsasl_digest_md5_client_decode (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 320 of file digest-md5/client.c.

7.8.3.2 `int _gsasl_digest_md5_client_encode (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 296 of file digest-md5/client.c.

7.8.3.3 `void _gsasl_digest_md5_client_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 281 of file digest-md5/client.c.

7.8.3.4 `int _gsasl_digest_md5_client_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 64 of file digest-md5/client.c.

7.8.3.5 `int _gsasl_digest_md5_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 95 of file digest-md5/client.c.

7.9 client.c File Reference

```
#include "external.h" #include <string.h>
```

Functions

- `int _gsasl_external_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

7.9.1 Function Documentation

7.9.1.1 `int _gsasl_external_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 34 of file external/client.c.

7.10 client.c File Reference

```
#include "gs2.h" #include <stdlib.h> #include <string.h> ×  
#include "gss-extra.h" #include "gs2helper.h"
```

Data Structures

- `struct _gsasl_gs2_client_state`

Typedefs

- `typedef struct _gsasl_gs2_client_state _gsasl_gs2_client_state`

Functions

- `int _gsasl_gs2_client_start(Gsasl_session * sctx, void ** mech_data)`
- `int _gsasl_gs2_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`
- `void _gsasl_gs2_client_finish(Gsasl_session * sctx, void * mech_data)`

7.10.1 Typedef Documentation

7.10.1.1 typedef struct _gsasl_gs2_client_state gsasl_gs2_client_state

Definition at line 49 of file gs2/client.c.

7.10.2 Function Documentation

7.10.2.1 void _gsasl_gs2_client_finish(Gsasl_session * sctx, void * mech_data)

Definition at line 315 of file gs2/client.c.

7.10.2.2 int _gsasl_gs2_client_start(Gsasl_session * sctx, void ** mech_data)

Definition at line 54 of file gs2/client.c.

7.10.2.3 int _gsasl_gs2_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 237 of file gs2/client.c.

7.11 client.c File Reference

```
#include <stdlib.h> #include <string.h> #include "x-gssapi.-  
h" #include "gss-extra.h"
```

Data Structures

- [struct _Gsasl_gssapi_client_state](#)

Typedefs

- typedef struct [_Gsasl_gssapi_client_state](#) [_Gsasl_gssapi_client_state](#)

Functions

- [int _gsasl_gssapi_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- [int _gsasl_gssapi_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [void _gsasl_gssapi_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)
- [int _gsasl_gssapi_client_encode](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

- [int _gsasl_gssapi_client_decode](#) (*Gsasl_session* *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

7.11.1 Typedef Documentation

7.11.1.1 typedef struct _Gsasl_gssapi_client_state _Gsasl_gssapi_client_state

Definition at line 53 of file gssapi/client.c.

7.11.2 Function Documentation

7.11.2.1 int _gsasl_gssapi_client_decode(*Gsasl_session* * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 327 of file gssapi/client.c.

7.11.2.2 int _gsasl_gssapi_client_encode(*Gsasl_session* * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 272 of file gssapi/client.c.

7.11.2.3 void _gsasl_gssapi_client_finish(*Gsasl_session* * sctx, void * mech_data)

Definition at line 254 of file gssapi/client.c.

7.11.2.4 int _gsasl_gssapi_client_start(*Gsasl_session* * sctx, void ** mech_data)

Definition at line 56 of file gssapi/client.c.

7.11.2.5 int _gsasl_gssapi_client_step(*Gsasl_session* * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 75 of file gssapi/client.c.

7.12 client.c File Reference

```
#include "kerberos_v5.h" #include "shared.h"
```

Data Structures

- [struct _Gsasl_kerberos_v5_client_state](#)

Defines

- #define [STEP_FIRST](#) 0
- #define [STEP_NONINFRA_SEND_ASREQ](#) 1
- #define [STEP_NONINFRA_WAIT_ASREP](#) 2
- #define [STEP_NONINFRA_SEND_APREQ](#) 3
- #define [STEP_NONINFRA_WAIT_APREP](#) 4
- #define [STEP_SUCCESS](#) 5

Functions

- int [_gsasl_kerberos_v5_client_init](#) (Gsasl_ctx *ctx)
- int [_gsasl_kerberos_v5_client_start](#) (Gsasl_session *sctx, void **mech_data)
- int [_gsasl_kerberos_v5_client_step](#) (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)
- int [_gsasl_kerberos_v5_client_encode](#) (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- int [_gsasl_kerberos_v5_client_decode](#) (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)
- int [_gsasl_kerberos_v5_client_finish](#) (Gsasl_session *sctx, void *mech_data)

7.12.1 Define Documentation

7.12.1.1 #define [STEP_FIRST](#) 0

Definition at line 81 of file kerberos_v5/client.c.

7.12.1.2 #define [STEP_NONINFRA_SEND_APREQ](#) 3

Definition at line 84 of file kerberos_v5/client.c.

7.12.1.3 #define [STEP_NONINFRA_SEND_ASREQ](#) 1

Definition at line 82 of file kerberos_v5/client.c.

7.12.1.4 #define [STEP_NONINFRA_WAIT_APREP](#) 4

Definition at line 85 of file kerberos_v5/client.c.

7.12.1.5 #define [STEP_NONINFRA_WAIT_ASREP](#) 2

Definition at line 83 of file kerberos_v5/client.c.

7.12.1.6 `#define STEP_SUCCESS 5`

Definition at line 86 of file `kerberos_v5/client.c`.

7.12.2 Function Documentation

7.12.2.1 `int _gsasl_kerberos_v5_client_decode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 414 of file `kerberos_v5/client.c`.

7.12.2.2 `int _gsasl_kerberos_v5_client_encode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 367 of file `kerberos_v5/client.c`.

7.12.2.3 `int _gsasl_kerberos_v5_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 444 of file `kerberos_v5/client.c`.

7.12.2.4 `int _gsasl_kerberos_v5_client_init(Gsasl_ctx * ctx)`

Definition at line 48 of file `kerberos_v5/client.c`.

7.12.2.5 `int _gsasl_kerberos_v5_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 57 of file `kerberos_v5/client.c`.

7.12.2.6 `int _gsasl_kerberos_v5_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 89 of file `kerberos_v5/client.c`.

7.13 `client.c` File Reference

```
#include <stdlib.h> #include <string.h> #include "login.-h"
```


Data Structures

- struct [_Gsasl_login_client_state](#)

Functions

- int [_gsasl_login_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_login_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_login_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

7.13.1 Function Documentation

7.13.1.1 void [_gsasl_login_client_finish](#) ([Gsasl_session](#) * *sctx*, void * *mech_data*)

Definition at line 102 of file login/client.c.

7.13.1.2 int [_gsasl_login_client_start](#) ([Gsasl_session](#) * *sctx*, void ** *mech_data*)

Definition at line 42 of file login/client.c.

7.13.1.3 int [_gsasl_login_client_step](#) ([Gsasl_session](#) * *sctx*, void * *mech_data*, const char * *input*, size_t *input_len*, char ** *output*, size_t * *output_len*)

Definition at line 58 of file login/client.c.

7.14 client.c File Reference

```
#include "openid20.h" #include <string.h> #include <stdlib.h>
#include <stdbool.h> #include "mechtools.h"
```

Data Structures

- struct [openid20_client_state](#)

Defines

- #define [ERR_PREFIX](#) "openid.error="

Functions

- `int _gsasl_openid20_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_openid20_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_openid20_client_finish (Gsasl_session *sctx, void *mech_data)`

7.14.1 Define Documentation

7.14.1.1 `#define ERR_PREFIX "openid.error="`

7.14.2 Function Documentation

7.14.2.1 `void _gsasl_openid20_client_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 164 of file openid20/client.c.

7.14.2.2 `int _gsasl_openid20_client_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 48 of file openid20/client.c.

7.14.2.3 `int _gsasl_openid20_client_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 62 of file openid20/client.c.

7.15 client.c File Reference

```
#include "plain.h" #include <string.h> #include <stdlib.-h>
```

Functions

- `int _gsasl_plain_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

7.15.1 Function Documentation

7.15.1.1 `int _gsasl_plain_client_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 37 of file plain/client.c.

7.16 client.c File Reference

```
#include "saml20.h" #include <string.h> #include <stdlib.-  
h> #include <stdbool.h> #include "mechtools.h"
```

Data Structures

- struct [saml20_client_state](#)

Functions

- int [_gsasl_saml20_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_saml20_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_saml20_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

7.16.1 Function Documentation

7.16.1.1 void [_gsasl_saml20_client_finish](#)([Gsasl_session](#) * *sctx*, void * *mech_data*)

Definition at line 120 of file `saml20/client.c`.

7.16.1.2 int [_gsasl_saml20_client_start](#)([Gsasl_session](#) * *sctx*, void ** *mech_data*)

Definition at line 48 of file `saml20/client.c`.

7.16.1.3 int [_gsasl_saml20_client_step](#)([Gsasl_session](#) * *sctx*, void * *mech_data*, const char * *input*, size_t *input_len*, char ** *output*, size_t * *output_len*)

Definition at line 62 of file `saml20/client.c`.

7.17 client.c File Reference

```
#include "scram.h" #include <stdlib.h> #include <string.-  
h> #include <stdbool.h> #include "tokens.h" #include "parser.-  
h" #include "printer.h" #include "gc.h" #include "memxor.-  
h"
```

Data Structures

- struct [scram_client_state](#)

Defines

- #define `CNONCE_ENTROPY_BYTES` 18
- #define `CLIENT_KEY` "Client Key"
- #define `SERVER_KEY` "Server Key"

Functions

- int `_gsasl_scram_sha1_client_start` (`Gsasl_session` *sctx, void **mech_data)
- int `_gsasl_scram_sha1_plus_client_start` (`Gsasl_session` *sctx, void **mech_data)
- int `_gsasl_scram_sha1_client_step` (`Gsasl_session` *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void `_gsasl_scram_sha1_client_finish` (`Gsasl_session` *sctx, void *mech_data)

7.17.1 Define Documentation

7.17.1.1 #define `CLIENT_KEY` "Client Key"

7.17.1.2 #define `CNONCE_ENTROPY_BYTES` 18

Definition at line 45 of file `scram/client.c`.

7.17.1.3 #define `SERVER_KEY` "Server Key"

7.17.2 Function Documentation

7.17.2.1 void `_gsasl_scram_sha1_client_finish` (`Gsasl_session` * *sctx*, void * *mech_data*)

Definition at line 452 of file `scram/client.c`.

7.17.2.2 int `_gsasl_scram_sha1_client_start` (`Gsasl_session` * *sctx*, void ** *mech_data*)

Definition at line 116 of file `scram/client.c`.

7.17.2.3 int `_gsasl_scram_sha1_client_step` (`Gsasl_session` * *sctx*, void * *mech_data*, const char * *input*, size_t *input_len*, char ** *output*, size_t * *output_len*)

Definition at line 168 of file `scram/client.c`.

7.17.2.4 `int _gsasl_scram_sha1_plus_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 122 of file `scram/client.c`.

7.18 client.c File Reference

```
#include "securid.h" #include <stdlib.h> #include <string.-  
h>
```

Defines

- `#define PASSCODE "passcode"`
- `#define PIN "pin"`

Functions

- `int _gsasl_securid_client_start(Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_securid_client_step(Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_securid_client_finish(Gsasl_session *sctx, void *mech_data)`

7.18.1 Define Documentation

7.18.1.1 `#define PASSCODE "passcode"`

Definition at line 36 of file `securid/client.c`.

7.18.1.2 `#define PIN "pin"`

Definition at line 37 of file `securid/client.c`.

7.18.2 Function Documentation

7.18.2.1 `void _gsasl_securid_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 163 of file `securid/client.c`.

7.18.2.2 `int _gsasl_securid_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 40 of file `securid/client.c`.

7.18.2.3 `int _gsasl_secured_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 56 of file secured/client.c.

7.19 cram-md5.h File Reference

```
#include <gsasl.h>
```

Defines

- `#define GSASL_CRAM_MD5_NAME "CRAM-MD5"`

Functions

- `int _gsasl_cram_md5_client_step(Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int _gsasl_cram_md5_server_start(Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_cram_md5_server_step(Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_cram_md5_server_finish(Gsasl_session *sctx, void *mech_data)`

Variables

- `Gsasl_mechanism gsasl_cram_md5_mechanism`

7.19.1 Define Documentation

7.19.1.1 `#define GSASL_CRAM_MD5_NAME "CRAM-MD5"`

Definition at line 28 of file cram-md5.h.

7.19.2 Function Documentation

7.19.2.1 `int _gsasl_cram_md5_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 40 of file cram-md5/client.c.

7.19.2.2 `void _gsasl_cram_md5_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 127 of file cram-md5/server.c.

7.19.2.3 `int _gsasl_cram_md5_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 45 of file `cram-md5/server.c`.

7.19.2.4 `int _gsasl_cram_md5_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 64 of file `cram-md5/server.c`.

7.19.3 Variable Documentation

7.19.3.1 `Gsasl_mechanism gsasl_cram_md5_mechanism`

Definition at line 30 of file `cram-md5/mechinfo.c`.

7.20 crypto.c File Reference

```
#include "internal.h" #include "gc.h"
```

Functions

- `int gsasl_nonce` (char *data, size_t datalen)
- `int gsasl_random` (char *data, size_t datalen)
- `int gsasl_md5` (const char *in, size_t inlen, char *out[16])
- `int gsasl_hmac_md5` (const char *key, size_t keylen, const char *in, size_t inlen, char *outhash[16])
- `int gsasl_sha1` (const char *in, size_t inlen, char *out[20])
- `int gsasl_hmac_sha1` (const char *key, size_t keylen, const char *in, size_t inlen, char *outhash[20])

7.20.1 Function Documentation

7.20.1.1 `int gsasl_hmac_md5(const char * key, size_t keylen, const char * in, size_t inlen, char * outhash[16])`

`gsasl_hmac_md5`:

Parameters

| | |
|----------------|--|
| <i>key</i> | input character array with key to use. |
| <i>keylen</i> | length of input character array with key to use. |
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>outhash</i> | newly allocated character array with keyed hash of data. |

Compute keyed checksum of data using HMAC-MD5. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Definition at line 92 of file crypto.c.

7.20.1.2 `int gsasl_hmac_sha1 (const char * key, size_t keylen, const char * in, size_t inlen, char * outhash[20])`

gsasl_hmac_sha1:

Parameters

| | |
|----------------|--|
| <i>key</i> | input character array with key to use. |
| <i>keylen</i> | length of input character array with key to use. |
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>outhash</i> | newly allocated character array with keyed hash of data. |

Compute keyed checksum of data using HMAC-SHA1. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Since: 1.3

Definition at line 139 of file crypto.c.

7.20.1.3 `int gsasl_md5 (const char * in, size_t inlen, char * out[16])`

gsasl_md5:

Parameters

| | |
|--------------|--|
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>out</i> | newly allocated character array with hash of data. |

Compute hash of data using MD5. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Definition at line 70 of file crypto.c.

7.20.1.4 `int gsasl_nonce (char * data, size_t datalen)`

gsasl_nonce:

Parameters

| | |
|----------------|---|
| <i>data</i> | output array to be filled with unpredictable random data. |
| <i>datalen</i> | size of output array. |

Store unpredictable data of given size in the provided buffer.

Return value: Returns GSASL_OK iff successful.

Definition at line 37 of file crypto.c.

7.20.1.5 int gsasl_random (char * data, size_t datalen)

gsasl_random:

Parameters

| | |
|----------------|--|
| <i>data</i> | output array to be filled with strong random data. |
| <i>datalen</i> | size of output array. |

Store cryptographically strong random data of given size in the provided buffer.

Return value: Returns GSASL_OK iff successful.

Definition at line 53 of file crypto.c.

7.20.1.6 int gsasl_sha1 (const char * in, size_t inlen, char * out[20])

gsasl_sha1:

Parameters

| | |
|--------------|--|
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>out</i> | newly allocated character array with hash of data. |

Compute hash of data using SHA1. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Since: 1.3

Definition at line 115 of file crypto.c.

7.21 digest-md5.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_DIGEST_MD5_NAME](#) "DIGEST-MD5"

Functions

- [int _gsasl_digest_md5_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- [int _gsasl_digest_md5_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [void _gsasl_digest_md5_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)
- [int _gsasl_digest_md5_client_encode](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [int _gsasl_digest_md5_client_decode](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [int _gsasl_digest_md5_server_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- [int _gsasl_digest_md5_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [void _gsasl_digest_md5_server_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)
- [int _gsasl_digest_md5_server_encode](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [int _gsasl_digest_md5_server_decode](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

Variables

- [Gsasl_mechanism gsasl_digest_md5_mechanism](#)

7.21.1 Define Documentation

7.21.1.1 #define [GSASL_DIGEST_MD5_NAME](#) "DIGEST-MD5"

Definition at line 28 of file digest-md5.h.

7.21.2 Function Documentation

7.21.2.1 [int _gsasl_digest_md5_client_decode](#) ([Gsasl_session](#) * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 320 of file digest-md5/client.c.

7.21.2.2 [int _gsasl_digest_md5_client_encode](#) ([Gsasl_session](#) * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 296 of file digest-md5/client.c.

7.21.2.3 `void _gsasl_digest_md5_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 281 of file digest-md5/client.c.

7.21.2.4 `int _gsasl_digest_md5_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 64 of file digest-md5/client.c.

7.21.2.5 `int _gsasl_digest_md5_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 95 of file digest-md5/client.c.

7.21.2.6 `int _gsasl_digest_md5_server_decode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 375 of file digest-md5/server.c.

7.21.2.7 `int _gsasl_digest_md5_server_encode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 351 of file digest-md5/server.c.

7.21.2.8 `void _gsasl_digest_md5_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 336 of file digest-md5/server.c.

7.21.2.9 `int _gsasl_digest_md5_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 65 of file digest-md5/server.c.

7.21.2.10 `int _gsasl_digest_md5_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 143 of file digest-md5/server.c.

7.21.3 Variable Documentation

7.21.3.1 Gsasl_mechanism gsasl_digest_md5_mechanism

Definition at line 30 of file digest-md5/mechinfo.c.

7.22 digest.c File Reference

```
#include <string.h> #include "digest.h" #include "gc.h"
```

Defines

- #define [HEXCHAR\(c\)](#) ((c & 0x0F) > 9 ? 'a' + (c & 0x0F) - 10 : '0' + (c & 0x0F))

Functions

- void [cram_md5_digest](#) (const char *challenge, size_t challengelen, const char *secret, size_t secretlen, char response[[CRAM_MD5_DIGEST_LEN](#)])

7.22.1 Define Documentation

7.22.1.1 #define [HEXCHAR\(c \)](#) ((c & 0x0F) > 9 ? 'a' + (c & 0x0F) - 10 : '0' + (c & 0x0F))

Definition at line 55 of file digest.c.

7.22.2 Function Documentation

7.22.2.1 void [cram_md5_digest](#) (const char * *challenge*, size_t *challengelen*, const char * *secret*, size_t *secretlen*, char *response*[[CRAM_MD5_DIGEST_LEN](#)])

Definition at line 58 of file digest.c.

7.23 digest.h File Reference

```
#include <stddef.h>
```

Defines

- #define [CRAM_MD5_DIGEST_LEN](#) 32

Functions

- void `cram_md5_digest` (const char *challenge, size_t challengelen, const char *secret, size_t secretlen, char response[CRAM_MD5_DIGEST_LEN])

7.23.1 Define Documentation

7.23.1.1 #define CRAM_MD5_DIGEST_LEN 32

Definition at line 29 of file digest.h.

7.23.2 Function Documentation

7.23.2.1 void `cram_md5_digest` (const char * challenge, size_t challengelen, const char * secret, size_t secretlen, char response[CRAM_MD5_DIGEST_LEN])

Definition at line 58 of file digest.c.

7.24 digestmac.c File Reference

```
#include "digestmac.h" #include <stdlib.h> #include <string.-
h> #include <stdio.h> #include <gc.h>
```

Defines

- #define `HEXCHAR`(c) ((c & 0x0F) > 9 ? 'a' + (c & 0x0F) - 10 : '0' + (c & 0x0F))
- #define `QOP_AUTH` "auth"
- #define `QOP_AUTH_INT` "auth-int"
- #define `QOP_AUTH_CONF` "auth-conf"
- #define `A2_PRE` "AUTHENTICATE:"
- #define `A2_POST` ":00000000000000000000000000000000"
- #define `COLON` ":"
- #define `MD5LEN` 16
- #define `DERIVE_CLIENT_INTEGRITY_KEY_STRING` "Digest session key to client-to-server signing key magic constant"
- #define `DERIVE_CLIENT_INTEGRITY_KEY_STRING_LEN` 65
- #define `DERIVE_SERVER_INTEGRITY_KEY_STRING` "Digest session key to server-to-client signing key magic constant"
- #define `DERIVE_SERVER_INTEGRITY_KEY_STRING_LEN` 65
- #define `DERIVE_CLIENT_CONFIDENTIALITY_KEY_STRING` "Digest H(A1) to client-to-server sealing key magic constant"
- #define `DERIVE_CLIENT_CONFIDENTIALITY_KEY_STRING_LEN` 59
- #define `DERIVE_SERVER_CONFIDENTIALITY_KEY_STRING` "Digest H(A1) to server-to-client sealing key magic constant"
- #define `DERIVE_SERVER_CONFIDENTIALITY_KEY_STRING_LEN` 59

Functions

- int `digest_md5_hmac` (char *output, char secret[MD5LEN], const char *nonce, unsigned long nc, const char *cnonce, `digest_md5_qop` qop, const char *authzid, const char *digesturi, int rspauth, `digest_md5_cipher` cipher, char *kic, char *kis, char *kcc, char *kcs)

7.24.1 Define Documentation

7.24.1.1 `#define A2_POST ":00000000000000000000000000000000"`

Definition at line 49 of file `digestmac.c`.

7.24.1.2 `#define A2_PRE "AUTHENTICATE:"`

Definition at line 48 of file `digestmac.c`.

7.24.1.3 `#define COLON ":"`

Definition at line 50 of file `digestmac.c`.

7.24.1.4 `#define DERIVE_CLIENT_CONFIDENTIALITY_KEY_STRING "Digest H(A1) to client-to-server sealing key magic constant"`

Definition at line 58 of file `digestmac.c`.

7.24.1.5 `#define DERIVE_CLIENT_CONFIDENTIALITY_KEY_STRING_LEN 59`

Definition at line 60 of file `digestmac.c`.

7.24.1.6 `#define DERIVE_CLIENT_INTEGRITY_KEY_STRING "Digest session key to client-to-server signing key magic constant"`

Definition at line 52 of file `digestmac.c`.

7.24.1.7 `#define DERIVE_CLIENT_INTEGRITY_KEY_STRING_LEN 65`

Definition at line 54 of file `digestmac.c`.

7.24.1.8 `#define DERIVE_SERVER_CONFIDENTIALITY_KEY_STRING "Digest H(A1) to server-to-client sealing key magic constant"`

Definition at line 61 of file `digestmac.c`.

7.24.1.9 `#define DERIVE_SERVER_CONFIDENTIALITY_KEY_STRING_LEN 59`

Definition at line 63 of file digestmac.c.

7.24.1.10 `#define DERIVE_SERVER_INTEGRITY_KEY_STRING "Digest session key to server-to-client signing key magic constant"`

Definition at line 55 of file digestmac.c.

7.24.1.11 `#define DERIVE_SERVER_INTEGRITY_KEY_STRING_LEN 65`

Definition at line 57 of file digestmac.c.

7.24.1.12 `#define HEXCHAR(c) ((c & 0x0F) > 9 ? 'a' + (c & 0x0F) - 10 : '0' + (c & 0x0F))`

Definition at line 42 of file digestmac.c.

7.24.1.13 `#define MD5LEN 16`

Definition at line 51 of file digestmac.c.

7.24.1.14 `#define QOP_AUTH "auth"`

Definition at line 44 of file digestmac.c.

7.24.1.15 `#define QOP_AUTH_CONF "auth-conf"`

Definition at line 46 of file digestmac.c.

7.24.1.16 `#define QOP_AUTH_INT "auth-int"`

Definition at line 45 of file digestmac.c.

7.24.2 Function Documentation

7.24.2.1 `int digest_md5_hmac (char * output, char secret[MD5LEN], const char * nonce, unsigned long nc, const char * cnonce, digest_md5_qop qop, const char * authid, const char * digesturi, int rspauth, digest_md5_cipher cipher, char * kic, char * kis, char * kcc, char * kcs)`

Definition at line 79 of file digestmac.c.

7.25 digestmac.h File Reference

```
#include "tokens.h"
```

Functions

- int [digest_md5_hmac](#) (char *output, char secret[DIGEST_MD5_LENGTH], const char *nonce, unsigned long nc, const char *cnonce, [digest_md5_qop](#) qop, const char *authzid, const char *digesturi, int rspauth, [digest_md5_cipher](#) cipher, char *kic, char *kis, char *kcc, char *kcs)

7.25.1 Function Documentation

7.25.1.1 int [digest_md5_hmac](#) (char * *output*, char *secret*[DIGEST_MD5_LENGTH], const char * *nonce*, unsigned long *nc*, const char * *cnonce*, [digest_md5_qop](#) *qop*, const char * *authzid*, const char * *digesturi*, int *rspauth*, [digest_md5_cipher](#) *cipher*, char * *kic*, char * *kis*, char * *kcc*, char * *kcs*)

7.26 done.c File Reference

```
#include "internal.h"
```

Functions

- void [gsasl_done](#) ([Gsasl](#) *ctx)

7.26.1 Function Documentation

7.26.1.1 void [gsasl_done](#) ([Gsasl](#) * *ctx*)

[gsasl_done](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

This function destroys a libgsasl handle. The handle must not be used with other libgsasl functions after this call.

Definition at line 33 of file done.c.

7.27 doxygen.c File Reference

7.28 error.c File Reference

```
#include "internal.h" #include "gettext.h"
```

Defines

- #define `_(String) dgettext (PACKAGE, String)`
- #define `gettext_noop(String) String`
- #define `N_(String) gettext_noop (String)`
- #define `ERR(name, desc) { name, #name, desc }`
- #define `OBS(i, name, desc) { name, #name, desc }`

Functions

- const char * `gsasl_strerror (int err)`
- const char * `gsasl_strerror_name (int err)`

7.28.1 Define Documentation

7.28.1.1 #define `_(String) dgettext (PACKAGE, String)`

Definition at line 27 of file error.c.

7.28.1.2 #define `ERR(name, desc) { name, #name, desc }`

Definition at line 31 of file error.c.

7.28.1.3 #define `gettext_noop(String) String`

Definition at line 28 of file error.c.

7.28.1.4 #define `N_(String) gettext_noop (String)`

Definition at line 29 of file error.c.

7.28.1.5 #define `OBS(i, name, desc) { name, #name, desc }`

Definition at line 36 of file error.c.

7.28.2 Function Documentation

7.28.2.1 `const char* gsasl_strerror (int err)`

`gsasl_strerror`:

Parameters

| | |
|------------|---------------------|
| <i>err</i> | libgsasl error code |
|------------|---------------------|

Convert return code to human readable string explanation of the reason for the particular error code.

This string can be used to output a diagnostic message to the user.

This function is one of few in the library that can be used without a successful call to [gsasl_init\(\)](#).

Return value: Returns a pointer to a statically allocated string containing an explanation of the error code .

Definition at line 228 of file error.c.

7.28.2.2 `const char* gsasl_strerror_name (int err)`

`gsasl_strerror_name`:

Parameters

| | |
|------------|---------------------|
| <i>err</i> | libgsasl error code |
|------------|---------------------|

Convert return code to human readable string representing the error code symbol itself. For example, `gsasl_strerror_name(GSASL_OK)` returns the string "GSASL_OK".

This string can be used to output a diagnostic message to the user.

This function is one of few in the library that can be used without a successful call to [gsasl_init\(\)](#).

Return value: Returns a pointer to a statically allocated string containing a string version of the error code , or NULL if the error code is not known.

Since: 0.2.29

Definition at line 266 of file error.c.

7.28.3 Variable Documentation

7.28.3.1 `const char* description`

Definition at line 44 of file error.c.

7.28.3.2 `const char* name`

Definition at line 43 of file error.c.

7.28.3.3 `int rc`

Definition at line 42 of file error.c.

7.29 external.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_EXTERNAL_NAME](#) "EXTERNAL"

Functions

- [int _gsasl_external_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [int _gsasl_external_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

Variables

- [Gsasl_mechanism gsasl_external_mechanism](#)

7.29.1 Define Documentation

7.29.1.1 #define [GSASL_EXTERNAL_NAME](#) "EXTERNAL"

Definition at line 28 of file external.h.

7.29.2 Function Documentation

7.29.2.1 [int _gsasl_external_client_step](#) ([Gsasl_session](#) * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 34 of file external/client.c.

7.29.2.2 `int _gsasl_external_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 34 of file external/server.c.

7.29.3 Variable Documentation

7.29.3.1 `Gsasl_mechanism gsasl_external_mechanism`

Definition at line 30 of file external/mechinfo.c.

7.30 free.c File Reference

```
#include "free.h" #include <stdlib.h> #include <string.-h>
```

Functions

- void `digest_md5_free_challenge` (`digest_md5_challenge *c`)
- void `digest_md5_free_response` (`digest_md5_response *r`)
- void `digest_md5_free_finish` (`digest_md5_finish *f`)

7.30.1 Function Documentation

7.30.1.1 `void digest_md5_free_challenge(digest_md5_challenge * c)`

Definition at line 33 of file digest-md5/free.c.

7.30.1.2 `void digest_md5_free_finish(digest_md5_finish * f)`

Definition at line 59 of file digest-md5/free.c.

7.30.1.3 `void digest_md5_free_response(digest_md5_response * r)`

Definition at line 46 of file digest-md5/free.c.

7.31 free.c File Reference

```
#include "internal.h"
```

Functions

- void [gsasl_free](#) (void *ptr)

7.31.1 Function Documentation

7.31.1.1 void [gsasl_free](#) (void * ptr)

[gsasl_free](#):

Parameters

| | |
|------------|----------------|
| <i>ptr</i> | memory pointer |
|------------|----------------|

Invoke `free()` to de-allocate memory pointer. Typically used on strings allocated by other `libgsasl` functions.

This is useful on Windows where `libgsasl` is linked to one CRT and the application is linked to another CRT. Then `malloc/free` will not use the same heap. This happens if you build `libgsasl` using `mingw32` and the application with Visual Studio.

Since: 0.2.19

Definition at line 41 of file `src/free.c`.

7.32 free.h File Reference

```
#include "tokens.h"
```

Functions

- void [digest_md5_free_challenge](#) ([digest_md5_challenge](#) *c)
- void [digest_md5_free_response](#) ([digest_md5_response](#) *r)
- void [digest_md5_free_finish](#) ([digest_md5_finish](#) *f)

7.32.1 Function Documentation

7.32.1.1 void [digest_md5_free_challenge](#) ([digest_md5_challenge](#) * c)

Definition at line 33 of file `digest-md5/free.c`.

7.32.1.2 void [digest_md5_free_finish](#) ([digest_md5_finish](#) * f)

Definition at line 59 of file `digest-md5/free.c`.

7.32.1.3 void `digest_md5_free_response`(`digest_md5_response * r`)

Definition at line 46 of file `digest-md5/free.c`.

7.33 `getsubopt.c` File Reference

```
#include "parser.h" #include <string.h>
```

Functions

- int `digest_md5_getsubopt` (char ***optionp*, const char *const **tokens*, char ***valuep*)

7.33.1 Function Documentation

7.33.1.1 int `digest_md5_getsubopt` (char ** *optionp*, const char *const * *tokens*, char ** *valuep*)

Definition at line 46 of file `getsubopt.c`.

7.34 `gs2.h` File Reference

```
#include <gsasl.h>
```

Defines

- #define `GSASL_GS2_KRB5_NAME` "GS2-KRB5"

Functions

- int `_gsasl_gs2_client_start` (`Gsasl_session *sctx`, void ***mech_data*)
- int `_gsasl_gs2_client_step` (`Gsasl_session *sctx`, void **mech_data*, const char **input*, `size_t input_len`, char ***output*, `size_t *output_len`)
- void `_gsasl_gs2_client_finish` (`Gsasl_session *sctx`, void **mech_data*)
- int `_gsasl_gs2_server_start` (`Gsasl_session *sctx`, void ***mech_data*)
- int `_gsasl_gs2_server_step` (`Gsasl_session *sctx`, void **mech_data*, const char **input*, `size_t input_len`, char ***output*, `size_t *output_len`)
- void `_gsasl_gs2_server_finish` (`Gsasl_session *sctx`, void **mech_data*)

Variables

- `Gsasl_mechanism gsasl_gs2_krb5_mechanism`

7.34.1 Define Documentation

7.34.1.1 `#define GSASL_GS2_KRB5_NAME "GS2-KRB5"`

Definition at line 28 of file gs2.h.

7.34.2 Function Documentation

7.34.2.1 `void _gsasl_gs2_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 315 of file gs2/client.c.

7.34.2.2 `int _gsasl_gs2_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 54 of file gs2/client.c.

7.34.2.3 `int _gsasl_gs2_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 237 of file gs2/client.c.

7.34.2.4 `void _gsasl_gs2_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 296 of file gs2/server.c.

7.34.2.5 `int _gsasl_gs2_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 118 of file gs2/server.c.

7.34.2.6 `int _gsasl_gs2_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 167 of file gs2/server.c.

7.34.3 Variable Documentation

7.34.3.1 `Gsasl_mechanism gsasl_gs2_krb5_mechanism`

Definition at line 30 of file gs2/mechinfo.c.

7.35 gs2helper.c File Reference

```
#include <string.h> #include <stdlib.h> #include "gs2helper.h"
```

Functions

- int [gs2_get_oid](#) ([Gsasl_session](#) *sctx, [gss_OID](#) *mech_oid)

7.35.1 Function Documentation

7.35.1.1 int [gs2_get_oid](#) ([Gsasl_session](#) * *sctx*, [gss_OID](#) * *mech_oid*)

Definition at line 40 of file gs2helper.c.

7.36 gs2helper.h File Reference

```
#include <gsasl.h>
```

Functions

- int [gs2_get_oid](#) ([Gsasl_session](#) *sctx, [gss_OID](#) *mech_oid)

7.36.1 Function Documentation

7.36.1.1 int [gs2_get_oid](#) ([Gsasl_session](#) * *sctx*, [gss_OID](#) * *mech_oid*)

Definition at line 40 of file gs2helper.c.

7.37 gsasl-compat.h File Reference

Defines

- #define [__attribute__](#)(Spec) /* empty */

Typedefs

- typedef [Gsasl](#) [Gsasl_ctx](#) [__attribute__](#) ((deprecated))
- typedef int(* [Gsasl_client_callback_anonymous](#))([Gsasl_session](#) *sctx, char *out, [size_t](#) *outlen)

- typedef int(* [Gssapi_client_callback_authentication_id](#))(Gssapi_session *sctx, char *out, size_t *outlen)
- typedef int(* [Gssapi_client_callback_authorization_id](#))(Gssapi_session *sctx, char *out, size_t *outlen)
- typedef int(* [Gssapi_client_callback_password](#))(Gssapi_session *sctx, char *out, size_t *outlen)
- typedef int(* [Gssapi_client_callback_passcode](#))(Gssapi_session *sctx, char *out, size_t *outlen)
- typedef int(* [Gssapi_client_callback_pin](#))(Gssapi_session *sctx, char *suggestion, char *out, size_t *outlen)
- typedef int(* [Gssapi_client_callback_service](#))(Gssapi_session *sctx, char *service, size_t *servicelen, char *hostname, size_t *hostnamelen, char *servicename, size_t *servicenamelen)
- typedef [Gssapi_qop](#)(* [Gssapi_client_callback_qop](#))(Gssapi_session *sctx, [Gssapi_qop](#) serverqops)
- typedef size_t(* [Gssapi_client_callback_maxbuf](#))(Gssapi_session *sctx, size_t servermaxbuf)
- typedef int(* [Gssapi_client_callback_realm](#))(Gssapi_session *sctx, char *out, size_t *outlen)
- typedef int(* [Gssapi_server_callback_retrieve](#))(Gssapi_session *sctx, const char *authentication_id, const char *authorization_id, const char *realm, char *key, size_t *keylen)
- typedef int(* [Gssapi_server_callback_validate](#))(Gssapi_session *sctx, const char *authorization_id, const char *authentication_id, const char *password)
- typedef int(* [Gssapi_server_callback_gssapi](#))(Gssapi_session *sctx, const char *clientname, const char *authentication_id)
- typedef int(* [Gssapi_server_callback_secured](#))(Gssapi_session *sctx, const char *authentication_id, const char *authorization_id, const char *passcode, char *pin, char *suggestpin, size_t *suggestpinlen)
- typedef int(* [Gssapi_server_callback_cram_md5](#))(Gssapi_session *sctx, char *username, char *challenge, char *response)
- typedef int(* [Gssapi_server_callback_digest_md5](#))(Gssapi_session *sctx, char *username, char *realm, char *secrethash)
- typedef int(* [Gssapi_server_callback_service](#))(Gssapi_session *sctx, char *service, size_t *servicelen, char *hostname, size_t *hostnamelen)
- typedef int(* [Gssapi_server_callback_external](#))(Gssapi_session *sctx)
- typedef int(* [Gssapi_server_callback_anonymous](#))(Gssapi_session *sctx, const char *token)
- typedef int(* [Gssapi_server_callback_realm](#))(Gssapi_session *sctx, char *out, size_t *outlen, size_t nth)
- typedef [Gssapi_qop](#)(* [Gssapi_server_callback_qop](#))(Gssapi_session *sctx)
- typedef size_t(* [Gssapi_server_callback_maxbuf](#))(Gssapi_session *sctx)
- typedef [Gssapi_cipher](#)(* [Gssapi_server_callback_cipher](#))(Gssapi_session *sctx)

Enumerations

- enum

Functions

- enum { ... } `__attribute__((deprecated))`
- GSASL_API int `gsasl_client_listmech` (`Gsasl *ctx`, `char *out`, `size_t *outlen`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_server_listmech` (`Gsasl *ctx`, `char *out`, `size_t *outlen`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_client_step` (`Gsasl_session *sctx`, `const char *input`, `size_t input_len`, `char *output`, `size_t *output_len`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_client_step_base64` (`Gsasl_session *sctx`, `const char *b64input`, `char *b64output`, `size_t b64output_len`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_server_step` (`Gsasl_session *sctx`, `const char *input`, `size_t input_len`, `char *output`, `size_t *output_len`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_server_step_base64` (`Gsasl_session *sctx`, `const char *b64input`, `char *b64output`, `size_t b64output_len`) `__attribute__((deprecated))`
- GSASL_API void `gsasl_client_finish` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API void `gsasl_server_finish` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API `Gsasl *` `gsasl_client_ctx_get` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API `Gsasl *` `gsasl_server_ctx_get` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API void `gsasl_client_application_data_set` (`Gsasl_session *sctx`, `void *application_data`) `__attribute__((deprecated))`
- GSASL_API void * `gsasl_client_application_data_get` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API void `gsasl_server_application_data_set` (`Gsasl_session *sctx`, `void *application_data`) `__attribute__((deprecated))`
- GSASL_API void * `gsasl_server_application_data_get` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_randomize` (`int strong`, `char *data`, `size_t datalen`) `__attribute__((deprecated))`
- GSASL_API `Gsasl *` `gsasl_ctx_get` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_encode_inline` (`Gsasl_session *sctx`, `const char *input`, `size_t input_len`, `char *output`, `size_t *output_len`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_decode_inline` (`Gsasl_session *sctx`, `const char *input`, `size_t input_len`, `char *output`, `size_t *output_len`) `__attribute__((deprecated))`
- GSASL_API void `gsasl_application_data_set` (`Gsasl *ctx`, `void *appdata`) `__attribute__((deprecated))`
- GSASL_API void * `gsasl_application_data_get` (`Gsasl *ctx`) `__attribute__((deprecated))`
- GSASL_API void `gsasl_appinfo_set` (`Gsasl_session *sctx`, `void *appdata`) `__attribute__((deprecated))`
- GSASL_API void * `gsasl_appinfo_get` (`Gsasl_session *sctx`) `__attribute__((deprecated))`
- GSASL_API `const char *` `gsasl_server_suggest_mechanism` (`Gsasl *ctx`, `const char *mechlist`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_base64_encode` (`char const *src`, `size_t srclength`, `char *target`, `size_t targsize`) `__attribute__((deprecated))`
- GSASL_API int `gsasl_base64_decode` (`char const *src`, `char *target`, `size_t targsize`) `__attribute__((deprecated))`
- GSASL_API `char *` `gsasl_stringprep_nfkc` (`const char *in`, `ssize_t len`) `__attribute__((deprecated))`

- GSASL_API char * [gssapi_stringprep_saslprep](#) (const char *in, int *stringprep_rc) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API char * [gssapi_stringprep_trace](#) (const char *in, int *stringprep_rc) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API int [gssapi_md5pwd_get_password](#) (const char *filename, const char *username, char *key, size_t *keylen) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_authorization_id_set](#) (Gssapi *ctx, [Gssapi_client_callback_authorization_id](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_authorization_id](#) [gssapi_client_callback_authorization_id_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_authentication_id_set](#) (Gssapi *ctx, [Gssapi_client_callback_authentication_id](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_authentication_id](#) [gssapi_client_callback_authentication_id_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_anonymous_set](#) (Gssapi *ctx, [Gssapi_client_callback_anonymous](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_anonymous](#) [gssapi_client_callback_anonymous_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_password_set](#) (Gssapi *ctx, [Gssapi_client_callback_password](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_password](#) [gssapi_client_callback_password_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_passcode_set](#) (Gssapi *ctx, [Gssapi_client_callback_passcode](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_passcode](#) [gssapi_client_callback_passcode_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_pin_set](#) (Gssapi *ctx, [Gssapi_client_callback_pin](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_pin](#) [gssapi_client_callback_pin_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_service_set](#) (Gssapi *ctx, [Gssapi_client_callback_service](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_service](#) [gssapi_client_callback_service_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_qop_set](#) (Gssapi *ctx, [Gssapi_client_callback_qop](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_qop](#) [gssapi_client_callback_qop_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_maxbuf_set](#) (Gssapi *ctx, [Gssapi_client_callback_maxbuf](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_maxbuf](#) [gssapi_client_callback_maxbuf_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_client_callback_realm_set](#) (Gssapi *ctx, [Gssapi_client_callback_realm](#) cb) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gssapi_client_callback_realm](#) [gssapi_client_callback_realm_get](#) (Gssapi *ctx) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gssapi_server_callback_validate_set](#) (Gssapi *ctx, [Gssapi_server_callback_validate](#) cb) [__attribute__\(\(deprecated\)\)](#)

- GSASL_API [Gsasl_server_callback_validate](#) [gsasl_server_callback_validate_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_retrieve_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_retrieve_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_retrieve](#) [gsasl_server_callback_retrieve_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_cram_md5_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_cram_md5_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_cram_md5](#) [gsasl_server_callback_cram_md5_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_digest_md5_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_digest_md5_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_digest_md5](#) [gsasl_server_callback_digest_md5_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_external_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_external_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_external](#) [gsasl_server_callback_external_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_anonymous_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_anonymous_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_anonymous](#) [gsasl_server_callback_anonymous_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_realm_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_realm_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_realm](#) [gsasl_server_callback_realm_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_qop_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_qop_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_qop](#) [gsasl_server_callback_qop_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_maxbuf_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_maxbuf_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_maxbuf](#) [gsasl_server_callback_maxbuf_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_cipher_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_cipher_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_cipher](#) [gsasl_server_callback_cipher_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_secuid_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_secuid_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_secuid](#) [gsasl_server_callback_secuid_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_gssapi_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_gssapi_cb](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API [Gsasl_server_callback_gssapi](#) [gsasl_server_callback_gssapi_get](#) ([Gsasl *ctx](#)) [__attribute__\(\(deprecated\)\)](#)
- GSASL_API void [gsasl_server_callback_service_set](#) ([Gsasl *ctx](#), [Gsasl_server_callback_service_cb](#)) [__attribute__\(\(deprecated\)\)](#)

- GSASL_API [Gssapi_server_callback_service](#) [gssapi_server_callback_service_get](#) ([Gssapi *ctx](#)) [__attribute__\(\(deprecated\)\)](#)

Variables

- [GSASL_TOO_SMALL_BUFFER](#) = 4
- [GSASL_FOPEN_ERROR](#) = 5
- [GSASL_FCLOSE_ERROR](#) = 6
- [GSASL_GCRYPT_ERROR](#) = [GSASL_CRYPT_ERROR](#)
- [GSASL_CANNOT_GET_CTX](#) = 32
- [GSASL_NEED_CLIENT_ANONYMOUS_CALLBACK](#) = 11
- [GSASL_NEED_CLIENT_PASSWORD_CALLBACK](#) = 12
- [GSASL_NEED_CLIENT_PASSCODE_CALLBACK](#) = 13
- [GSASL_NEED_CLIENT_PIN_CALLBACK](#) = 14
- [GSASL_NEED_CLIENT_AUTHORIZATION_ID_CALLBACK](#) = 15
- [GSASL_NEED_CLIENT_AUTHENTICATION_ID_CALLBACK](#) = 16
- [GSASL_NEED_CLIENT_SERVICE_CALLBACK](#) = 17
- [GSASL_NEED_SERVER_VALIDATE_CALLBACK](#) = 18
- [GSASL_NEED_SERVER_CRAM_MD5_CALLBACK](#) = 19
- [GSASL_NEED_SERVER_DIGEST_MD5_CALLBACK](#) = 20
- [GSASL_NEED_SERVER_EXTERNAL_CALLBACK](#) = 21
- [GSASL_NEED_SERVER_ANONYMOUS_CALLBACK](#) = 22
- [GSASL_NEED_SERVER_REALM_CALLBACK](#) = 23
- [GSASL_NEED_SERVER_SECURID_CALLBACK](#) = 24
- [GSASL_NEED_SERVER_SERVICE_CALLBACK](#) = 25
- [GSASL_NEED_SERVER_GSSAPI_CALLBACK](#) = 26
- [GSASL_NEED_SERVER_RETRIEVE_CALLBACK](#) = 27
- [GSASL_UNICODE_NORMALIZATION_ERROR](#) = 28
- [GSASL_NO_MORE_REALMS](#) = 34
- [GSASL_INVALID_HANDLE](#) = 50

7.37.1 Define Documentation

7.37.1.1 `#define __attribute__(Spec)/* empty */`

Definition at line 29 of file gssapi-compat.h.

7.37.2 Typedef Documentation

7.37.2.1 `typedef Gssapi_session Gssapi_session_ctx __attribute__((deprecated))`

Definition at line 63 of file gssapi-compat.h.

7.37.2.2 `typedef int(* Gsasl_client_callback_anonymous)(Gsasl_session *sctx, char *out, size_t *outlen)`

Definition at line 158 of file gsasl-compat.h.

7.37.2.3 `typedef int(* Gsasl_client_callback_authentication_id)(Gsasl_session *sctx, char *out, size_t *outlen)`

Definition at line 160 of file gsasl-compat.h.

7.37.2.4 `typedef int(* Gsasl_client_callback_authorization_id)(Gsasl_session *sctx, char *out, size_t *outlen)`

Definition at line 163 of file gsasl-compat.h.

7.37.2.5 `typedef size_t(* Gsasl_client_callback_maxbuf)(Gsasl_session *sctx, size_t servermaxbuf)`

Definition at line 182 of file gsasl-compat.h.

7.37.2.6 `typedef int(* Gsasl_client_callback_passcode)(Gsasl_session *sctx, char *out, size_t *outlen)`

Definition at line 168 of file gsasl-compat.h.

7.37.2.7 `typedef int(* Gsasl_client_callback_password)(Gsasl_session *sctx, char *out, size_t *outlen)`

Definition at line 166 of file gsasl-compat.h.

7.37.2.8 `typedef int(* Gsasl_client_callback_pin)(Gsasl_session *sctx, char *suggestion, char *out, size_t *outlen)`

Definition at line 170 of file gsasl-compat.h.

7.37.2.9 `typedef Gsasl_qop(* Gsasl_client_callback_qop)(Gsasl_session *sctx, Gsasl_qop serverqops)`

Definition at line 180 of file gsasl-compat.h.

7.37.2.10 `typedef int(* Gsasl_client_callback_realm)(Gsasl_session *sctx, char *out, size_t *outlen)`

Definition at line 184 of file gsasl-compat.h.

7.37.2.11 `typedef int(* Gsasl_client_callback_service)(Gsasl_session *sctx,
char *service, size_t *servicelen, char *hostname, size_t *hostnamelen, char
*servicename, size_t *servicenamelen)`

Definition at line 173 of file gssapi-compat.h.

7.37.2.12 `typedef int(* Gsasl_server_callback_anonymous)(Gsasl_session *sctx,
const char *token)`

Definition at line 217 of file gssapi-compat.h.

7.37.2.13 `typedef Gsasl_cipher(* Gsasl_server_callback_cipher)(Gsasl_session
*sctx)`

Definition at line 223 of file gssapi-compat.h.

7.37.2.14 `typedef int(* Gsasl_server_callback_cram_md5)(Gsasl_session *sctx, char
*username, char *challenge, char *response)`

Definition at line 204 of file gssapi-compat.h.

7.37.2.15 `typedef int(* Gsasl_server_callback_digest_md5)(Gsasl_session *sctx,
char *username, char *realm, char *secrethash)`

Definition at line 208 of file gssapi-compat.h.

7.37.2.16 `typedef int(* Gsasl_server_callback_external)(Gsasl_session *sctx)`

Definition at line 216 of file gssapi-compat.h.

7.37.2.17 `typedef int(* Gsasl_server_callback_gssapi)(Gsasl_session *sctx, const
char *clientname, const char *authentication_id)`

Definition at line 195 of file gssapi-compat.h.

7.37.2.18 `typedef size_t(* Gsasl_server_callback_maxbuf)(Gsasl_session *sctx)`

Definition at line 222 of file gssapi-compat.h.

7.37.2.19 `typedef Gsasl_qop(* Gsasl_server_callback_qop)(Gsasl_session *sctx)`

Definition at line 221 of file gssapi-compat.h.

7.37.2.20 `typedef int(* Gsasl_server_callback_realm)(Gsasl_session *sctx, char *out, size_t *outlen, size_t nth)`

Definition at line 219 of file gsasl-compat.h.

7.37.2.21 `typedef int(* Gsasl_server_callback_retrieve)(Gsasl_session *sctx, const char *authentication_id, const char *authorization_id, const char *realm, char *key, size_t *keylen)`

Definition at line 186 of file gsasl-compat.h.

7.37.2.22 `typedef int(* Gsasl_server_callback_secured)(Gsasl_session *sctx, const char *authentication_id, const char *authorization_id, const char *passcode, char *pin, char *suggestpin, size_t *suggestpinlen)`

Definition at line 198 of file gsasl-compat.h.

7.37.2.23 `typedef int(* Gsasl_server_callback_service)(Gsasl_session *sctx, char *service, size_t *servicelen, char *hostname, size_t *hostnamelen)`

Definition at line 211 of file gsasl-compat.h.

7.37.2.24 `typedef int(* Gsasl_server_callback_validate)(Gsasl_session *sctx, const char *authorization_id, const char *authentication_id, const char *password)`

Definition at line 191 of file gsasl-compat.h.

7.37.3 Enumeration Type Documentation

7.37.3.1 anonymous enum

Definition at line 34 of file gsasl-compat.h.

7.37.4 Function Documentation

7.37.4.1 `enum @6 __attribute__((deprecated))`

7.37.4.2 `GSASL_API void* gsasl_appinfo_get(Gsasl_session * sctx)`

`gsasl_appinfo_get`:

Parameters

| | |
|-------------------|--------------------------|
| <code>sctx</code> | libgsasl session handle. |
|-------------------|--------------------------|

Retrieve application specific data from libgssapi session handle. The application data is set using [gssapi_appinfo_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gssapi_callback_hook_get\(\)](#) instead.

Definition at line 606 of file obsolete.c.

7.37.4.3 GSASL_API void [gssapi_appinfo_set](#)(*Gssapi_session* * *sctx*, void * *appdata*)

[gssapi_appinfo_set](#):

Parameters

| | |
|----------------|--|
| <i>sctx</i> | libgssapi session handle. |
| <i>appdata</i> | opaque pointer to application specific data. |

Store application specific data in the libgssapi session handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gssapi_appinfo_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gssapi_callback_hook_set\(\)](#) instead.

Definition at line 587 of file obsolete.c.

7.37.4.4 GSASL_API void* [gssapi_application_data_get](#)(*Gssapi* * *ctx*)

[gssapi_application_data_get](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Retrieve application specific data from libgssapi handle. The application data is set using [gssapi_application_data_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gssapi_callback_hook_get\(\)](#) instead.

Definition at line 568 of file obsolete.c.

7.37.4.5 GSASL_API void [gssapi_application_data_set](#)(*Gssapi* * *ctx*, void * *appdata*)

[gssapi_application_data_set](#):

Parameters

| | |
|----------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>appdata</i> | opaque pointer to application specific data. |

Store application specific data in the libgsasl handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_application_data_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gsasl_callback_hook_set\(\)](#) instead.

Definition at line 549 of file obsolete.c.

7.37.4.6 GSASL_API int gsasl_base64_decode (char const * *src*, char * *target*, size_t *targsize*)

gsasl_base64_decode:

Parameters

| | |
|-----------------|---------------------------|
| <i>src</i> | input byte array |
| <i>target</i> | output byte array |
| <i>targsize</i> | size of output byte array |

Decode Base64 data. Skips all whitespace anywhere. Converts characters, four at a time, starting at (or after) *src* from Base64 numbers into three 8 bit bytes in the *target* area.

Return value: Returns the number of data bytes stored at the *target*, or -1 on error.

Deprecated: Use [gsasl_base64_from\(\)](#) instead.

Definition at line 1858 of file obsolete.c.

7.37.4.7 GSASL_API int gsasl_base64_encode (char const * *src*, size_t *srclength*, char * *target*, size_t *targsize*)

gsasl_base64_encode:

Parameters

| | |
|------------------|---------------------------|
| <i>src</i> | input byte array |
| <i>srclength</i> | size of input byte array |
| <i>target</i> | output byte array |
| <i>targsize</i> | size of output byte array |

Encode data as base64. Converts characters, three at a time, starting at *src* into four base64 characters in the *target* area until the entire input buffer is encoded.

Return value: Returns the number of data bytes stored at the *target*, or -1 on error.

Deprecated: Use [gssapi_base64_to\(\)](#) instead.

Definition at line 1823 of file obsolete.c.

7.37.4.8 `GSASL_API void* gssapi_client_application_data_get(Gssapi_session * sctx)`

`gssapi_client_application_data_get`:

Parameters

| | |
|--------------------------|--------------------------|
| <code><i>sctx</i></code> | libgssapi client handle. |
|--------------------------|--------------------------|

Retrieve application specific data from libgssapi client handle. The application data is set using [gssapi_client_application_data_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gssapi_callback_hook_get\(\)](#) or [gssapi_session_hook_get\(\)](#) instead.

Definition at line 356 of file obsolete.c.

7.37.4.9 `GSASL_API void gssapi_client_application_data_set(Gssapi_session * sctx, void * application_data)`

`gssapi_client_application_data_set`:

Parameters

| | |
|--------------------------------------|--|
| <code><i>sctx</i></code> | libgssapi client handle. |
| <code><i>application_data</i></code> | opaque pointer to application specific data. |

Store application specific data in the libgssapi client handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gssapi_client_application_data_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gssapi_callback_hook_set\(\)](#) or [gssapi_session_hook_set\(\)](#) instead.

Definition at line 335 of file obsolete.c.

7.37.4.10 `GSASL_API Gssapi_client_callback_anonymous gssapi_client_callback_anonymous_get(Gssapi * ctx)`

`gssapi_client_callback_anonymous_get`:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_anonymous_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_anonymous_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 931 of file obsolete.c.

7.37.4.11 GSASL_API void [gsasl_client_callback_anonymous_set](#) (Gsasl * *ctx*, Gsasl_client_callback_anonymous *cb*)

[gsasl_client_callback_anonymous_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the anonymous token, which usually is the users email address. The function can be later retrieved using [gsasl_client_callback_anonymous_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 909 of file obsolete.c.

7.37.4.12 GSASL_API Gsasl_client_callback_authentication_id [gsasl_client_callback_authentication_id_get](#) (Gsasl * *ctx*)

[gsasl_client_callback_authentication_id_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_authentication_id_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_authentication_id_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 670 of file obsolete.c.

7.37.4.13 GSASL_API void `gssapi_client_callback_authentication_id_set`(`Gssapi *` *ctx*,
`Gssapi_client_callback_authentication_id cb`)

`gssapi_client_callback_authentication_id_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the authentication identity. The function can be later retrieved using `gssapi_client_callback_authentication_id_get`.

Deprecated: This function is part of the old callback interface. The new interface uses `gssapi_callback_set`() to set the application callback, and uses `gssapi_callback`() or `gssapi_property_get`() to invoke the callback for certain properties.

Definition at line 647 of file `obsolete.c`.

7.37.4.14 GSASL_API `Gssapi_client_callback_authorization_id`
`gssapi_client_callback_authorization_id_get`(`Gssapi *` *ctx*)

`gssapi_client_callback_authorization_id_get`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling `gssapi_client_callback_authorization_id_set`.

Return value: Returns the callback earlier set by calling `gssapi_client_callback_authorization_id_set`.

Deprecated: This function is part of the old callback interface. The new interface uses `gssapi_callback_set`() to set the application callback, and uses `gssapi_callback`() or `gssapi_property_get`() to invoke the callback for certain properties.

Definition at line 713 of file `obsolete.c`.

7.37.4.15 GSASL_API void `gssapi_client_callback_authorization_id_set`(`Gssapi *` *ctx*,
`Gssapi_client_callback_authorization_id cb`)

`gssapi_client_callback_authorization_id_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the authorization identity. The function can be later retrieved using `gssapi_client_callback_authorization_id_get`.

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 690 of file obsolete.c.

7.37.4.16 GSASL_API Gsasl_client_callback_maxbuf gsasl_client_callback_maxbuf_get (Gsasl * ctx)

gsasl_client_callback_maxbuf_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_maxbuf_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_maxbuf_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1017 of file obsolete.c.

7.37.4.17 GSASL_API void gsasl_client_callback_maxbuf_set (Gsasl * ctx, Gsasl_client_callback_maxbuf cb)

gsasl_client_callback_maxbuf_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to inform the server of the largest buffer the client is able to receive when using the DIGEST-MD5 "auth-int" or "auth-conf" Quality of Protection (qop). If this directive is missing, the default value 65536 will be assumed. The function can be later retrieved using [gsasl_client_callback_maxbuf_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 995 of file obsolete.c.

7.37.4.18 GSASL_API Gsasl_client_callback_passcode gsasl_client_callback_passcode_get (Gsasl * ctx)

gsasl_client_callback_passcode_get:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_client_callback_passcode_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_client_callback_passcode_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 799 of file obsolete.c.

7.37.4.19 GSSAPI void gssapi_client_callback_passcode_set (Gssapi * *ctx*, Gssapi_client_callback_passcode *cb*)

[gssapi_client_callback_passcode_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the passcode. The function can be later retrieved using [gssapi_client_callback_passcode_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 776 of file obsolete.c.

7.37.4.20 GSSAPI Gssapi_client_callback_password gssapi_client_callback_password_get (Gssapi * *ctx*)

[gssapi_client_callback_password_get](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_client_callback_password_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_client_callback_password_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 756 of file obsolete.c.

7.37.4.21 **GSASL_API void gsasl_client_callback_password_set (Gsasl * ctx, Gsasl_client_callback_password cb)**

gsasl_client_callback_password_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the password. The function can be later retrieved using [gsasl_client_callback_password_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 733 of file obsolete.c.

7.37.4.22 **GSASL_API Gsasl_client_callback_pin gsasl_client_callback_pin_get (Gsasl * ctx)**

gsasl_client_callback_pin_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_pin_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_pin_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 843 of file obsolete.c.

7.37.4.23 **GSASL_API void gsasl_client_callback_pin_set (Gsasl * ctx, Gsasl_client_callback_pin cb)**

gsasl_client_callback_pin_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to chose a new pin, possibly suggested by the server, for the SECURID mechanism. This is not normally invoked, but only when the server requests it. The function can be later retrieved using

[gssapi_client_callback_pin_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 821 of file `obsolete.c`.

7.37.4.24 GSASL_API Gssapi_client_callback_qop gssapi_client_callback_qop_get (Gssapi * *ctx*)

`gssapi_client_callback_qop_get`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_client_callback_qop_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_client_callback_qop_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 972 of file `obsolete.c`.

7.37.4.25 GSASL_API void gssapi_client_callback_qop_set (Gssapi * *ctx*, Gssapi_client_callback_qop *cb*)

`gssapi_client_callback_qop_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to determine the qop to use after looking at what the server offered. The function can be later retrieved using [gssapi_client_callback_qop_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 951 of file `obsolete.c`.

7.37.4.26 GSASL_API Gssapi_client_callback_realm gssapi_client_callback_realm_get (Gssapi * *ctx*)

`gssapi_client_callback_realm_get`:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_realm_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_realm_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1059 of file obsolete.c.

7.37.4.27 GSASL_API void gsasl_client_callback_realm_set (Gsasl * ctx, Gsasl_client_callback_realm cb)

gsasl_client_callback_realm_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to know which realm it belongs to. The realm is used by the server to determine which username and password to use. The function can be later retrieved using [gsasl_client_callback_realm_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1038 of file obsolete.c.

7.37.4.28 GSASL_API Gsasl_client_callback_service gsasl_client_callback_service_get (Gsasl * ctx)

gsasl_client_callback_service_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_service_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_service_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 888 of file obsolete.c.

7.37.4.29 GSASL_API void `gssapi_client_callback_service_set`(`Gssapi * ctx`,
`Gssapi_client_callback_service cb`)

`gssapi_client_callback_service_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the client to set the name of the service. The service buffer should be a registered GSSAPI host-based service name, hostname the name of the server. Servicename is used by DIGEST-MD5 and should be the name of generic server in case of a replicated service. The function can be later retrieved using [gssapi_client_callback_service_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 866 of file `obsolete.c`.

7.37.4.30 GSASL_API `Gssapi*` `gssapi_client_ctx_get`(`Gssapi_session * sctx`)

`gssapi_client_ctx_get`:

Parameters

| | |
|-------------------|------------------------|
| <code>sctx</code> | libgsasl client handle |
|-------------------|------------------------|

Get the libgsasl handle given a libgsasl client handle.

Return value: Returns the libgsasl handle given a libgsasl client handle.

Deprecated: This function is not useful with the new 0.2.0 API.

Definition at line 315 of file `obsolete.c`.

7.37.4.31 GSASL_API void `gssapi_client_finish`(`Gssapi_session * sctx`)

`gssapi_client_finish`:

Parameters

| | |
|-------------------|-------------------------|
| <code>sctx</code> | libgsasl client handle. |
|-------------------|-------------------------|

Destroy a libgsasl client handle. The handle must not be used with other libgsasl functions after this call.

Deprecated: Use [gssapi_finish\(\)](#) instead.

Definition at line 284 of file `obsolete.c`.

7.37.4.32 GSASL_API int `gsasl_client_listmech`(`Gsasl * ctx`, `char * out`, `size_t * outlen`)

`gsasl_client_listmech`:

Parameters

| | |
|---------------------|---|
| <code>ctx</code> | libgsasl handle. |
| <code>out</code> | output character array. |
| <code>outlen</code> | input maximum size of output character array, on output contains actual length of output array. |

Write SASL names, separated by space, of mechanisms supported by the libgsasl client to the output array. To find out how large the output array must be, call this function with a NULL parameter.

Return value: Returns GSASL_OK if successful, or error code.

Deprecated: Use [gsasl_client_mechlist\(\)](#) instead.

Definition at line 46 of file obsolete.c.

7.37.4.33 GSASL_API int `gsasl_client_step`(`Gsasl_session * sctx`, `const char * input`, `size_t input_len`, `char * output`, `size_t * output_len`)

`gsasl_client_step`:

Parameters

| | |
|-------------------------|----------------------------|
| <code>sctx</code> | libgsasl client handle. |
| <code>input</code> | input byte array. |
| <code>input_len</code> | size of input byte array. |
| <code>output</code> | output byte array. |
| <code>output_len</code> | size of output byte array. |

Perform one step of SASL authentication in client. This reads data from server (specified with `input` and `input_len`), processes it (potentially invoking callbacks to the application), and writes data to server (into variables `output` and `output_len`).

The contents of the output buffer is unspecified if this functions returns anything other than GSASL_NEEDS_MORE.

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Deprecated: Use [gsasl_step\(\)](#) instead.

Definition at line 167 of file obsolete.c.

7.37.4.34 GSASL_API int `gsasl_client_step_base64`(`Gsasl_session * sctx`, `const char * b64input`, `char * b64output`, `size_t b64output_len`)

`gsasl_client_step_base64`:

Parameters

| | |
|---------------------------------|---|
| <i>sctx</i> | libgsasl client handle. |
| <i>b64input</i> | input base64 encoded byte array. |
| <i>b64output</i> | output base64 encoded byte array. |
| <i>b64output_</i> <i>len</i> | size of output base64 encoded byte array. |

This is a simple wrapper around [gssapi_client_step\(\)](#) that base64 decodes the input and base64 encodes the output.

Return value: See [gssapi_client_step\(\)](#).

Deprecated: Use [gssapi_step64\(\)](#) instead.

Definition at line 245 of file `obsolete.c`.

7.37.4.35 GSASL_API Gsasl* gssapi_ctx_get(Gsasl_session * sctx)

`gssapi_ctx_get`:

Parameters

| | |
|-------------|-------------------------|
| <i>sctx</i> | libgsasl session handle |
|-------------|-------------------------|

Get the libgsasl handle given a libgsasl session handle.

Return value: Returns the libgsasl handle given a libgsasl session handle.

Deprecated: This function is not useful with the new 0.2.0 API.

Definition at line 450 of file `obsolete.c`.

7.37.4.36 GSASL_API int gssapi_decode_inline(Gsasl_session * sctx, const char * input, size_t input_len, char * output, size_t * output_len)

`gssapi_decode_inline`:

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgsasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Decode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

Return value: Returns GSASL_OK if encoding was successful, otherwise an error code.

Deprecated: Use [gssapi_decode\(\)](#) instead.

Since: 0.2.0

Definition at line 514 of file obsolete.c.

7.37.4.37 GSASL_API int **gsasl_encode_inline**(**Gsasl_session** * *sctx*, const char * *input*, size_t *input_len*, char * *output*, size_t * *output_len*)

gsasl_encode_inline:

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgsasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Encode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

Return value: Returns GSASL_OK if encoding was successful, otherwise an error code.

Deprecated: Use [gsasl_encode\(\)](#) instead.

Since: 0.2.0

Definition at line 474 of file obsolete.c.

7.37.4.38 GSASL_API int **gsasl_md5pwd_get_password**(const char * *filename*, const char * *username*, char * *key*, size_t * *keylen*)

gsasl_md5pwd_get_password:

Parameters

| | |
|-----------------|---|
| <i>filename</i> | filename of file containing passwords. |
| <i>username</i> | username string. |
| <i>key</i> | output character array. |
| <i>keylen</i> | input maximum size of output character array, on output contains actual length of output array. |

Retrieve password for user from specified file. To find out how large the output array must be, call this function with out=NULL.

The file should be on the UoW "MD5 Based Authentication" format, which means it is in text format with comments denoted by # first on the line, with user entries looking as "usernameTABpassword". This function removes CR and LF at the end of lines before processing. TAB, CR, and LF denote ASCII values 9, 13, and 10, respectively.

Return value: Return GSASL_OK if output buffer contains the password, GSASL_AUTHENTICATION_ERROR if the user could not be found, or other error code.

Deprecated: Use [gsasl_simple_getpass\(\)](#) instead.

Definition at line 1769 of file obsolete.c.

7.37.4.39 GSASL_API int `gsasl_randomize`(int *strong*, char * *data*, size_t *datalen*)

`gsasl_randomize`:

Parameters

| | |
|----------------|---|
| <i>strong</i> | 0 iff operation should not block, non-0 for very strong randomness. |
| <i>data</i> | output array to be filled with random data. |
| <i>datalen</i> | size of output array. |

Store cryptographically random data of given size in the provided buffer.

Return value: Returns GSASL_OK iff successful.

Deprecated: Use [gsasl_random\(\)](#) or [gsasl_nonce\(\)](#) instead.

Definition at line 432 of file obsolete.c.

7.37.4.40 GSASL_API void* `gsasl_server_application_data_get`(Gsasl_session * *sctx*)

`gsasl_server_application_data_get`:

Parameters

| | |
|-------------|-------------------------|
| <i>sctx</i> | libgsasl server handle. |
|-------------|-------------------------|

Retrieve application specific data from libgsasl server handle. The application data is set using [gsasl_server_application_data_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gsasl_callback_hook_get\(\)](#) or [gsasl_session_hook_get\(\)](#) instead.

Definition at line 413 of file obsolete.c.

7.37.4.41 GSASL_API void `gsasl_server_application_data_set`(Gsasl_session * *sctx*, void * *application_data*)

`gsasl_server_application_data_set`:

Parameters

| | |
|-------------------------|--|
| <i>sctx</i> | libgsasl server handle. |
| <i>application_data</i> | opaque pointer to application specific data. |

Store application specific data in the libgsasl server handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_server_application_data_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gsasl_callback_hook_set\(\)](#) or [gsasl_session_hook_set\(\)](#) instead.

Definition at line 392 of file obsolete.c.

7.37.4.42 GSASL_API Gsasl_server_callback_anonymous gsasl_server_callback_anonymous_get (Gsasl * ctx)

gsasl_server_callback_anonymous_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_anonymous_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_anonymous_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1315 of file obsolete.c.

7.37.4.43 GSASL_API void gsasl_server_callback_anonymous_set (Gsasl * ctx, Gsasl_server_callback_anonymous cb)

gsasl_server_callback_anonymous_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is permitted anonymous access. The function can be later retrieved using [gsasl_server_callback_anonymous_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1293 of file obsolete.c.

7.37.4.44 GSASL_API Gsasl_server_callback_cipher gsasl_server_callback_cipher- _get (Gsasl * ctx)

gsasl_server_callback_cipher_get:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_server_callback_cipher_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_server_callback_cipher_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1489 of file obsolete.c.

7.37.4.45 GSSAPI void [gssapi_server_callback_cipher_set](#) (*Gssapi * ctx*, *Gssapi_server_callback_cipher cb*)

[gssapi_server_callback_cipher_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server to inform the client of the cipher suites supported. The DES and 3DES ciphers must be supported for interoperability. It is currently used by the DIGEST-MD5 mechanism. The function can be later retrieved using [gssapi_server_callback_cipher_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1467 of file obsolete.c.

7.37.4.46 GSSAPI *Gssapi_server_callback_cram_md5* [gssapi_server_callback_cram_md5_get](#) (*Gssapi * ctx*)

[gssapi_server_callback_cram_md5_get](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_server_callback_cram_md5_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_server_callback_cram_md5_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1188 of file obsolete.c.

7.37.4.47 **GSASL_API** void `gsasl_server_callback_cram_md5_set` (*Gsasl* * *ctx*,
Gsasl_server_callback_cram_md5 cb)

`gsasl_server_callback_cram_md5_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated using CRAM-MD5 challenge and response. The function can be later retrieved using [gsasl_server_callback_cram_md5_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1166 of file `obsolete.c`.

7.37.4.48 **GSASL_API** *Gsasl_server_callback_digest_md5*
gsasl_server_callback_digest_md5_get (*Gsasl* * *ctx*)

`gsasl_server_callback_digest_md5_get`:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_digest_md5_set\(\)](#).

Return value: Return the callback earlier set by calling [gsasl_server_callback_digest_md5_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1231 of file `obsolete.c`.

7.37.4.49 **GSASL_API** void `gsasl_server_callback_digest_md5_set` (*Gsasl* * *ctx*,
Gsasl_server_callback_digest_md5 cb)

`gsasl_server_callback_digest_md5_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for retrieving the secret hash of the username, realm and password for use in the DIGEST-MD5 mechanism. The function

can be later retrieved using [gssapi_server_callback_digest_md5_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1209 of file obsolete.c.

7.37.4.50 GSSAPI Gssapi_server_callback_external gssapi_server_callback_external_get(Gssapi * ctx)

gssapi_server_callback_external_get:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_server_callback_external_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_server_callback_external_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1273 of file obsolete.c.

7.37.4.51 GSSAPI void gssapi_server_callback_external_set(Gssapi * ctx, Gssapi_server_callback_external cb)

gssapi_server_callback_external_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated out of band. The function can be later retrieved using [gssapi_server_callback_external_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1251 of file obsolete.c.

7.37.4.52 GSSAPI Gssapi_server_callback_gssapi gssapi_server_callback_gssapi_get(Gssapi * ctx)

gssapi_server_callback_gssapi_get:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssasl handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssasl_server_callback_gssapi_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssasl_server_callback_gssapi_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssasl_callback_set\(\)](#) to set the application callback, and uses [gssasl_callback\(\)](#) or [gssasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1583 of file obsolete.c.

7.37.4.53 GSASL_API void gssasl_server_callback_gssapi_set (Gssasl * *ctx*, Gssasl_server_callback_gssapi *cb*)

[gssasl_server_callback_gssapi_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for checking if a GSSAPI user is authorized for username (by, e.g., calling `krb5_kuserok`). The function should return `GSASL_OK` if the user should be permitted access, or an error code such as `GSASL_AUTHENTICATION_ERROR` on failure. The function can be later retrieved using [gssasl_server_callback_gssapi_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssasl_callback_set\(\)](#) to set the application callback, and uses [gssasl_callback\(\)](#) or [gssasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1561 of file obsolete.c.

7.37.4.54 GSASL_API Gssasl_server_callback_maxbuf gssasl_server_callback_maxbuf_get (Gssasl * *ctx*)

[gssasl_server_callback_maxbuf_get](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssasl handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssasl_server_callback_maxbuf_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssasl_server_callback_maxbuf_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssasl_callback_set\(\)](#) to set the application callback, and uses [gssasl_callback\(\)](#) or [gssasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1445 of file obsolete.c.

**7.37.4.55 GSASL_API void gssapi_server_callback_maxbuf_set (Gssapi * *ctx*,
Gssapi_server_callback_maxbuf *cb*)**

`gssapi_server_callback_maxbuf_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server to inform the client of the largest buffer the server is able to receive when using the DIGEST-MD5 "auth-int" or "auth-conf" Quality of Protection (qop). If this directive is missing, the default value 65536 will be assumed. The function can be later retrieved using [gssapi_server_callback_maxbuf_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1423 of file obsolete.c.

7.37.4.56 GSASL_API Gssapi_server_callback_qop gssapi_server_callback_qop_get (Gssapi * *ctx*)

`gssapi_server_callback_qop_get`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_server_callback_qop_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_server_callback_qop_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1400 of file obsolete.c.

**7.37.4.57 GSASL_API void gssapi_server_callback_qop_set (Gssapi * *ctx*,
Gssapi_server_callback_qop *cb*)**

`gssapi_server_callback_qop_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server to know which quality of protection it accepts. The quality of protection eventually used is selected by the client though. It is currently used by the DIGEST-MD5 mechanism. The function can be later retrieved using [gsasl_server_callback_qop_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1379 of file obsolete.c.

7.37.4.58 GSASL_API Gsasl_server_callback_realm gsasl_server_callback_realm_get (Gsasl * ctx)

gsasl_server_callback_realm_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_realm_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_realm_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1357 of file obsolete.c.

7.37.4.59 GSASL_API void gsasl_server_callback_realm_set (Gsasl * ctx, Gsasl_server_callback_realm cb)

gsasl_server_callback_realm_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server to know which realm it serves. The realm is used by the user to determine which username and password to use. The function can be later retrieved using [gsasl_server_callback_realm_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1336 of file obsolete.c.

7.37.4.60 GSASL_API Gsasl_server_callback_retrieve gsasl_server_callback_retrieve_get(Gsasl * ctx)

gsasl_server_callback_retrieve_get:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gsasl_server_callback_retrieve_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_retrieve_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1145 of file obsolete.c.

7.37.4.61 GSASL_API void gsasl_server_callback_retrieve_set(Gsasl * ctx, Gsasl_server_callback_retrieve cb)

gsasl_server_callback_retrieve_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated using authentication identity, authorization identity and password. The function can be later retrieved using [gsasl_server_callback_retrieve_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1123 of file obsolete.c.

7.37.4.62 GSASL_API Gsasl_server_callback_secured gsasl_server_callback_secured_get(Gsasl * ctx)

gsasl_server_callback_secured_get:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gsasl_server_callback_secured_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_secured_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1538 of file obsolete.c.

7.37.4.63 GSASL_API void gsasl_server_callback_securid_set (Gsasl * ctx, Gsasl_server_callback_securid cb)

gsasl_server_callback_securid_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for validating a user via the SECURID mechanism. The function should return GSASL_OK if user authenticated successfully, GSASL_SECURID_SERVER_NEED_ADDITIONAL_PASSCODE if it wants another passcode, GSASL_SECURID_SERVER_NEED_NEW_PIN if it wants a PIN change, or an error. When (and only when) GSASL_SECURID_SERVER_NEED_NEW_PIN is returned, suggestpin can be populated with a PIN code the server suggests, and suggestpinlen set to the length of the PIN. The function can be later retrieved using [gsasl_server_callback_securid_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1516 of file obsolete.c.

7.37.4.64 GSASL_API Gsasl_server_callback_service gsasl_server_callback_service_get(Gsasl * ctx)

gsasl_server_callback_service_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_service_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_service_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1627 of file obsolete.c.

7.37.4.65 **GSASL_API** void `gssapi_server_callback_service_set(Gssapi * ctx,
Gssapi_server_callback_service cb)`

`gssapi_server_callback_service_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server to set the name of the service. The service buffer should be a registered GSSAPI host-based service name, hostname the name of the server. The function can be later retrieved using [gssapi_server_callback_service_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1605 of file `obsolete.c`.

7.37.4.66 **GSASL_API** Gssapi_server_callback_validate
`gssapi_server_callback_validate_get(Gssapi * ctx)`

`gssapi_server_callback_validate_get`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
|------------|-------------------|

Get the callback earlier set by calling [gssapi_server_callback_validate_set\(\)](#).

Return value: Returns the callback earlier set by calling [gssapi_server_callback_validate_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssapi_callback_set\(\)](#) to set the application callback, and uses [gssapi_callback\(\)](#) or [gssapi_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1102 of file `obsolete.c`.

7.37.4.67 **GSASL_API** void `gssapi_server_callback_validate_set(Gssapi * ctx,
Gssapi_server_callback_validate cb)`

`gssapi_server_callback_validate_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated using authentication identity, authorization identity and password. The function can be later retrieved using [gsasl_server_callback_validate_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1080 of file `obsolete.c`.

7.37.4.68 GSASL_API Gsasl* gsasl_server_ctx_get(Gsasl_session * sctx)

`gsasl_server_ctx_get`:

Parameters

| | |
|-------------------|------------------------|
| <code>sctx</code> | libgsasl server handle |
|-------------------|------------------------|

Get the libgsasl handle given a libgsasl server handle.

Return value: Returns the libgsasl handle given a libgsasl server handle.

Deprecated: This function is not useful with the new 0.2.0 API.

Definition at line 372 of file `obsolete.c`.

7.37.4.69 GSASL_API void gsasl_server_finish(Gsasl_session * sctx)

`gsasl_server_finish`:

Parameters

| | |
|-------------------|-------------------------|
| <code>sctx</code> | libgsasl server handle. |
|-------------------|-------------------------|

Destroy a libgsasl server handle. The handle must not be used with other libgsasl functions after this call.

Deprecated: Use [gsasl_finish\(\)](#) instead.

Definition at line 299 of file `obsolete.c`.

7.37.4.70 GSASL_API int gsasl_server_listmech(Gsasl * ctx, char * out, size_t * outlen)

`gsasl_server_listmech`:

Parameters

| | |
|---------------------|---|
| <code>ctx</code> | libgsasl handle. |
| <code>out</code> | output character array. |
| <code>outlen</code> | input maximum size of output character array, on output contains actual length of output array. |

Write SASL names, separated by space, of mechanisms supported by the libgssapi server to the output array. To find out how large the output array must be, call this function with a NULL parameter.

Return value: Returns GSASL_OK if successful, or error code.

Deprecated: Use [gssapi_server_mechlist\(\)](#) instead.

Definition at line 89 of file obsolete.c.

7.37.4.71 GSASL_API int [gssapi_server_step](#)(Gssapi_session * *sctx*, const char * *input*, size_t *input_len*, char * *output*, size_t * *output_len*)

[gssapi_server_step](#):

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgssapi server handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Perform one step of SASL authentication in server. This reads data from client (specified with *input* and *input_len*), processes it (potentially invoking callbacks to the application), and writes data to client (into variables *output* and *output_len*).

The contents of the output buffer is unspecified if this functions returns anything other than GSASL_NEEDS_MORE.

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Deprecated: Use [gssapi_step\(\)](#) instead.

Definition at line 197 of file obsolete.c.

7.37.4.72 GSASL_API int [gssapi_server_step_base64](#)(Gssapi_session * *sctx*, const char * *b64input*, char * *b64output*, size_t *b64output_len*)

[gssapi_server_step_base64](#):

Parameters

| | |
|----------------------|---|
| <i>sctx</i> | libgssapi server handle. |
| <i>b64input</i> | input base64 encoded byte array. |
| <i>b64output</i> | output base64 encoded byte array. |
| <i>b64output_len</i> | size of output base64 encoded byte array. |

This is a simple wrapper around [gssapi_server_step\(\)](#) that base64 decodes the input and base64 encodes the output.

Return value: See [gsasl_server_step\(\)](#).

Deprecated: Use [gsasl_step64\(\)](#) instead.

Definition at line 267 of file obsolete.c.

7.37.4.73 GSASL_API `const char* gsasl_server_suggest_mechanism(Gsasl * ctx, const char * meclist)`

`gsasl_server_suggest_mechanism`:

Parameters

| | |
|----------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>meclist</i> | input character array with SASL mechanism names, separated by invalid characters (e.g. SPC). |

Get name of "best" SASL mechanism supported by the libgsasl server which is present in the input string.

Return value: Returns name of "best" SASL mechanism supported by the libgsasl server which is present in the input string.

Deprecated: This function was never useful, since it is the client that chose which mechanism to use.

Definition at line 627 of file obsolete.c.

7.37.4.74 GSASL_API `char* gsasl_stringprep_nfkc(const char * in, ssize_t len)`

`gsasl_stringprep_nfkc`:

Parameters

| | |
|------------|---|
| <i>in</i> | a UTF-8 encoded string. |
| <i>len</i> | length of <i>in</i> , in bytes, or -1 if is nul-terminated. |

Converts a string into canonical form, standardizing such issues as whether a character with an accent is represented as a base character and combining accent or as a single precomposed character.

The normalization mode is NFKC (ALL COMPOSE). It standardizes differences that do not affect the text content, such as the above-mentioned accent representation. It standardizes the "compatibility" characters in Unicode, such as SUPERSCRIPT THREE to the standard forms (in this case DIGIT THREE). Formatting information may be lost but for most text operations such characters should be considered the same. It returns a result with composed forms rather than a maximally decomposed form.

Return value: Return a newly allocated string, that is the NFKC normalized form of *in*, or NULL on error.

Deprecated: No replacement functionality in GNU SASL, use GNU Libidn instead. - Note that in SASL, you most likely want to use SASLprep and not bare NFKC, see

[gssapi_saslprep\(\)](#).

Definition at line 1663 of file obsolete.c.

7.37.4.75 **GSASL_API** char* **gssapi_stringprep_saslprep** (const char * *in*, int * *stringprep_rc*)

gssapi_stringprep_saslprep:

Parameters

| | |
|----------------------|--|
| <i>in</i> | input ASCII or UTF-8 string with data to prepare according to SASLprep. |
| <i>stringprep_rc</i> | pointer to output variable with stringprep error code, or NULL to indicate that you don't care about it. |

Process a Unicode string for comparison, according to the "SASLprep" stringprep profile. This function is intended to be used by Simple Authentication and Security Layer (SASL) mechanisms (such as PLAIN, CRAM-MD5, and DIGEST-MD5) as well as other protocols exchanging user names and/or passwords.

Return value: Return a newly allocated string that is the "SASLprep" processed form of the input string, or NULL on error, in which case contain the stringprep library error code.

Deprecated: Use [gssapi_saslprep\(\)](#) instead.

Definition at line 1694 of file obsolete.c.

7.37.4.76 **GSASL_API** char* **gssapi_stringprep_trace** (const char * *in*, int * *stringprep_rc*)

gssapi_stringprep_trace:

Parameters

| | |
|----------------------|--|
| <i>in</i> | input ASCII or UTF-8 string with data to prepare according to "trace". |
| <i>stringprep_rc</i> | pointer to output variable with stringprep error code, or NULL to indicate that you don't care about it. |

Process a Unicode string for use as trace information, according to the "trace" stringprep profile. The profile is designed for use with the SASL ANONYMOUS Mechanism.

Return value: Return a newly allocated string that is the "trace" processed form of the input string, or NULL on error, in which case contain the stringprep library error code.

Deprecated: No replacement functionality in GNU SASL, use GNU Libidn instead.

Definition at line 1728 of file obsolete.c.

7.37.5 Variable Documentation

7.37.5.1 GSASL_CANNOT_GET_CTX = 32

Definition at line 66 of file gsasl-compat.h.

7.37.5.2 GSASL_FCLOSE_ERROR = 6

Definition at line 64 of file gsasl-compat.h.

7.37.5.3 GSASL_FOPEN_ERROR = 5

Definition at line 63 of file gsasl-compat.h.

7.37.5.4 GSASL_GCRYPT_ERROR = GSASL_CRYPT_ERROR

Definition at line 65 of file gsasl-compat.h.

7.37.5.5 GSASL_INVALID_HANDLE = 50

Definition at line 86 of file gsasl-compat.h.

7.37.5.6 GSASL_NEED_CLIENT_ANONYMOUS_CALLBACK = 11

Definition at line 67 of file gsasl-compat.h.

7.37.5.7 GSASL_NEED_CLIENT_AUTHENTICATION_ID_CALLBACK = 16

Definition at line 72 of file gsasl-compat.h.

7.37.5.8 GSASL_NEED_CLIENT_AUTHORIZATION_ID_CALLBACK = 15

Definition at line 71 of file gsasl-compat.h.

7.37.5.9 GSASL_NEED_CLIENT_PASSCODE_CALLBACK = 13

Definition at line 69 of file gsasl-compat.h.

7.37.5.10 GSASL_NEED_CLIENT_PASSWORD_CALLBACK = 12

Definition at line 68 of file gsasl-compat.h.

7.37.5.11 GSASL_NEED_CLIENT_PIN_CALLBACK = 14

Definition at line 70 of file gssasl-compat.h.

7.37.5.12 GSASL_NEED_CLIENT_SERVICE_CALLBACK = 17

Definition at line 73 of file gssasl-compat.h.

7.37.5.13 GSASL_NEED_SERVER_ANONYMOUS_CALLBACK = 22

Definition at line 78 of file gssasl-compat.h.

7.37.5.14 GSASL_NEED_SERVER_CRAM_MD5_CALLBACK = 19

Definition at line 75 of file gssasl-compat.h.

7.37.5.15 GSASL_NEED_SERVER_DIGEST_MD5_CALLBACK = 20

Definition at line 76 of file gssasl-compat.h.

7.37.5.16 GSASL_NEED_SERVER_EXTERNAL_CALLBACK = 21

Definition at line 77 of file gssasl-compat.h.

7.37.5.17 GSASL_NEED_SERVER_GSSAPI_CALLBACK = 26

Definition at line 82 of file gssasl-compat.h.

7.37.5.18 GSASL_NEED_SERVER_REALM_CALLBACK = 23

Definition at line 79 of file gssasl-compat.h.

7.37.5.19 GSASL_NEED_SERVER_RETRIEVE_CALLBACK = 27

Definition at line 83 of file gssasl-compat.h.

7.37.5.20 GSASL_NEED_SERVER_SECURID_CALLBACK = 24

Definition at line 80 of file gssasl-compat.h.

7.37.5.21 GSASL_NEED_SERVER_SERVICE_CALLBACK = 25

Definition at line 81 of file gsasl-compat.h.

7.37.5.22 GSASL_NEED_SERVER_VALIDATE_CALLBACK = 18

Definition at line 74 of file gsasl-compat.h.

7.37.5.23 GSASL_NO_MORE_REALMS = 34

Definition at line 85 of file gsasl-compat.h.

7.37.5.24 GSASL_TOO_SMALL_BUFFER = 4

Definition at line 62 of file gsasl-compat.h.

7.37.5.25 GSASL_UNICODE_NORMALIZATION_ERROR = 28

Definition at line 84 of file gsasl-compat.h.

7.38 gsasl-mech.h File Reference

Data Structures

- struct [Gsasl_mechanism_functions](#)
- struct [Gsasl_mechanism](#)

Typedefs

- typedef int(* [Gsasl_init_function](#))([Gsasl](#) *ctx)
- typedef void(* [Gsasl_done_function](#))([Gsasl](#) *ctx)
- typedef int(* [Gsasl_start_function](#))([Gsasl_session](#) *sctx, void **mech_data)
- typedef int(* [Gsasl_step_function](#))([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- typedef void(* [Gsasl_finish_function](#))([Gsasl_session](#) *sctx, void *mech_data)
- typedef int(* [Gsasl_code_function](#))([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- typedef struct [Gsasl_mechanism_functions](#) [Gsasl_mechanism_functions](#)
- typedef struct [Gsasl_mechanism](#) [Gsasl_mechanism](#)

Functions

- GSASL_API int [gsasl_register](#) ([Gsasl](#) *ctx, const [Gsasl_mechanism](#) *mech)

Variables

- struct [Gssl_mechanism_functions __attribute__](#)

7.38.1 Typedef Documentation

7.38.1.1 `typedef int(* Gssl_code_function)(Gssl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

Definition at line 34 of file gssl-mech.h.

7.38.1.2 `typedef void(* Gssl_done_function)(Gssl *ctx)`

Definition at line 28 of file gssl-mech.h.

7.38.1.3 `typedef void(* Gssl_finish_function)(Gssl_session *sctx, void *mech_data)`

Definition at line 33 of file gssl-mech.h.

7.38.1.4 `typedef int(* Gssl_init_function)(Gssl *ctx)`

Definition at line 27 of file gssl-mech.h.

7.38.1.5 `typedef struct Gssl_mechanism Gssl_mechanism`

Definition at line 59 of file gssl-mech.h.

7.38.1.6 `typedef struct Gssl_mechanism_functions Gssl_mechanism_functions`

Definition at line 49 of file gssl-mech.h.

7.38.1.7 `typedef int(* Gssl_start_function)(Gssl_session *sctx, void **mech_data)`

Definition at line 29 of file gssl-mech.h.

7.38.1.8 `typedef int(* Gssl_step_function)(Gssl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

Definition at line 30 of file gssl-mech.h.

7.38.2 Function Documentation

7.38.2.1 GSASL_API int gsasl_register(Gsasl * ctx, const Gsasl_mechanism * mech)

gsasl_register:

Parameters

| | |
|-------------|---|
| <i>ctx</i> | pointer to libgsasl handle. |
| <i>mech</i> | plugin structure with information about plugin. |

This function initialize given mechanism, and if successful, add it to the list of plugins that is used by the library.

Return value: GSASL_OK iff successful, otherwise GSASL_MALLOCC_ERROR.

Since: 0.2.0

Definition at line 38 of file register.c.

7.38.3 Variable Documentation

7.38.3.1 struct Gsasl_mechanism_functions __attribute__

7.39 gsasl.h File Reference

```
#include <stdio.h> #include <stddef.h> #include <unistd.-
h> #include <gsasl-mech.h> #include <gsasl-compat.h>
```

Defines

- #define [GSASL_VERSION](#) "1.8.0"
- #define [GSASL_VERSION_MAJOR](#) 1
- #define [GSASL_VERSION_MINOR](#) 8
- #define [GSASL_VERSION_PATCH](#) 0
- #define [GSASL_VERSION_NUMBER](#) 0x010800

Typedefs

- typedef struct [Gsasl](#) [Gsasl](#)
- typedef struct [Gsasl_session](#) [Gsasl_session](#)
- typedef int(* [Gsasl_callback_function](#))(Gsasl *ctx, [Gsasl_session](#) *sctx, [Gsasl_property](#) prop)

Enumerations

- enum { `GSASL_MIN_MECHANISM_SIZE` = 1, `GSASL_MAX_MECHANISM_SIZE` = 20 }
- enum `Gssasl_rc` { `GSASL_OK` = 0, `GSASL_NEEDS_MORE` = 1, `GSASL_UNKNOWN_MECHANISM` = 2, `GSASL_MECHANISM_CALLED_TOO_MANY_TIMES` = 3, `GSASL_MALLOC_ERROR` = 7, `GSASL_BASE64_ERROR` = 8, `GSASL_CRYPT_ERROR` = 9, `GSASL_SASLprep_ERROR` = 29, `GSASL_MECHANISM_PARSE_ERROR` = 30, `GSASL_AUTHENTICATION_ERROR` = 31, `GSASL_INTEGRITY_ERROR` = 33, `GSASL_NO_CLIENT_CODE` = 35, `GSASL_NO_SERVER_CODE` = 36, `GSASL_NO_CALLBACK` = 51, `GSASL_NO_ANONYMOUS_TOKEN` = 52, `GSASL_NO_AUTHID` = 53, `GSASL_NO_AUTHZID` = 54, `GSASL_NO_PASSWORD` = 55, `GSASL_NO_PASSCODE` = 56, `GSASL_NO_PIN` = 57, `GSASL_NO_SERVICE` = 58, `GSASL_NO_HOSTNAME` = 59, `GSASL_NO_CB_TLS_UNIQUE` = 65, `GSASL_NO_SAML20_IDP_IDENTIFIER` = 66, `GSASL_NO_SAML20_REDIRECT_URL` = 67, `GSASL_NO_OPENID20_REDIRECT_URL` = 68, `GSASL_GSSAPI_RELEASE_BUFFER_ERROR` = 37, `GSASL_GSSAPI_IMPORT_NAME_ERROR` = 38, `GSASL_GSSAPI_INIT_SEC_CONTEXT_ERROR` = 39, `GSASL_GSSAPI_ACCEPT_SEC_CONTEXT_ERROR` = 40, `GSASL_GSSAPI_UNWRAP_ERROR` = 41, `GSASL_GSSAPI_WRAP_ERROR` = 42, `GSASL_GSSAPI_ACQUIRE_CRED_ERROR` = 43, `GSASL_GSSAPI_DISPLAY_NAME_ERROR` = 44, `GSASL_GSSAPI_UNSUPPORTED_PROTECTION_ERROR` = 45, `GSASL_KERBEROS_V5_INIT_ERROR` = 46, `GSASL_KERBEROS_V5_INTERNAL_ERROR` = 47, `GSASL_SHISHI_ERROR` = `GSASL_KERBEROS_V5_INTERNAL_ERROR`, `GSASL_SECURID_SERVER_NEED_ADDITIONAL_PASSCODE` = 48, `GSASL_SECURID_SERVER_NEED_NEW_PIN` = 49, `GSASL_GSSAPI_ENCAPSULATE_TOKEN_ERROR` = 60, `GSASL_GSSAPI_DECAPSULATE_TOKEN_ERROR` = 61, `GSASL_GSSAPI_INQUIRE_MECH_FOR_SASLNAME` = 62, `GSASL_GSSAPI_TEST_OID_SET_MEMBER_ERROR` = 63, `GSASL_GSSAPI_RELEASE_OID_SET_ERROR` = 64 }
- enum `Gssasl_qop` { `GSASL_QOP_AUTH` = 1, `GSASL_QOP_AUTH_INT` = 2, `GSASL_QOP_AUTH_CONF` = 4 }
- enum `Gssasl_cipher` { `GSASL_CIPHER_DES` = 1, `GSASL_CIPHER_3DES` = 2, `GSASL_CIPHER_RC4` = 4, `GSASL_CIPHER_RC4_40` = 8, `GSASL_CIPHER_RC4_56` = 16, `GSASL_CIPHER_AES` = 32 }
- enum `Gssasl_saslprep_flags` { `GSASL_ALLOW_UNASSIGNED` = 1 }
- enum `Gssasl_property` { `GSASL_AUTHID` = 1, `GSASL_AUTHZID` = 2, `GSASL_PASSWORD` = 3, `GSASL_ANONYMOUS_TOKEN` = 4, `GSASL_SERVICE` = 5, `GSASL_HOSTNAME` = 6, `GSASL_GSSAPI_DISPLAY_NAME` = 7, `GSASL_PASSCODE` = 8, `GSASL_SUGGESTED_PIN` = 9, `GSASL_PIN` = 10, `GSASL_REALM` = 11, `GSASL_DIGEST_MD5_HASHED_PASSWORD` = 12, `GSASL_QOPS` = 13, `GSASL_QOP` = 14, `GSASL_SCRAM_ITER` = 15, `GSASL_SCRAM_SALT` = 16, `GSASL_SCRAM_SALTED_PASSWORD` = 17, `GSASL_CB_TLS_UNIQUE` = 18, `GSASL_SAML20_IDP_IDENTIFIER` = 19, `GSASL_SAML20_REDIRECT_URL` = 20, `GSASL_OPENID20_REDIRECT_URL` = 21, `GSASL_OPENID20_OUTCOME_DATA` = 22, `GSASL_SAML20_AUTHENTICATE_IN_BROWSER` = 250, `GSASL_OPENID20_AUTHENTICATE_IN_BROWSER` = 251, `GSASL_VALIDATE_SIMPLE` = 500, `GSASL_VALIDATE_EXTERNAL` = 501, `GSASL_VALIDATE_ANONYMOUS` = 502, `GSASL_VALIDATE_GSSAPI` = 503, `GSASL_VALIDATE_SECURID` = 504, `GSASL_VALIDATE_SAML20` = 505, `GSASL_VALIDATE_OPENID20` = 506 }

Functions

- GSASL_API int [gsasl_init](#) ([Gsasl](#) **ctx)
- GSASL_API void [gsasl_done](#) ([Gsasl](#) *ctx)
- GSASL_API const char * [gsasl_check_version](#) (const char *req_version)
- GSASL_API void [gsasl_callback_set](#) ([Gsasl](#) *ctx, [Gsasl_callback_function](#) cb)
- GSASL_API int [gsasl_callback](#) ([Gsasl](#) *ctx, [Gsasl_session](#) *sctx, [Gsasl_property](#) prop)
- GSASL_API void [gsasl_callback_hook_set](#) ([Gsasl](#) *ctx, void *hook)
- GSASL_API void * [gsasl_callback_hook_get](#) ([Gsasl](#) *ctx)
- GSASL_API void [gsasl_session_hook_set](#) ([Gsasl_session](#) *sctx, void *hook)
- GSASL_API void * [gsasl_session_hook_get](#) ([Gsasl_session](#) *sctx)
- GSASL_API void [gsasl_property_set](#) ([Gsasl_session](#) *sctx, [Gsasl_property](#) prop, const char *data)
- GSASL_API void [gsasl_property_set_raw](#) ([Gsasl_session](#) *sctx, [Gsasl_property](#) prop, const char *data, size_t len)
- GSASL_API const char * [gsasl_property_get](#) ([Gsasl_session](#) *sctx, [Gsasl_property](#) prop)
- GSASL_API const char * [gsasl_property_fast](#) ([Gsasl_session](#) *sctx, [Gsasl_property](#) prop)
- GSASL_API int [gsasl_client_mechlist](#) ([Gsasl](#) *ctx, char **out)
- GSASL_API int [gsasl_client_support_p](#) ([Gsasl](#) *ctx, const char *name)
- GSASL_API const char * [gsasl_client_suggest_mechanism](#) ([Gsasl](#) *ctx, const char *mechlist)
- GSASL_API int [gsasl_server_mechlist](#) ([Gsasl](#) *ctx, char **out)
- GSASL_API int [gsasl_server_support_p](#) ([Gsasl](#) *ctx, const char *name)
- GSASL_API int [gsasl_client_start](#) ([Gsasl](#) *ctx, const char *mech, [Gsasl_session](#) **sctx)
- GSASL_API int [gsasl_server_start](#) ([Gsasl](#) *ctx, const char *mech, [Gsasl_session](#) **sctx)
- GSASL_API int [gsasl_step](#) ([Gsasl_session](#) *sctx, const char *input, size_t input_len, char **output, size_t *output_len)
- GSASL_API int [gsasl_step64](#) ([Gsasl_session](#) *sctx, const char *b64input, char **b64output)
- GSASL_API void [gsasl_finish](#) ([Gsasl_session](#) *sctx)
- GSASL_API int [gsasl_encode](#) ([Gsasl_session](#) *sctx, const char *input, size_t input_len, char **output, size_t *output_len)
- GSASL_API int [gsasl_decode](#) ([Gsasl_session](#) *sctx, const char *input, size_t input_len, char **output, size_t *output_len)
- GSASL_API const char * [gsasl_mechanism_name](#) ([Gsasl_session](#) *sctx)
- GSASL_API const char * [gsasl_strerror](#) (int err)
- GSASL_API const char * [gsasl_strerror_name](#) (int err)
- GSASL_API int [gsasl_saslprep](#) (const char *in, [Gsasl_saslprep_flags](#) flags, char **out, int *stringpreprc)
- GSASL_API int [gsasl_simple_getpass](#) (const char *filename, const char *username, char **key)
- GSASL_API int [gsasl_base64_to](#) (const char *in, size_t inlen, char **out, size_t *outlen)

- GSASL_API int [gssapi_base64_from](#) (const char *in, size_t inlen, char **out, size_t *outlen)
- GSASL_API int [gssapi_nonce](#) (char *data, size_t datalen)
- GSASL_API int [gssapi_random](#) (char *data, size_t datalen)
- GSASL_API int [gssapi_md5](#) (const char *in, size_t inlen, char *out[16])
- GSASL_API int [gssapi_hmac_md5](#) (const char *key, size_t keylen, const char *in, size_t inlen, char *outhash[16])
- GSASL_API int [gssapi_sha1](#) (const char *in, size_t inlen, char *out[20])
- GSASL_API int [gssapi_hmac_sha1](#) (const char *key, size_t keylen, const char *in, size_t inlen, char *outhash[20])
- GSASL_API void [gssapi_free](#) (void *ptr)

Variables

- GSASL_API const char * [GSSAPI_VALID_MECHANISM_CHARACTERS](#)

7.39.1 Define Documentation

7.39.1.1 #define GSSAPI_VERSION "1.8.0"

GSSAPI_VERSION

Pre-processor symbol with a string that describe the header file version number. Used together with [gssapi_check_version\(\)](#) to verify header file and run-time library consistency.

Definition at line 54 of file gssapi.h.

7.39.1.2 #define GSSAPI_VERSION_MAJOR 1

GSSAPI_VERSION_MAJOR

Pre-processor symbol with a decimal value that describe the major level of the header file version number. For example, when the header version is 1.2.3 this symbol will be 1.

Since: 1.1

Definition at line 65 of file gssapi.h.

7.39.1.3 #define GSSAPI_VERSION_MINOR 8

GSSAPI_VERSION_MINOR

Pre-processor symbol with a decimal value that describe the minor level of the header file version number. For example, when the header version is 1.2.3 this symbol will be 2.

Since: 1.1

Definition at line 76 of file gssapi.h.

7.39.1.4 `#define GSASL_VERSION_NUMBER 0x010800`

GSASL_VERSION_NUMBER

Pre-processor symbol with a hexadecimal value describing the header file version number. For example, when the header version is 1.2.3 this symbol will have the value 0x010203.

Since: 1.1

Definition at line 98 of file `gsasl.h`.

7.39.1.5 `#define GSASL_VERSION_PATCH 0`

GSASL_VERSION_PATCH

Pre-processor symbol with a decimal value that describe the patch level of the header file version number. For example, when the header version is 1.2.3 this symbol will be 3.

Since: 1.1

Definition at line 87 of file `gsasl.h`.

7.39.2 Typedef Documentation

7.39.2.1 `typedef struct Gsasl Gsasl`

Gsasl:

Handle to global library context.

Definition at line 280 of file `gsasl.h`.

7.39.2.2 `typedef int(* Gsasl_callback_function)(Gsasl *ctx, Gsasl_session *sctx, Gsasl_property prop)`

Gsasl_callback_function:

Parameters

| | |
|-------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>sctx</i> | session handle, may be NULL. |
| <i>prop</i> | enumerated value of Gsasl_property type. |

Prototype of function that the application should implement. Use [gsasl_callback_set\(\)](#) to inform the library about your callback function.

It is called by the SASL library when it need some information from the application. Depending on the value of *prop*, it should either set some property (e.g., username or password) using [gsasl_property_set\(\)](#), or it should extract some properties (e.g., authentication and authorization identities) using [gsasl_property_fast\(\)](#) and use them to make a

policy decision, perhaps returning `GSASL_AUTHENTICATION_ERROR` or `GSASL_OK` depending on whether the policy permitted the operation.

Return value: Any valid return code, the interpretation of which depend on the value.

Since: 0.2.0

Definition at line 391 of file `gssapi.h`.

7.39.2.3 typedef struct Gssapi_session Gssapi_session

[Gssapi_session](#):

Handle to SASL session context.

Definition at line 287 of file `gssapi.h`.

7.39.3 Enumeration Type Documentation

7.39.3.1 anonymous enum

Enumerator:

`GSASL_MIN_MECHANISM_SIZE`
`GSASL_MAX_MECHANISM_SIZE`

Definition at line 105 of file `gssapi.h`.

7.39.3.2 enum Gssapi_cipher

`Gssapi_cipher`:

Parameters

| | |
|----------------------------------|------------------------------|
| <code>GSASL_CIPHER_DES</code> | Cipher DES. |
| <code>GSASL_CIPHER_3DES</code> | Cipher 3DES. |
| <code>GSASL_CIPHER_RC4</code> | Cipher RC4. |
| <code>GSASL_CIPHER_RC4_40</code> | Cipher RC4 with 40-bit keys. |
| <code>GSASL_CIPHER_RC4_56</code> | Cipher RC4 with 56-bit keys. |
| <code>GSASL_CIPHER_AES</code> | Cipher AES. |

Encryption types (DIGEST-MD5) for confidentiality services of application data. We recommend that you use TLS instead as it is generally more secure and have better chance of working.

Enumerator:

GSASL_CIPHER_DES
GSASL_CIPHER_3DES
GSASL_CIPHER_RC4
GSASL_CIPHER_RC4_40
GSASL_CIPHER_RC4_56
GSASL_CIPHER_AES

Definition at line 253 of file gsas.h.

7.39.3.3 enum Gsasl_property

Gsasl_property:

Parameters

| | |
|----------------------------------|---|
| GSASL_AUTHID | Authentication identity (username). |
| GSASL_AUTHZID | Authorization identity. |
| GSASL_PASSWORD | Password. |
| GSASL_ANONYMOUS_TOKEN | Anonymous identifier. |
| GSASL_SERVICE | Service name |
| GSASL_HOSTNAME | Host name. |
| GSASL_GSSAPI_DISPLAY_NAME | GSS-API credential principal name. |
| GSASL_PASSCODE | SecurID passcode. |
| GSASL_SUGGESTED_PIN | SecurID suggested PIN. |
| GSASL_PIN | SecurID PIN. |
| GSASL_REALM | User realm. |
| GSASL_DIGEST_MD5_HASHED_PASSWORD | Pre-computed hashed DIGEST-MD5 password, to avoid storing passwords in the clear. |
| D | |

| | |
|--|--|
| GSASL_Q- OPS | Set of quality-of-protection values. |
| GSASL_Q- OP | Quality-of-protection value. |
| GSASL_SC- RAM_ITER | Number of iterations in password-to-key hashing. |
| GSASL_SC- RAM_SALT | Salt for password-to-key hashing. |
| GSASL_SC- RAM_SALT- ED_PASS- WORD | Pre-computed salted SCRAM key, to avoid re-computation and storing passwords in the clear. |
| GSASL_CB- _TLS_UNI- QUE | Base64 encoded tls-unique channel binding. |
| GSASL_SA- ML20_IDP_- IDENTIFIER | SAML20 user IdP URL. |
| GSASL_SA- ML20_RED- IRECT_URL | SAML 2.0 URL to access in browser. |
| GSASL_OP- ENID20_R- EDIRECT_- URL | OpenID 2.0 URL to access in browser. |
| GSASL_OP- ENID20_O- UTCOME_- DATA | OpenID 2.0 authentication outcome data. |
| GSASL_SA- ML20_AUT- HENTICAT- E_IN_BRO- WSER | Request to perform SAML 2.0 authentication in browser. |
| GSASL_OP- ENID20_A- UTHENTIC- ATE_IN_B- ROWSER | Request to perform OpenID 2.0 authentication in browser. |
| GSASL_VA- LIDATE_SI- MPLE | Request for simple validation. |
| GSASL_VA- LIDATE_EX- TERNAL | Request for validation of EXTERNAL. |

| | |
|--------------------------|---|
| GSASL_VALIDATE_ANONYMOUS | Request for validation of ANONYMOUS. |
| GSASL_VALIDATE_GSSAPI | Request for validation of GSSAPI/GS2. |
| GSASL_VALIDATE_SECURID | Request for validation of SecurID. |
| GSASL_VALIDATE_SAML20 | Request for validation of SAML20. |
| GSASL_VALIDATE_OPENID20 | Request for validation of OpenID 2.0 login. |

Callback/property types.

Enumerator:

GSASL_AUTHID
GSASL_AUTHZID
GSASL_PASSWORD
GSASL_ANONYMOUS_TOKEN
GSASL_SERVICE
GSASL_HOSTNAME
GSASL_GSSAPI_DISPLAY_NAME
GSASL_PASSCODE
GSASL_SUGGESTED_PIN
GSASL_PIN
GSASL_REALM
GSASL_DIGEST_MD5_HASHED_PASSWORD
GSASL_QOPS
GSASL_QOP
GSASL_SCRAM_ITER
GSASL_SCRAM_SALT
GSASL_SCRAM_SALTED_PASSWORD
GSASL_CB_TLS_UNIQUE
GSASL_SAML20_IDP_IDENTIFIER
GSASL_SAML20_REDIRECT_URL
GSASL_OPENID20_REDIRECT_URL

GSASL_OPENID20_OUTCOME_DATA
GSASL_SAML20_AUTHENTICATE_IN_BROWSER
GSASL_OPENID20_AUTHENTICATE_IN_BROWSER
GSASL_VALIDATE_SIMPLE
GSASL_VALIDATE_EXTERNAL
GSASL_VALIDATE_ANONYMOUS
GSASL_VALIDATE_GSSAPI
GSASL_VALIDATE_SECURID
GSASL_VALIDATE_SAML20
GSASL_VALIDATE_OPENID20

Definition at line 329 of file gssapi.h.

7.39.3.4 enum Gssapi_qop

Gssapi_qop:

Parameters

| | |
|---------------------------------------|--|
| GSASL_Q- OP_AUTH | Authentication only. |
| GSASL_Q- OP_AUTH- INT | Authentication and integrity. |
| GSASL_Q- OP_AUTH- CONF | Authentication, integrity and confidentiality. |

Quality of Protection types (DIGEST-MD5 and GSSAPI). The integrity and confidentiality values is about application data wrapping. We recommend that you use with TLS as that combination is generally more secure and have better chance of working than the integrity/confidentiality layers of SASL.

Enumerator:

GSASL_QOP_AUTH
GSASL_QOP_AUTH_INT
GSASL_QOP_AUTH_CONF

Definition at line 233 of file gssapi.h.

7.39.3.5 enum Gssapi_rc

Gssapi_rc:

Parameters

| | |
|---------------------------------------|--|
| GSASL_OK | Successful return code, guaranteed to be always 0. |
| GSASL_NEEDS_MORE | Mechanism expects another round-trip. |
| GSASL_UNKNOWN_MECHANISM | Application requested an unknown mechanism. |
| GSASL_MECHANISM_CALLED_TOO_MANY_TIMES | Application requested too many round trips from mechanism. |
| GSASL_MALLOC_ERROR | Memory allocation failed. |
| GSASL_BASE64_ERROR | Base64 encoding/decoding failed. |
| GSASL_CRYPTO_ERROR | Cryptographic error. |
| GSASL_SASLprep_ERROR | Failed to prepare internationalized string. |
| GSASL_MECHANISM_PARSE_ERROR | Mechanism could not parse input. |
| GSASL_AUTHENTICATION_ERROR | Authentication has failed. |
| GSASL_INTEGRITY_ERROR | Application data integrity check failed. |
| GSASL_NO_CLIENT_CODE | Library was built with client functionality. |
| GSASL_NO_SERVER_CODE | Library was built with server functionality. |
| GSASL_NO_CALLBACK | Application did not provide a callback. |
| GSASL_NO_ANONYMOUS_TOKEN | Could not get required anonymous token. |

| | |
|---|--|
| GSASL_NO- _AUTHID | Could not get required authentication identity (username). |
| GSASL_NO- _AUTHZID | Could not get required authorization identity. |
| GSASL_NO- _PASSWO- RD | Could not get required password. |
| GSASL_NO- _PASSCO- DE | Could not get required SecurID PIN. |
| GSASL_NO- _PIN | Could not get required SecurID PIN. |
| GSASL_NO- _SERVICE | Could not get required service name. |
| GSASL_NO- _HOSTNA- ME | Could not get required hostname. |
| GSASL_NO- _CB_TLS_- UNIQUE | Could not get required tls-unique CB. |
| GSASL_NO- _SAML20_I- DP_IDENTI- FIER | Could not get required SAML IdP. |
| GSASL_NO- _SAML20_- REDIRECT- _URL | Could not get required SAML redirect URL. |
| GSASL_NO- _OPENI- D20_REDI- RECT_URL | Could not get required OpenID redirect URL. |
| GSASL_GS- SAPI_REL- EASE_BUF- FER_ERR- OR | GSS-API library call error. |
| GSASL_GS- SAPI_IMPO- RT_NAME_- ERROR | GSS-API library call error. |
| GSASL_GS- SAPI_INIT_- SEC_CON- TEXT_ERR- OR | GSS-API library call error. |

| | |
|---|---|
| GSASL_GS-SAPI_ACCEPT_CONTEXT_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_UNWRAP_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_WRAP_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_ACQUIRE_CRED_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_DISPLAY_NAME_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_UNSUPPORTED_PROTECTION_ERROR | An unsupported quality-of-protection layer was requested. |
| GSASL_GS-SAPI_ENCAPSULATE_TOKEN_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_DECAPSULATE_TOKEN_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_INQUIRE_MECH_FOR_SASLNAME_ERROR | GSS-API library call error. |
| GSASL_GS-SAPI_TEST_OID_SET_MEMBER_ERROR | GSS-API library call error. |

| | |
|--|---|
| GSASL_GS- SAPI_REL- EASE_OID- _SET_ERR- OR | GSS-API library call error. |
| GSASL_KE- RBEROS_- V5_INIT_E- RROR | Init error in KERBEROS_V5. |
| GSASL_KE- RBEROS_- V5_INTER- NAL_ERRO- R | General error in KERBEROS_V5. |
| GSASL_SH- ISHI_ERRO- R | Same as GSASL_KERBEROS_V5_INTERNAL_ERROR. |
| GSASL_SE- CURID_SE- RVER_NEE- D_ADDITIO- NAL_PASS- CODE | SecurID mechanism needs an additional passcode. |
| GSASL_SE- CURID_SE- RVER_NEE- D_NEW_PI- N | SecurID mechanism needs a new PIN. |

Error codes for library functions.

Enumerator:

GSASL_OK
GSASL_NEEDS_MORE
GSASL_UNKNOWN_MECHANISM
GSASL_MECHANISM_CALLED_TOO_MANY_TIMES
GSASL_MALLOC_ERROR
GSASL_BASE64_ERROR
GSASL_CRYPTO_ERROR
GSASL_SASLPREP_ERROR
GSASL_MECHANISM_PARSE_ERROR
GSASL_AUTHENTICATION_ERROR
GSASL_INTEGRITY_ERROR
GSASL_NO_CLIENT_CODE

GSASL_NO_SERVER_CODE
GSASL_NO_CALLBACK
GSASL_NO_ANONYMOUS_TOKEN
GSASL_NO_AUTHID
GSASL_NO_AUTHZID
GSASL_NO_PASSWORD
GSASL_NO_PASSCODE
GSASL_NO_PIN
GSASL_NO_SERVICE
GSASL_NO_HOSTNAME
GSASL_NO_CB_TLS_UNIQUE
GSASL_NO_SAML20_IDP_IDENTIFIER
GSASL_NO_SAML20_REDIRECT_URL
GSASL_NO_OPENID20_REDIRECT_URL
GSASL_GSSAPI_RELEASE_BUFFER_ERROR
GSASL_GSSAPI_IMPORT_NAME_ERROR
GSASL_GSSAPI_INIT_SEC_CONTEXT_ERROR
GSASL_GSSAPI_ACCEPT_SEC_CONTEXT_ERROR
GSASL_GSSAPI_UNWRAP_ERROR
GSASL_GSSAPI_WRAP_ERROR
GSASL_GSSAPI_ACQUIRE_CRED_ERROR
GSASL_GSSAPI_DISPLAY_NAME_ERROR
GSASL_GSSAPI_UNSUPPORTED_PROTECTION_ERROR
GSASL_KERBEROS_V5_INIT_ERROR
GSASL_KERBEROS_V5_INTERNAL_ERROR
GSASL_SHISHI_ERROR
GSASL_SECURID_SERVER_NEED_ADDITIONAL_PASSCODE
GSASL_SECURID_SERVER_NEED_NEW_PIN
GSASL_GSSAPI_ENCAPSULATE_TOKEN_ERROR
GSASL_GSSAPI_DECAPSULATE_TOKEN_ERROR
GSASL_GSSAPI_INQUIRE_MECH_FOR_SASLNAME_ERROR
GSASL_GSSAPI_TEST_OID_SET_MEMBER_ERROR
GSASL_GSSAPI_RELEASE_OID_SET_ERROR

Definition at line 169 of file gsas.h.

7.39.3.6 enum Gsas_saslprep_flags

Gsas_saslprep_flags:

Parameters

| | |
|-------------------------------|-------------------------------|
| GSASL_ALLOW_UNASSIGNED | Allow unassigned code points. |
|-------------------------------|-------------------------------|

Flags for the SASLprep function, see [gsasl_saslprep\(\)](#). For background, see the GNU Libidn documentation.

Enumerator:

GSASL_ALLOW_UNASSIGNED

Definition at line 270 of file gsas.h.

7.39.4 Function Documentation

7.39.4.1 **GSASL_API** int **gsasl_base64_from**(const char * *in*, size_t *inlen*, char ** *out*, size_t * *outlen*)

gsasl_base64_from:

Parameters

| | |
|---------------|--|
| <i>in</i> | input byte array |
| <i>inlen</i> | size of input byte array |
| <i>out</i> | pointer to newly allocated output byte array |
| <i>outlen</i> | pointer to size of newly allocated output byte array |

Decode Base64 data. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK on success, GSASL_BASE64_ERROR if input was invalid, and GSASL_MALLOC_ERROR on memory allocation errors.

Since: 0.2.2

Definition at line 74 of file base64.c.

7.39.4.2 **GSASL_API** int **gsasl_base64_to**(const char * *in*, size_t *inlen*, char ** *out*, size_t * *outlen*)

gsasl_base64_to:

Parameters

| | |
|---------------|--|
| <i>in</i> | input byte array |
| <i>inlen</i> | size of input byte array |
| <i>out</i> | pointer to newly allocated output byte array |
| <i>outlen</i> | pointer to size of newly allocated output byte array |

Encode data as base64. The string is zero terminated, and holds the length excluding the terminating zero. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK on success, or GSASL_MALLOC_ERROR if input was too large or memory allocation fail.

Since: 0.2.2

Definition at line 44 of file base64.c.

7.39.4.3 GSASL_API int `gsasl_callback` (`Gsasl * ctx`, `Gsasl_session * sctx`, `Gsasl_property prop`)

`gsasl_callback`:

Parameters

| | |
|-------------------|---|
| <code>ctx</code> | handle received from gsasl_init() , may be NULL to derive it from . |
| <code>sctx</code> | session handle. |
| <code>prop</code> | enumerated value of <code>Gsasl_property</code> type. |

Invoke the application callback. The value indicate what the callback is expected to do. For example, for GSASL_ANONYMOUS_TOKEN, the function is expected to invoke `gsasl_property_set`(GSASL_ANONYMOUS_TOKEN, "token") where "token" is the anonymous token the application wishes the SASL mechanism to use. See the manual for the meaning of all parameters.

Note that if no callback has been set by the application, but the obsolete callback interface has been used, this function will translate the old callback interface into the new. This interface should be sufficient to invoke all callbacks, both new and old.

Return value: Returns whatever the application callback returns, or GSASL_NO_CALLBACK if no application was known.

Since: 0.2.0

Definition at line 75 of file callback.c.

7.39.4.4 GSASL_API void* `gsasl_callback_hook_get` (`Gsasl * ctx`)

`gsasl_callback_hook_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Retrieve application specific data from libgsasl handle.

The application data is set using [gsasl_callback_hook_set\(\)](#). This is normally used by the application to maintain a global state between the main program and callbacks.

Return value: Returns the application specific data, or NULL.

Since: 0.2.0

Definition at line 128 of file callback.c.

7.39.4.5 GSASL_API void gssapi_callback_hook_set(Gssapi * ctx, void * hook)

gssapi_callback_hook_set:

Parameters

| | |
|-------------|--|
| <i>ctx</i> | libgssapi handle. |
| <i>hook</i> | opaque pointer to application specific data. |

Store application specific data in the libgssapi handle.

The application data can be later (for instance, inside a callback) be retrieved by calling [gssapi_callback_hook_get\(\)](#). This is normally used by the application to maintain a global state between the main program and callbacks.

Since: 0.2.0

Definition at line 108 of file callback.c.

7.39.4.6 GSASL_API void gssapi_callback_set(Gssapi * ctx, Gssapi_callback_function cb)

gssapi_callback_set:

Parameters

| | |
|------------|--|
| <i>ctx</i> | handle received from gssapi_init() . |
| <i>cb</i> | pointer to function implemented by application. |

Store the pointer to the application provided callback in the library handle. The callback will be used, via [gssapi_callback\(\)](#), by mechanisms to discover various parameters (such as username and passwords). The callback function will be called with a Gssapi_property value indicating the requested behaviour. For example, for GSASL_ANONYMOUS_TOKEN, the function is expected to invoke [gssapi_property_set\(\)](#), GSASL_ANONYMOUS_TOKEN, "token" where "token" is the anonymous token the application wishes the SASL mechanism to use. See the manual for the meaning of all parameters.

Since: 0.2.0

Definition at line 44 of file callback.c.

7.39.4.7 GSASL_API const char* gssapi_check_version(const char * req_version)

gssapi_check_version:

Parameters

| | |
|--------------------|--|
| <i>req_version</i> | version string to compare with, or NULL. |
|--------------------|--|

Check GNU SASL Library version.

See `GSASL_VERSION` for a suitable string.

This function is one of few in the library that can be used without a successful call to `gsasl_init()`.

Return value: Check that the version of the library is at minimum the one given as a string in and return the actual version string of the library; return NULL if the condition is not met. If NULL is passed to this function no check is done and only the version string is returned.

Definition at line 45 of file `version.c`.

7.39.4.8 GSASL_API int `gsasl_client_mechlist(Gsasl * ctx, char ** out)`

`gsasl_client_mechlist`:

Parameters

| | |
|------------|---|
| <i>ctx</i> | libgsasl handle. |
| <i>out</i> | newly allocated output character array. |

Return a newly allocated string containing SASL names, separated by space, of mechanisms supported by the libgsasl client. `out` is allocated by this function, and it is the responsibility of caller to deallocate it.

Return value: Returns `GSASL_OK` if successful, or error code.

Definition at line 74 of file `listmech.c`.

7.39.4.9 GSASL_API int `gsasl_client_start(Gsasl * ctx, const char * mech, Gsasl_session ** sctx)`

`gsasl_client_start`:

Parameters

| | |
|-------------|---------------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>mech</i> | name of SASL mechanism. |
| <i>sctx</i> | pointer to client handle. |

This functions initiates a client SASL authentication. This function must be called before any other `gsasl_client_*`() function is called.

Return value: Returns `GSASL_OK` if successful, or error code.

Definition at line 119 of file `xstart.c`.

7.39.4.10 GSASL_API const char* **gssapi_client_suggest_mechanism**(Gssapi * *ctx*,
const char * *mechlist*)

gssapi_client_suggest_mechanism:

Parameters

| | |
|-----------------|--|
| <i>ctx</i> | libgssapi handle. |
| <i>mechlist</i> | input character array with SASL mechanism names, separated by invalid characters (e.g. SPC). |

Given a list of mechanisms, suggest which to use.

Return value: Returns name of "best" SASL mechanism supported by the libgssapi client which is present in the input string, or NULL if no supported mechanism is found.

Definition at line 38 of file suggest.c.

7.39.4.11 GSASL_API int **gssapi_client_support_p**(Gssapi * *ctx*, const char * *name*)

gssapi_client_support_p:

Parameters

| | |
|-------------|-------------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>name</i> | name of SASL mechanism. |

Decide whether there is client-side support for a specified mechanism.

Return value: Returns 1 if the libgssapi client supports the named mechanism, otherwise 0.

Definition at line 49 of file supportp.c.

7.39.4.12 GSASL_API int **gssapi_decode**(Gssapi_session * *sctx*, const char * *input*, size_t
input_len, char ** *output*, size_t * *output_len*)

gssapi_decode:

Parameters

| | |
|-------------------|------------------------------------|
| <i>sctx</i> | libgssapi session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | newly allocated output byte array. |
| <i>output_len</i> | size of output byte array. |

Decode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

The buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling `free()`.

Return value: Returns `GSASL_OK` if encoding was successful, otherwise an error code.

Definition at line 96 of file `xcode.c`.

7.39.4.13 GSASL_API void `gsasl_done` (`Gsasl * ctx`)

`gsasl_done`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

This function destroys a libgsasl handle. The handle must not be used with other libgsasl functions after this call.

Definition at line 33 of file `done.c`.

7.39.4.14 GSASL_API int `gsasl_encode` (`Gsasl_session * sctx`, `const char * input`, `size_t input_len`, `char ** output`, `size_t * output_len`)

`gsasl_encode`:

Parameters

| | |
|-------------------------|------------------------------------|
| <code>sctx</code> | libgsasl session handle. |
| <code>input</code> | input byte array. |
| <code>input_len</code> | size of input byte array. |
| <code>output</code> | newly allocated output byte array. |
| <code>output_len</code> | size of output byte array. |

Encode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

The buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling `free()`.

Return value: Returns `GSASL_OK` if encoding was successful, otherwise an error code.

Definition at line 64 of file `xcode.c`.

7.39.4.15 GSASL_API void `gsasl_finish` (`Gsasl_session * sctx`)

`gsasl_finish`:

Parameters

| | |
|-------------------|--------------------------|
| <code>sctx</code> | libgsasl session handle. |
|-------------------|--------------------------|

Destroy a libgsasl client or server handle. The handle must not be used with other libgsasl functions after this call.

Definition at line 33 of file xfinish.c.

7.39.4.16 GSASL_API void gsasl_free (void * ptr)

gsasl_free:

Parameters

| | |
|------------|----------------|
| <i>ptr</i> | memory pointer |
|------------|----------------|

Invoke free() to de-allocate memory pointer. Typically used on strings allocated by other libgsasl functions.

This is useful on Windows where libgsasl is linked to one CRT and the application is linked to another CRT. Then malloc/free will not use the same heap. This happens if you build libgsasl using mingw32 and the application with Visual Studio.

Since: 0.2.19

Definition at line 41 of file src/free.c.

7.39.4.17 GSASL_API int gsasl_hmac_md5 (const char * key, size_t keylen, const char * in, size_t inlen, char * outhash[16])

gsasl_hmac_md5:

Parameters

| | |
|----------------|--|
| <i>key</i> | input character array with key to use. |
| <i>keylen</i> | length of input character array with key to use. |
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>outhash</i> | newly allocated character array with keyed hash of data. |

Compute keyed checksum of data using HMAC-MD5. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Definition at line 92 of file crypto.c.

7.39.4.18 GSASL_API int gsasl_hmac_sha1 (const char * key, size_t keylen, const char * in, size_t inlen, char * outhash[20])

gsasl_hmac_sha1:

Parameters

| | |
|----------------|--|
| <i>key</i> | input character array with key to use. |
| <i>keylen</i> | length of input character array with key to use. |
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>outhash</i> | newly allocated character array with keyed hash of data. |

Compute keyed checksum of data using HMAC-SHA1. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Since: 1.3

Definition at line 139 of file crypto.c.

7.39.4.19 GSASL_API int gsasl_init(Gsasl ** ctx)

gsasl_init:

Parameters

| | |
|------------|-----------------------------|
| <i>ctx</i> | pointer to libgsasl handle. |
|------------|-----------------------------|

This functions initializes libgsasl. The handle pointed to by ctx is valid for use with other libgsasl functions iff this function is successful. It also register all builtin SASL mechanisms, using [gsasl_register\(\)](#).

Return value: GSASL_OK iff successful, otherwise GSASL_MALLOC_ERROR.

Definition at line 157 of file init.c.

7.39.4.20 GSASL_API int gsasl_md5(const char * in, size_t inlen, char * out[16])

gsasl_md5:

Parameters

| | |
|--------------|--|
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>out</i> | newly allocated character array with hash of data. |

Compute hash of data using MD5. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Definition at line 70 of file crypto.c.

7.39.4.21 GSASL_API const char* gsasl_mechanism_name(Gsasl_session * sctx)

gsasl_mechanism_name:

Parameters

| | |
|-------------|--------------------------|
| <i>sctx</i> | libgsasl session handle. |
|-------------|--------------------------|

This function returns the name of the SASL mechanism used in the session.

Return value: Returns a zero terminated character array with the name of the SASL mechanism, or NULL if not known.

Since: 0.2.28

Definition at line 38 of file mechname.c.

7.39.4.22 GSASL_API int gsasl_nonce (char * *data*, size_t *datalen*)

gsasl_nonce:

Parameters

| | |
|----------------|---|
| <i>data</i> | output array to be filled with unpredictable random data. |
| <i>datalen</i> | size of output array. |

Store unpredictable data of given size in the provided buffer.

Return value: Returns GSASL_OK iff successful.

Definition at line 37 of file crypto.c.

7.39.4.23 GSASL_API const char* gsasl_property_fast (Gsasl_session * *sctx*, Gsasl_property *prop*)

gsasl_property_fast:

Parameters

| | |
|-------------|---|
| <i>sctx</i> | session handle. |
| <i>prop</i> | enumerated value of Gsasl_property type, indicating the type of data in . |

Retrieve the data stored in the session handle for given property .

The pointer is to live data, and must not be deallocated or modified in any way.

This function will not invoke the application callback.

Return value: Return property value, if known, or NULL if no value known.

Since: 0.2.0

Definition at line 218 of file property.c.

7.39.4.24 GSASL_API const char* gsasl_property_get(Gsasl_session * sctx, Gsasl_property prop)

gsasl_property_get:

Parameters

| | |
|-------------|---|
| <i>sctx</i> | session handle. |
| <i>prop</i> | enumerated value of Gsasl_property type, indicating the type of data in . |

Retrieve the data stored in the session handle for given property , possibly invoking the application callback to get the value.

The pointer is to live data, and must not be deallocated or modified in any way.

This function will invoke the application callback, using [gsasl_callback\(\)](#), when a property value is not known.

If no value is known, and no callback is specified or if the callback fail to return data, and if any obsolete callback functions has been set by the application, this function will try to call these obsolete callbacks, and store the returned data as the corresponding property. This behaviour of this function will be removed when the obsolete callback interfaces are removed.

Return value: Return data for property, or NULL if no value known.

Since: 0.2.0

Definition at line 255 of file property.c.

7.39.4.25 GSASL_API void gsasl_property_set(Gsasl_session * sctx, Gsasl_property prop, const char * data)

gsasl_property_set:

Parameters

| | |
|-------------|---|
| <i>sctx</i> | session handle. |
| <i>prop</i> | enumerated value of Gsasl_property type, indicating the type of data in . |
| <i>data</i> | zero terminated character string to store. |

Make a copy of and store it in the session handle for the indicated property .

You can immediately deallocate after calling this function, without affecting the data stored in the session handle.

Since: 0.2.0

Definition at line 150 of file property.c.

7.39.4.26 **GSASL_API** void **gsasl_property_set_raw**(**Gsasl_session** * *sctx*,
Gsasl_property *prop*, const char * *data*, size_t *len*)

gsasl_property_set_raw:

Parameters

| | |
|-------------|--|
| <i>sctx</i> | session handle. |
| <i>prop</i> | enumerated value of Gsasl_property type, indicating the type of data in . |
| <i>data</i> | character string to store. |
| <i>len</i> | length of character string to store. |

Make a copy of *data* and store a zero terminated version of it in the session handle for the indicated property .

You can immediately deallocate *data* after calling this function, without affecting the data stored in the session handle.

Except for the length indicator, this function is identical to **gsasl_property_set**.

Since: 0.2.0

Definition at line 176 of file **property.c**.

7.39.4.27 **GSASL_API** int **gsasl_random**(char * *data*, size_t *datalen*)

gsasl_random:

Parameters

| | |
|----------------|--|
| <i>data</i> | output array to be filled with strong random data. |
| <i>datalen</i> | size of output array. |

Store cryptographically strong random data of given size in the provided buffer.

Return value: Returns **GSASL_OK** iff successful.

Definition at line 53 of file **crypto.c**.

7.39.4.28 **GSASL_API** int **gsasl_saslprep**(const char * *in*, **Gsasl_saslprep_flags** *flags*,
char ** *out*, int * *stringprepc*)

gsasl_saslprep:

Parameters

| | |
|--------------------|--|
| <i>in</i> | a UTF-8 encoded string. |
| <i>flags</i> | any SASLprep flag, e.g., GSASL_ALLOW_UNASSIGNED . |
| <i>out</i> | on exit, contains newly allocated output string. |
| <i>stringprepc</i> | if non-NULL, will hold precise stringprep return code. |

Prepare string using SASLprep. On success, the variable must be deallocated by the caller.

Return value: Returns GSASL_OK on success, or GSASL_SASLPREP_ERROR on error.

Since: 0.2.3

Definition at line 48 of file saslprep.c.

7.39.4.29 GSASL_API int gsasl_server_mechlist(Gsasl * ctx, char ** out)

gsasl_server_mechlist:

Parameters

| | |
|------------|---|
| <i>ctx</i> | libgsasl handle. |
| <i>out</i> | newly allocated output character array. |

Return a newly allocated string containing SASL names, separated by space, of mechanisms supported by the libgsasl server. *out* is allocated by this function, and it is the responsibility of caller to deallocate it.

Return value: Returns GSASL_OK if successful, or error code.

Definition at line 93 of file listmech.c.

7.39.4.30 GSASL_API int gsasl_server_start(Gsasl * ctx, const char * mech, Gsasl_session ** sctx)

gsasl_server_start:

Parameters

| | |
|-------------|---------------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>mech</i> | name of SASL mechanism. |
| <i>sctx</i> | pointer to server handle. |

This functions initiates a server SASL authentication. This function must be called before any other gsasl_server_*() function is called.

Return value: Returns GSASL_OK if successful, or error code.

Definition at line 137 of file xstart.c.

7.39.4.31 GSASL_API int gsasl_server_support_p(Gsasl * ctx, const char * name)

gsasl_server_support_p:

Parameters

| | |
|-------------|-------------------------|
| <i>ctx</i> | libgssapi handle. |
| <i>name</i> | name of SASL mechanism. |

Decide whether there is server-side support for a specified mechanism.

Return value: Returns 1 if the libgssapi server supports the named mechanism, otherwise 0.

Definition at line 66 of file supporttp.c.

7.39.4.32 GSSAPI void* gssapi_session_hook_get(Gssapi_session * sctx)

gssapi_session_hook_get:

Parameters

| | |
|-------------|---------------------------|
| <i>sctx</i> | libgssapi session handle. |
|-------------|---------------------------|

Retrieve application specific data from libgssapi session handle.

The application data is set using [gssapi_callback_hook_set\(\)](#). This is normally used by the application to maintain a per-session state between the main program and callbacks.

Return value: Returns the application specific data, or NULL.

Since: 0.2.14

Definition at line 168 of file callback.c.

7.39.4.33 GSSAPI void gssapi_session_hook_set(Gssapi_session * sctx, void * hook)

gssapi_session_hook_set:

Parameters

| | |
|-------------|--|
| <i>sctx</i> | libgssapi session handle. |
| <i>hook</i> | opaque pointer to application specific data. |

Store application specific data in the libgssapi session handle.

The application data can be later (for instance, inside a callback) be retrieved by calling [gssapi_session_hook_get\(\)](#). This is normally used by the application to maintain a per-session state between the main program and callbacks.

Since: 0.2.14

Definition at line 148 of file callback.c.

7.39.4.34 GSASL_API int gsasl_sha1 (const char * *in*, size_t *inlen*, char * *out*[20])

gsasl_sha1:

Parameters

| | |
|--------------|--|
| <i>in</i> | input character array of data to hash. |
| <i>inlen</i> | length of input character array of data to hash. |
| <i>out</i> | newly allocated character array with hash of data. |

Compute hash of data using SHA1. The buffer must be deallocated by the caller.

Return value: Returns GSASL_OK iff successful.

Since: 1.3

Definition at line 115 of file crypto.c.

7.39.4.35 GSASL_API int gsasl_simple_getpass (const char * *filename*, const char * *username*, char ** *key*)

gsasl_simple_getpass:

Parameters

| | |
|-----------------|---|
| <i>filename</i> | filename of file containing passwords. |
| <i>username</i> | username string. |
| <i>key</i> | newly allocated output character array. |

Retrieve password for user from specified file. The buffer contain the password if this function is successful. The caller is responsible for deallocating it.

The file should be on the UoW "MD5 Based Authentication" format, which means it is in text format with comments denoted by # first on the line, with user entries looking as "usernameTABpassword". This function removes CR and LF at the end of lines before processing. TAB, CR, and LF denote ASCII values 9, 13, and 10, respectively.

Return value: Return GSASL_OK if output buffer contains the password, GSASL_AUTHENTICATION_ERROR if the user could not be found, or other error code.

Definition at line 47 of file md5pwd.c.

7.39.4.36 GSASL_API int gsasl_step (Gsasl_session * *sctx*, const char * *input*, size_t *input_len*, char ** *output*, size_t * *output_len*)

gsasl_step:

Parameters

| | |
|------------------|---------------------------|
| <i>sctx</i> | libgsasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |

| | |
|-------------------|--|
| <i>output</i> | newly allocated output byte array. |
| <i>output_len</i> | pointer to output variable with size of output byte array. |

Perform one step of SASL authentication. This reads data from the other end (from and), processes it (potentially invoking callbacks to the application), and writes data to server (into newly allocated variable and that indicate the length of).

The contents of the buffer is unspecified if this functions returns anything other than GSASL_OK or GSASL_NEEDS_MORE. If this function return GSASL_OK or GSASL_NEEDS_MORE, however, the buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling free ().

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Definition at line 51 of file xstep.c.

7.39.4.37 GSASL_API int gssapi_step64 (Gssapi_session * sctx, const char * b64input, char ** b64output)

gssapi_step64:

Parameters

| | |
|------------------|---|
| <i>sctx</i> | libgssapi client handle. |
| <i>b64input</i> | input base64 encoded byte array. |
| <i>b64output</i> | newly allocated output base64 encoded byte array. |

This is a simple wrapper around [gssapi_step\(\)](#) that base64 decodes the input and base64 encodes the output.

The contents of the buffer is unspecified if this functions returns anything other than GSASL_OK or GSASL_NEEDS_MORE. If this function return GSASL_OK or GSASL_NEEDS_MORE, however, the buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling free ().

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Definition at line 86 of file xstep.c.

7.39.4.38 GSASL_API const char* gssapi_strerror (int err)

gssapi_strerror:

Parameters

| | |
|------------|----------------------|
| <i>err</i> | libgssapi error code |
|------------|----------------------|

Convert return code to human readable string explanation of the reason for the particular error code.

This string can be used to output a diagnostic message to the user.

This function is one of few in the library that can be used without a successful call to [gsasl_init\(\)](#).

Return value: Returns a pointer to a statically allocated string containing an explanation of the error code .

Definition at line 228 of file error.c.

7.39.4.39 GSASL_API const char* gsasl_strerror_name(int err)

gsasl_strerror_name:

Parameters

| | |
|------------|---------------------|
| <i>err</i> | libgsasl error code |
|------------|---------------------|

Convert return code to human readable string representing the error code symbol itself. For example, `gsasl_strerror_name(GSASL_OK)` returns the string "GSASL_OK".

This string can be used to output a diagnostic message to the user.

This function is one of few in the library that can be used without a successful call to [gsasl_init\(\)](#).

Return value: Returns a pointer to a statically allocated string containing a string version of the error code , or NULL if the error code is not known.

Since: 0.2.29

Definition at line 266 of file error.c.

7.39.5 Variable Documentation

7.39.5.1 GSASL_API const char* GSASL_VALID_MECHANISM_CHARACTERS

GSASL_VALID_MECHANISM_CHARACTERS:

A zero-terminated character array, or string, with all ASCII characters that may be used within a SASL mechanism name.

Definition at line 51 of file init.c.

7.40 init.c File Reference

```
#include "internal.h" #include <gc.h> #include "cram-md5/cram-md5.-
h" #include "external/external.h" #include "gssapi/x-gssapi.-
h" #include "gs2/gs2.h" #include "anonymous/anonymous.-
```



```
h" #include "plain/plain.h" #include "securid/securid.h"
#include "digest-md5/digest-md5.h" #include "scram/scram.-
h" #include "saml20/saml20.h" #include "openid20/openid20.-
h" #include "login/login.h" #include "ntlm/x-ntlm.h" ×
#include "kerberos_v5/kerberos_v5.h"
```

Functions

- [int gsasl_init \(Gsasl **ctx\)](#)

Variables

- `const char * GSASL_VALID_MECHANISM_CHARACTERS = "ABCDEFGHJKLMN-
OPQRSTUVWXYZ0123456789-_"`

7.40.1 Function Documentation

7.40.1.1 `int gsasl_init (Gsasl ** ctx)`

gsasl_init:

Parameters

| | |
|------------------|-----------------------------|
| <code>ctx</code> | pointer to libgsasl handle. |
|------------------|-----------------------------|

This functions initializes libgsasl. The handle pointed to by `ctx` is valid for use with other libgsasl functions iff this function is successful. It also register all builtin SASL mechanisms, using [gsasl_register\(\)](#).

Return value: `GSASL_OK` iff successful, otherwise `GSASL_MALLOC_ERROR`.

Definition at line 157 of file `init.c`.

7.40.2 Variable Documentation

7.40.2.1 `const char* GSASL_VALID_MECHANISM_CHARACTERS = "ABCDEFGHJKLMN- OPQRSTUVWXYZ0123456789-_"`

`GSASL_VALID_MECHANISM_CHARACTERS`:

A zero-terminated character array, or string, with all ASCII characters that may be used within a SASL mechanism name.

Definition at line 51 of file `init.c`.

7.41 internal.h File Reference

```
#include "gsasl.h" #include <stdlib.h> #include <string.-  
h>
```

Data Structures

- struct [Gsasl](#)
- struct [Gsasl_session](#)

Functions

- const char * [_gsasl_obsolete_property_map](#)([Gsasl_session](#) *sctx, [Gsasl_property](#) prop)
- int [_gsasl_obsolete_callback](#)([Gsasl](#) *ctx, [Gsasl_session](#) *sctx, [Gsasl_property](#) prop)

7.41.1 Function Documentation

7.41.1.1 int [_gsasl_obsolete_callback](#)([Gsasl](#) * ctx, [Gsasl_session](#) * sctx, [Gsasl_property](#) prop)

Definition at line 2058 of file obsolete.c.

7.41.1.2 const char* [_gsasl_obsolete_property_map](#)([Gsasl_session](#) * sctx, [Gsasl_property](#) prop)

Definition at line 2041 of file obsolete.c.

7.42 kerberos_v5.c File Reference

```
#include "kerberos_v5.h" #include <shishi.h>
```

Defines

- #define [DEBUG](#) 0
- #define [BITMAP_LEN](#) 1
- #define [MAXBUF_LEN](#) 4
- #define [RANDOM_LEN](#) 16
- #define [MUTUAL](#) (1 << 3)
- #define [SERVER_HELLO_LEN](#) [BITMAP_LEN](#) + [MAXBUF_LEN](#) + [RANDOM_LEN](#)
- #define [CLIENT_HELLO_LEN](#) [BITMAP_LEN](#) + [MAXBUF_LEN](#)
- #define [MAXBUF_DEFAULT](#) 65536

7.42.1 Define Documentation

7.42.1.1 #define BITMAP_LEN 1

Definition at line 37 of file kerberos_v5.c.

7.42.1.2 #define CLIENT_HELLO_LEN BITMAP_LEN + MAXBUF_LEN

Definition at line 43 of file kerberos_v5.c.

7.42.1.3 #define DEBUG 0

Definition at line 35 of file kerberos_v5.c.

7.42.1.4 #define MAXBUF_DEFAULT 65536

Definition at line 45 of file kerberos_v5.c.

7.42.1.5 #define MAXBUF_LEN 4

Definition at line 38 of file kerberos_v5.c.

7.42.1.6 #define MUTUAL (1 << 3)

Definition at line 40 of file kerberos_v5.c.

7.42.1.7 #define RANDOM_LEN 16

Definition at line 39 of file kerberos_v5.c.

7.42.1.8 #define SERVER_HELLO_LEN BITMAP_LEN + MAXBUF_LEN + RANDOM_LEN

Definition at line 42 of file kerberos_v5.c.

7.43 kerberos_v5.h File Reference

```
#include "internal.h"
```

Defines

- [#define _GSASL_KERBEROS_V5_NAME](#) "KERBEROS_V5"

Functions

- `int _gsasl_kerberos_v5_client_init (Gsasl *ctx)`
- `int _gsasl_kerberos_v5_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_kerberos_v5_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)`
- `int _gsasl_kerberos_v5_client_encode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)`
- `int _gsasl_kerberos_v5_client_decode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)`
- `int _gsasl_kerberos_v5_client_finish (Gsasl_session *sctx, void *mech_data)`
- `int _gsasl_kerberos_v5_server_init (Gsasl *ctx)`
- `int _gsasl_kerberos_v5_server_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_kerberos_v5_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)`
- `int _gsasl_kerberos_v5_server_encode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)`
- `int _gsasl_kerberos_v5_server_decode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)`
- `int _gsasl_kerberos_v5_server_finish (Gsasl_session *sctx, void *mech_data)`

7.43.1 Define Documentation

7.43.1.1 `#define _GSASL_KERBEROS_V5_NAME "KERBEROS_V5"`

Definition at line 31 of file `kerberos_v5.h`.

7.43.2 Function Documentation

7.43.2.1 `int _gsasl_kerberos_v5_client_decode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 414 of file `kerberos_v5/client.c`.

7.43.2.2 `int _gsasl_kerberos_v5_client_encode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

7.43.2.3 `int _gsasl_kerberos_v5_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 444 of file `kerberos_v5/client.c`.

7.43.2.4 `int _gsasl_kerberos_v5_client_init(Gsasl * ctx)`

7.43.2.5 `int _gsasl_kerberos_v5_client_start(Gsasl_session * sctx, void **
mech_data)`

Definition at line 57 of file `kerberos_v5/client.c`.

7.43.2.6 `int _gsasl_kerberos_v5_client_step(Gsasl_session * sctx, void *
mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 89 of file `kerberos_v5/client.c`.

7.43.2.7 `int _gsasl_kerberos_v5_server_decode(Gsasl_session * sctx, void *
mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 535 of file `kerberos_v5/server.c`.

7.43.2.8 `int _gsasl_kerberos_v5_server_encode(Gsasl_session * sctx, void *
mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 488 of file `kerberos_v5/server.c`.

7.43.2.9 `int _gsasl_kerberos_v5_server_finish(Gsasl_session * sctx, void *
mech_data)`

Definition at line 586 of file `kerberos_v5/server.c`.

7.43.2.10 `int _gsasl_kerberos_v5_server_init(Gsasl * ctx)`

7.43.2.11 `int _gsasl_kerberos_v5_server_start(Gsasl_session * sctx, void **
mech_data)`

Definition at line 65 of file `kerberos_v5/server.c`.

7.43.2.12 `int _gsasl_kerberos_v5_server_step(Gsasl_session * sctx, void *
mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 106 of file `kerberos_v5/server.c`.

7.44 listmech.c File Reference

```
#include "internal.h"
```

Functions

- int [gsasl_client_mechlist](#) (Gsasl *ctx, char **out)
- int [gsasl_server_mechlist](#) (Gsasl *ctx, char **out)

7.44.1 Function Documentation

7.44.1.1 int [gsasl_client_mechlist](#) (Gsasl * ctx, char ** out)

[gsasl_client_mechlist](#):

Parameters

| | |
|------------|---|
| <i>ctx</i> | libgsasl handle. |
| <i>out</i> | newly allocated output character array. |

Return a newly allocated string containing SASL names, separated by space, of mechanisms supported by the libgsasl client. is allocated by this function, and it is the responsibility of caller to deallocate it.

Return value: Returns GSASL_OK if successful, or error code.

Definition at line 74 of file listmech.c.

7.44.1.2 int [gsasl_server_mechlist](#) (Gsasl * ctx, char ** out)

[gsasl_server_mechlist](#):

Parameters

| | |
|------------|---|
| <i>ctx</i> | libgsasl handle. |
| <i>out</i> | newly allocated output character array. |

Return a newly allocated string containing SASL names, separated by space, of mechanisms supported by the libgsasl server. is allocated by this function, and it is the responsibility of caller to deallocate it.

Return value: Returns GSASL_OK if successful, or error code.

Definition at line 93 of file listmech.c.

7.45 login.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_LOGIN_NAME](#) "LOGIN"

Functions

- `int _gsasl_login_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_login_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_login_client_finish (Gsasl_session *sctx, void *mech_data)`
- `int _gsasl_login_server_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_login_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_login_server_finish (Gsasl_session *sctx, void *mech_data)`

Variables

- `Gsasl_mechanism gsasl_login_mechanism`

7.45.1 Define Documentation

7.45.1.1 `#define GSASL_LOGIN_NAME "LOGIN"`

Definition at line 28 of file login.h.

7.45.2 Function Documentation

7.45.2.1 `void _gsasl_login_client_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 102 of file login/client.c.

7.45.2.2 `int _gsasl_login_client_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 42 of file login/client.c.

7.45.2.3 `int _gsasl_login_client_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 58 of file login/client.c.

7.45.2.4 `void _gsasl_login_server_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 149 of file login/server.c.

7.45.2.5 `int _gsasl_login_server_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 47 of file login/server.c.

7.45.2.6 `int gsasl_login_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 61 of file login/server.c.

7.45.3 Variable Documentation

7.45.3.1 `Gsasl_mechanism gsasl_login_mechanism`

Definition at line 30 of file login/mechinfo.c.

7.46 md5pwd.c File Reference

```
#include "internal.h"
```

Functions

- `int gsasl_simple_getpass(const char * filename, const char * username, char ** key)`

7.46.1 Function Documentation

7.46.1.1 `int gsasl_simple_getpass(const char * filename, const char * username, char ** key)`

`gsasl_simple_getpass`:

Parameters

| | |
|-----------------|---|
| <i>filename</i> | filename of file containing passwords. |
| <i>username</i> | username string. |
| <i>key</i> | newly allocated output character array. |

Retrieve password for user from specified file. The buffer contain the password if this function is successful. The caller is responsible for deallocating it.

The file should be on the UoW "MD5 Based Authentication" format, which means it is in text format with comments denoted by # first on the line, with user entries looking as "usernameTABpassword". This function removes CR and LF at the end of lines before processing. TAB, CR, and LF denote ASCII values 9, 13, and 10, respectively.

Return value: Return GSASL_OK if output buffer contains the password, GSASL_AUTHENTICATION_ERROR if the user could not be found, or other error code.

Definition at line 47 of file md5pwd.c.

7.47 mechinfo.c File Reference

```
#include "anonymous.h"
```

Variables

- [Gsasl_mechanism gsasl_anonymous_mechanism](#)

7.47.1 Variable Documentation

7.47.1.1 Gsasl_mechanism gsasl_anonymous_mechanism

Initial value:

```
{
  GSASL_ANONYMOUS_NAME,
  {
    NULL,
    NULL,
    NULL,

    NULL,

    NULL,
    NULL,
    NULL}
  ,
  {
    NULL,
    NULL,
    NULL,

    NULL,

    NULL,
    NULL,
    NULL}
}
```

Definition at line 30 of file anonymous/mechinfo.c.

7.48 mechinfo.c File Reference

```
#include "cram-md5.h"
```

Variables

- [Gsasl_mechanism gsasl_cram_md5_mechanism](#)

7.48.1 Variable Documentation

7.48.1.1 Gsasl_mechanism gsasl_cram_md5_mechanism

Definition at line 30 of file cram-md5/mechinfo.c.

7.49 mechinfo.c File Reference

```
#include "digest-md5.h"
```

Variables

- [Gsasl_mechanism gsasl_digest_md5_mechanism](#)

7.49.1 Variable Documentation

7.49.1.1 Gsasl_mechanism gsasl_digest_md5_mechanism

Definition at line 30 of file digest-md5/mechinfo.c.

7.50 mechinfo.c File Reference

```
#include "external.h"
```

Variables

- [Gsasl_mechanism gsasl_external_mechanism](#)

7.50.1 Variable Documentation

7.50.1.1 Gsasl_mechanism gsasl_external_mechanism

Initial value:

```
{
  GSASL_EXTERNAL_NAME,
  {
    NULL,
    NULL,
    NULL,
  }
}
```

```
    NULL,  
  
    NULL,  
    NULL,  
    NULL}  
,  
{  
    NULL,  
    NULL,  
    NULL,  
  
    NULL,  
  
    NULL,  
    NULL,  
    NULL}  
}
```

Definition at line 30 of file external/mechinfo.c.

7.51 mechinfo.c File Reference

```
#include "gs2.h"
```

Variables

- [Gsasl_mechanism gsasl_gs2_krb5_mechanism](#)

7.51.1 Variable Documentation

7.51.1.1 Gsasl_mechanism gsasl_gs2_krb5_mechanism

Definition at line 30 of file gs2/mechinfo.c.

7.52 mechinfo.c File Reference

```
#include "x-gssapi.h"
```

Variables

- [Gsasl_mechanism gsasl_gssapi_mechanism](#)

7.52.1 Variable Documentation

7.52.1.1 Gsasl_mechanism gsasl_gssapi_mechanism

Definition at line 30 of file gssapi/mechinfo.c.

7.53 mechinfo.c File Reference

```
#include "login.h"
```

Variables

- [Gsasl_mechanism gsasl_login_mechanism](#)

7.53.1 Variable Documentation

7.53.1.1 Gsasl_mechanism gsasl_login_mechanism

Definition at line 30 of file login/mechinfo.c.

7.54 mechinfo.c File Reference

```
#include "x-ntlm.h"
```

Variables

- [Gsasl_mechanism gsasl_ntlm_mechanism](#)

7.54.1 Variable Documentation

7.54.1.1 Gsasl_mechanism gsasl_ntlm_mechanism

Definition at line 30 of file ntlm/mechinfo.c.

7.55 mechinfo.c File Reference

```
#include "openid20.h"
```

Variables

- [Gsasl_mechanism gsasl_openid20_mechanism](#)

7.55.1 Variable Documentation

7.55.1.1 Gsasl_mechanism gsasl_openid20_mechanism

Definition at line 30 of file openid20/mechinfo.c.

7.56 mechinfo.c File Reference

```
#include "plain.h"
```

Variables

- [Gsasl_mechanism gsasl_plain_mechanism](#)

7.56.1 Variable Documentation

7.56.1.1 Gsasl_mechanism gsasl_plain_mechanism

Initial value:

```
{
  GSASL_PLAIN_NAME,
  {
    NULL,
    NULL,
    NULL,

    NULL,

    NULL,
    NULL,
    NULL}
,
{
  NULL,
  NULL,
  NULL,

  NULL,

  NULL,
  NULL,
  NULL}
}
```

```
}
```

Definition at line 30 of file plain/mechinfo.c.

7.57 mechinfo.c File Reference

```
#include "saml20.h"
```

Variables

- [Gsasl_mechanism gsasl_saml20_mechanism](#)

7.57.1 Variable Documentation

7.57.1.1 Gsasl_mechanism gsasl_saml20_mechanism

Definition at line 30 of file saml20/mechinfo.c.

7.58 mechinfo.c File Reference

```
#include "scram.h"
```

7.59 mechinfo.c File Reference

```
#include "securid.h"
```

Variables

- [Gsasl_mechanism gsasl_securid_mechanism](#)

7.59.1 Variable Documentation

7.59.1.1 Gsasl_mechanism gsasl_securid_mechanism

Definition at line 30 of file securid/mechinfo.c.

7.60 mechname.c File Reference

```
#include "internal.h"
```

Functions

- const char * [gsasl_mechanism_name](#) ([Gsasl_session](#) *sctx)

7.60.1 Function Documentation

7.60.1.1 const char* [gsasl_mechanism_name](#)([Gsasl_session](#) * sctx)

[gsasl_mechanism_name](#):

Parameters

| | |
|-------------------|--------------------------|
| <code>sctx</code> | libgsasl session handle. |
|-------------------|--------------------------|

This function returns the name of the SASL mechanism used in the session.

Return value: Returns a zero terminated character array with the name of the SASL mechanism, or NULL if not known.

Since: 0.2.28

Definition at line 38 of file mechname.c.

7.61 mechttools.c File Reference

```
#include "mechttools.h" #include <string.h> #include <stdlib.-
h> #include <stdio.h> #include <gsasl.h>
```

Functions

- int [_gsasl_parse_gs2_header](#) (const char *data, size_t len, char **authzid, size_t *headerlen)
- int [_gsasl_gs2_generate_header](#) (bool nonstd, char cbflag, const char *cbname, const char *authzid, size_t extralen, const char *extra, char **gs2h, size_t *gs2hlen)

7.61.1 Function Documentation

7.61.1.1 int [_gsasl_gs2_generate_header](#) (bool *nonstd*, char *cbflag*, const char * *cbname*, const char * *authzid*, size_t *extralen*, const char * *extra*, char ** *gs2h*, size_t * *gs2hlen*)

Definition at line 168 of file mechttools.c.

7.61.1.2 `int _gsasl_parse_gs2_header(const char * data, size_t len, char ** authzid, size_t * headerlen)`

Definition at line 96 of file mechttools.c.

7.62 mechttools.h File Reference

```
#include <stddef.h> #include <stdbool.h>
```

Functions

- `int _gsasl_parse_gs2_header` (const char *data, size_t len, char **authzid, size_t *headerlen)
- `int _gsasl_gs2_generate_header` (bool nonstd, char cbflag, const char *cbname, const char *authzid, size_t extralen, const char *extra, char **gs2h, size_t *gs2hlen)

7.62.1 Function Documentation

7.62.1.1 `int _gsasl_gs2_generate_header(bool nonstd, char cbflag, const char * cbname, const char * authzid, size_t extralen, const char * extra, char ** gs2h, size_t * gs2hlen)`

Definition at line 168 of file mechttools.c.

7.62.1.2 `int _gsasl_parse_gs2_header(const char * data, size_t len, char ** authzid, size_t * headerlen)`

Definition at line 96 of file mechttools.c.

7.63 nonascii.c File Reference

```
#include "nonascii.h" #include <stdlib.h> #include <string.-h>
```

Functions

- char * `latin1toutf8` (const char *str)
- char * `utf8tolatin1ifpossible` (const char *passwd)

7.63.1 Function Documentation

7.63.1.1 `char* latin1toutf8 (const char * str)`

Definition at line 41 of file nonascii.c.

7.63.1.2 `char* utf8tolatin1ifpossible (const char * passwd)`

Definition at line 69 of file nonascii.c.

7.64 nonascii.h File Reference

Functions

- `char * latin1toutf8 (const char *str)`
- `char * utf8tolatin1ifpossible (const char *passwd)`

7.64.1 Function Documentation

7.64.1.1 `char* latin1toutf8 (const char * str)`

Definition at line 41 of file nonascii.c.

7.64.1.2 `char* utf8tolatin1ifpossible (const char * passwd)`

Definition at line 69 of file nonascii.c.

7.65 ntlm.c File Reference

```
#include <stdlib.h> #include <string.h> #include "x-ntlm.-  
h" #include <ntlm.h>
```

Data Structures

- `struct _Gsassl_ntlm_state`

Typedefs

- `typedef struct _Gsassl_ntlm_state _Gsassl_ntlm_state`

Functions

- `int _gsasl_ntlm_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_ntlm_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_ntlm_client_finish (Gsasl_session *sctx, void *mech_data)`

7.65.1 Typedef Documentation

7.65.1.1 typedef struct _Gsasl_ntlm_state _Gsasl_ntlm_state

Definition at line 42 of file ntlm.c.

7.65.2 Function Documentation

7.65.2.1 void _gsasl_ntlm_client_finish (Gsasl_session * sctx, void * mech_data)

Definition at line 167 of file ntlm.c.

7.65.2.2 int _gsasl_ntlm_client_start (Gsasl_session * sctx, void ** mech_data)

Definition at line 45 of file ntlm.c.

7.65.2.3 int _gsasl_ntlm_client_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 61 of file ntlm.c.

7.66 obsolete.c File Reference

```
#include "internal.h" #include <minmax.h>
```

Defines

- `#define MAX_SECURID 32 /* See RFC 2808. */`

Functions

- `int gsasl_client_listmech (Gsasl *ctx, char *out, size_t *outlen)`
- `int gsasl_server_listmech (Gsasl *ctx, char *out, size_t *outlen)`
- `int gsasl_client_step (Gsasl_session *sctx, const char *input, size_t input_len, char *output, size_t *output_len)`

- int [gsasl_server_step](#) ([Gsasl_session](#) *sctx, const char *input, size_t input_len, char *output, size_t *output_len)
- int [gsasl_client_step_base64](#) ([Gsasl_session](#) *sctx, const char *b64input, char *b64output, size_t b64output_len)
- int [gsasl_server_step_base64](#) ([Gsasl_session](#) *sctx, const char *b64input, char *b64output, size_t b64output_len)
- void [gsasl_client_finish](#) ([Gsasl_session](#) *sctx)
- void [gsasl_server_finish](#) ([Gsasl_session](#) *sctx)
- [Gsasl](#) * [gsasl_client_ctx_get](#) ([Gsasl_session](#) *sctx)
- void [gsasl_client_application_data_set](#) ([Gsasl_session](#) *sctx, void *application_data)
- void * [gsasl_client_application_data_get](#) ([Gsasl_session](#) *sctx)
- [Gsasl](#) * [gsasl_server_ctx_get](#) ([Gsasl_session](#) *sctx)
- void [gsasl_server_application_data_set](#) ([Gsasl_session](#) *sctx, void *application_data)
- void * [gsasl_server_application_data_get](#) ([Gsasl_session](#) *sctx)
- int [gsasl_randomize](#) (int strong, char *data, size_t datalen)
- [Gsasl](#) * [gsasl_ctx_get](#) ([Gsasl_session](#) *sctx)
- int [gsasl_encode_inline](#) ([Gsasl_session](#) *sctx, const char *input, size_t input_len, char *output, size_t *output_len)
- int [gsasl_decode_inline](#) ([Gsasl_session](#) *sctx, const char *input, size_t input_len, char *output, size_t *output_len)
- void [gsasl_application_data_set](#) ([Gsasl](#) *ctx, void *appdata)
- void * [gsasl_application_data_get](#) ([Gsasl](#) *ctx)
- void [gsasl_appinfo_set](#) ([Gsasl_session](#) *sctx, void *appdata)
- void * [gsasl_appinfo_get](#) ([Gsasl_session](#) *sctx)
- const char * [gsasl_server_suggest_mechanism](#) ([Gsasl](#) *ctx, const char *mechlist)
- void [gsasl_client_callback_authentication_id_set](#) ([Gsasl](#) *ctx, [Gsasl_client_callback_authentication_id](#) cb)
- [Gsasl_client_callback_authentication_id](#) [gsasl_client_callback_authentication_id_get](#) ([Gsasl](#) *ctx)
- void [gsasl_client_callback_authorization_id_set](#) ([Gsasl](#) *ctx, [Gsasl_client_callback_authorization_id](#) cb)
- [Gsasl_client_callback_authorization_id](#) [gsasl_client_callback_authorization_id_get](#) ([Gsasl](#) *ctx)
- void [gsasl_client_callback_password_set](#) ([Gsasl](#) *ctx, [Gsasl_client_callback_password](#) cb)
- [Gsasl_client_callback_password](#) [gsasl_client_callback_password_get](#) ([Gsasl](#) *ctx)
- void [gsasl_client_callback_passcode_set](#) ([Gsasl](#) *ctx, [Gsasl_client_callback_passcode](#) cb)
- [Gsasl_client_callback_passcode](#) [gsasl_client_callback_passcode_get](#) ([Gsasl](#) *ctx)
- void [gsasl_client_callback_pin_set](#) ([Gsasl](#) *ctx, [Gsasl_client_callback_pin](#) cb)
- [Gsasl_client_callback_pin](#) [gsasl_client_callback_pin_get](#) ([Gsasl](#) *ctx)
- void [gsasl_client_callback_service_set](#) ([Gsasl](#) *ctx, [Gsasl_client_callback_service](#) cb)

- `Gsasl_client_callback_service` `gsasl_client_callback_service_get` (`Gsasl *ctx`)
- `void gsasl_client_callback_anonymous_set` (`Gsasl *ctx`, `Gsasl_client_callback_anonymous cb`)
- `Gsasl_client_callback_anonymous` `gsasl_client_callback_anonymous_get` (`Gsasl *ctx`)
- `void gsasl_client_callback_qop_set` (`Gsasl *ctx`, `Gsasl_client_callback_qop cb`)
- `Gsasl_client_callback_qop` `gsasl_client_callback_qop_get` (`Gsasl *ctx`)
- `void gsasl_client_callback_maxbuf_set` (`Gsasl *ctx`, `Gsasl_client_callback_maxbuf cb`)
- `Gsasl_client_callback_maxbuf` `gsasl_client_callback_maxbuf_get` (`Gsasl *ctx`)
- `void gsasl_client_callback_realm_set` (`Gsasl *ctx`, `Gsasl_client_callback_realm cb`)
- `Gsasl_client_callback_realm` `gsasl_client_callback_realm_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_validate_set` (`Gsasl *ctx`, `Gsasl_server_callback_validate cb`)
- `Gsasl_server_callback_validate` `gsasl_server_callback_validate_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_retrieve_set` (`Gsasl *ctx`, `Gsasl_server_callback_retrieve cb`)
- `Gsasl_server_callback_retrieve` `gsasl_server_callback_retrieve_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_cram_md5_set` (`Gsasl *ctx`, `Gsasl_server_callback_cram_md5 cb`)
- `Gsasl_server_callback_cram_md5` `gsasl_server_callback_cram_md5_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_digest_md5_set` (`Gsasl *ctx`, `Gsasl_server_callback_digest_md5 cb`)
- `Gsasl_server_callback_digest_md5` `gsasl_server_callback_digest_md5_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_external_set` (`Gsasl *ctx`, `Gsasl_server_callback_external cb`)
- `Gsasl_server_callback_external` `gsasl_server_callback_external_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_anonymous_set` (`Gsasl *ctx`, `Gsasl_server_callback_anonymous cb`)
- `Gsasl_server_callback_anonymous` `gsasl_server_callback_anonymous_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_realm_set` (`Gsasl *ctx`, `Gsasl_server_callback_realm cb`)
- `Gsasl_server_callback_realm` `gsasl_server_callback_realm_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_qop_set` (`Gsasl *ctx`, `Gsasl_server_callback_qop cb`)
- `Gsasl_server_callback_qop` `gsasl_server_callback_qop_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_maxbuf_set` (`Gsasl *ctx`, `Gsasl_server_callback_maxbuf cb`)
- `Gsasl_server_callback_maxbuf` `gsasl_server_callback_maxbuf_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_cipher_set` (`Gsasl *ctx`, `Gsasl_server_callback_cipher cb`)
- `Gsasl_server_callback_cipher` `gsasl_server_callback_cipher_get` (`Gsasl *ctx`)
- `void gsasl_server_callback_secuid_set` (`Gsasl *ctx`, `Gsasl_server_callback_secuid cb`)

- [Gsasl_server_callback_securid](#) [gsasl_server_callback_securid_get](#) ([Gsasl](#) *ctx)
- void [gsasl_server_callback_gssapi_set](#) ([Gsasl](#) *ctx, [Gsasl_server_callback_gssapi](#) cb)
- [Gsasl_server_callback_gssapi](#) [gsasl_server_callback_gssapi_get](#) ([Gsasl](#) *ctx)
- void [gsasl_server_callback_service_set](#) ([Gsasl](#) *ctx, [Gsasl_server_callback_service](#) cb)
- [Gsasl_server_callback_service](#) [gsasl_server_callback_service_get](#) ([Gsasl](#) *ctx)
- char * [gsasl_stringprep_nfkc](#) (const char *in, ssize_t len)
- char * [gsasl_stringprep_saslprep](#) (const char *in, int *stringprep_rc)
- char * [gsasl_stringprep_trace](#) (const char *in, int *stringprep_rc)
- int [gsasl_md5pwd_get_password](#) (const char *filename, const char *username, char *key, size_t *keylen)
- int [gsasl_base64_encode](#) (char const *src, size_t srclength, char *target, size_t targsize)
- int [gsasl_base64_decode](#) (char const *src, char *target, size_t targsize)
- const char * [_gsasl_obsolete_property_map](#) ([Gsasl_session](#) *sctx, [Gsasl_property](#) prop)
- int [_gsasl_obsolete_callback](#) ([Gsasl](#) *ctx, [Gsasl_session](#) *sctx, [Gsasl_property](#) prop)

7.66.1 Define Documentation

7.66.1.1 #define [MAX_SECURID](#) 32 /* See RFC 2808. */

7.66.2 Function Documentation

7.66.2.1 int [_gsasl_obsolete_callback](#) ([Gsasl](#) * ctx, [Gsasl_session](#) * sctx, [Gsasl_property](#) prop)

Definition at line 2058 of file obsolete.c.

7.66.2.2 const char* [_gsasl_obsolete_property_map](#) ([Gsasl_session](#) * sctx, [Gsasl_property](#) prop)

Definition at line 2041 of file obsolete.c.

7.66.2.3 void* [gsasl_appinfo_get](#) ([Gsasl_session](#) * sctx)

[gsasl_appinfo_get](#):

Parameters

| | |
|----------------------|--------------------------|
| sctx | libgsasl session handle. |
|----------------------|--------------------------|

Retrieve application specific data from libgsasl session handle. The application data is set using [gsasl_appinfo_set](#)(. It is normally used by the application to maintain state

between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gsasl_callback_hook_get\(\)](#) instead.

Definition at line 606 of file obsolete.c.

7.66.2.4 void gsasl_appinfo_set(Gsasl_session * sctx, void * appdata)

gsasl_appinfo_set:

Parameters

| | |
|----------------|--|
| <i>sctx</i> | libgsasl session handle. |
| <i>appdata</i> | opaque pointer to application specific data. |

Store application specific data in the libgsasl session handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_appinfo_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gsasl_callback_hook_set\(\)](#) instead.

Definition at line 587 of file obsolete.c.

7.66.2.5 void* gsasl_application_data_get(Gsasl * ctx)

gsasl_application_data_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Retrieve application specific data from libgsasl handle. The application data is set using [gsasl_application_data_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gsasl_callback_hook_get\(\)](#) instead.

Definition at line 568 of file obsolete.c.

7.66.2.6 void gsasl_application_data_set(Gsasl * ctx, void * appdata)

gsasl_application_data_set:

Parameters

| | |
|----------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>appdata</i> | opaque pointer to application specific data. |

Store application specific data in the libgsasl handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_application_data_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gsasl_callback_hook_set\(\)](#) instead.

Definition at line 549 of file obsolete.c.

7.66.2.7 `int gsasl_base64_decode(char const * src, char * target, size_t targsize)`

gsasl_base64_decode:

Parameters

| | |
|-----------------|---------------------------|
| <i>src</i> | input byte array |
| <i>target</i> | output byte array |
| <i>targsize</i> | size of output byte array |

Decode Base64 data. Skips all whitespace anywhere. Converts characters, four at a time, starting at (or after) *src* from Base64 numbers into three 8 bit bytes in the *target* area.

Return value: Returns the number of data bytes stored at the target, or -1 on error.

Deprecated: Use [gsasl_base64_from\(\)](#) instead.

Definition at line 1858 of file obsolete.c.

7.66.2.8 `int gsasl_base64_encode(char const * src, size_t srclength, char * target, size_t targsize)`

gsasl_base64_encode:

Parameters

| | |
|------------------|---------------------------|
| <i>src</i> | input byte array |
| <i>srclength</i> | size of input byte array |
| <i>target</i> | output byte array |
| <i>targsize</i> | size of output byte array |

Encode data as base64. Converts characters, three at a time, starting at *src* into four base64 characters in the *target* area until the entire input buffer is encoded.

Return value: Returns the number of data bytes stored at the target, or -1 on error.

Deprecated: Use [gsasl_base64_to\(\)](#) instead.

Definition at line 1823 of file obsolete.c.

7.66.2.9 void* `gsasl_client_application_data_get`(`Gsasl_session * sctx`)

`gsasl_client_application_data_get`:

Parameters

| | |
|-------------------|-------------------------|
| <code>sctx</code> | libgsasl client handle. |
|-------------------|-------------------------|

Retrieve application specific data from libgsasl client handle. The application data is set using [gsasl_client_application_data_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gsasl_callback_hook_get\(\)](#) or [gsasl_session_hook_get\(\)](#) instead.

Definition at line 356 of file `obsolete.c`.

7.66.2.10 void `gsasl_client_application_data_set`(`Gsasl_session * sctx`, void * `application_data`)

`gsasl_client_application_data_set`:

Parameters

| | |
|-------------------------------|--|
| <code>sctx</code> | libgsasl client handle. |
| <code>application_data</code> | opaque pointer to application specific data. |

Store application specific data in the libgsasl client handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_client_application_data_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gsasl_callback_hook_set\(\)](#) or [gsasl_session_hook_set\(\)](#) instead.

Definition at line 335 of file `obsolete.c`.

7.66.2.11 `Gsasl_client_callback_anonymous` `gsasl_client_callback_anonymous_get`(`Gsasl * ctx`)

`gsasl_client_callback_anonymous_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_anonymous_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_anonymous_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 931 of file obsolete.c.

7.66.2.12 `void gsasl_client_callback_anonymous_set (Gsasl * ctx,
Gsasl_client_callback_anonymous cb)`

`gsasl_client_callback_anonymous_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the client to set the anonymous token, which usually is the users email address. The function can be later retrieved using [gsasl_client_callback_anonymous_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 909 of file obsolete.c.

7.66.2.13 `Gsasl_client_callback_authentication_id gsasl_-
client_callback_authentication_id_get (Gsasl * ctx
)`

`gsasl_client_callback_authentication_id_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_authentication_id_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_authentication_id_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 670 of file obsolete.c.

7.66.2.14 `void gsasl_client_callback_authentication_id_set (Gsasl * ctx,
Gsasl_client_callback_authentication_id cb)`

`gsasl_client_callback_authentication_id_set`:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the authentication identity. The function can be later retrieved using [gsasl_client_callback_authentication_id_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 647 of file obsolete.c.

7.66.2.15 **Gsasl_client_callback_authorization_id** [gsasl_client_callback_authorization_id_get](#) (**Gsasl * ctx**)

[gsasl_client_callback_authorization_id_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_authorization_id_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_authorization_id_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 713 of file obsolete.c.

7.66.2.16 **void** [gsasl_client_callback_authorization_id_set](#) (**Gsasl * ctx**, **Gsasl_client_callback_authorization_id cb**)

[gsasl_client_callback_authorization_id_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the authorization identity. The function can be later retrieved using [gsasl_client_callback_authorization_id_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 690 of file obsolete.c.

7.66.2.17 `Gsasl_client_callback_maxbuf` `gsasl_client_callback_maxbuf_get` (`Gsasl * ctx`)

`gsasl_client_callback_maxbuf_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_maxbuf_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_maxbuf_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1017 of file `obsolete.c`.

7.66.2.18 `void gsasl_client_callback_maxbuf_set` (`Gsasl * ctx`, `Gsasl_client_callback_maxbuf cb`)

`gsasl_client_callback_maxbuf_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the client to inform the server of the largest buffer the client is able to receive when using the DIGEST-MD5 "auth-int" or "auth-conf" Quality of Protection (qop). If this directive is missing, the default value 65536 will be assumed. The function can be later retrieved using [gsasl_client_callback_maxbuf_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 995 of file `obsolete.c`.

7.66.2.19 `Gsasl_client_callback_passcode` `gsasl_client_callback_passcode_get` (`Gsasl * ctx`)

`gsasl_client_callback_passcode_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_passcode_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_passcode_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 799 of file obsolete.c.

```
7.66.2.20 void gsasl_client_callback_passcode_set ( Gsasl * ctx,
          Gsasl_client_callback_passcode cb )
```

gsasl_client_callback_passcode_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the passcode. The function can be later retrieved using [gsasl_client_callback_passcode_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 776 of file obsolete.c.

```
7.66.2.21 Gsasl_client_callback_password gsasl_client_callback_password_get (
          Gsasl * ctx )
```

gsasl_client_callback_password_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_password_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_password_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 756 of file obsolete.c.

```
7.66.2.22 void gsasl_client_callback_password_set ( Gsasl * ctx,
          Gsasl_client_callback_password cb )
```

gsasl_client_callback_password_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the password. The function can be later retrieved using [gsasl_client_callback_password_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 733 of file obsolete.c.

7.66.2.23 **Gsasl_client_callback_pin** [gsasl_client_callback_pin_get](#)(**Gsasl * ctx**)

[gsasl_client_callback_pin_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_pin_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_pin_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 843 of file obsolete.c.

7.66.2.24 **void gsasl_client_callback_pin_set**(**Gsasl * ctx**,
Gsasl_client_callback_pin cb)

[gsasl_client_callback_pin_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to chose a new pin, possibly suggested by the server, for the SECURID mechanism. This is not normally invoked, but only when the server requests it. The function can be later retrieved using [gsasl_client_callback_pin_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 821 of file obsolete.c.

7.66.2.25 **Gsasl_client_callback_qop** `gsasl_client_callback_qop_get(Gsasl * ctx)`

`gsasl_client_callback_qop_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_qop_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_qop_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 972 of file `obsolete.c`.

7.66.2.26 **void gsasl_client_callback_qop_set(Gsasl * ctx, Gsasl_client_callback_qop cb)**

`gsasl_client_callback_qop_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the client to determine the qop to use after looking at what the server offered. The function can be later retrieved using [gsasl_client_callback_qop_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 951 of file `obsolete.c`.

7.66.2.27 **Gsasl_client_callback_realm** `gsasl_client_callback_realm_get(Gsasl * ctx)`

`gsasl_client_callback_realm_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_realm_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_realm_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1059 of file obsolete.c.

7.66.2.28 void [gsasl_client_callback_realm_set](#) (*Gsasl * ctx*,
Gsasl_client_callback_realm cb)

[gsasl_client_callback_realm_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to know which realm it belongs to. The realm is used by the server to determine which username and password to use. The function can be later retrieved using [gsasl_client_callback_realm_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1038 of file obsolete.c.

7.66.2.29 *Gsasl_client_callback_service* [gsasl_client_callback_service_get](#) (
*Gsasl * ctx*)

[gsasl_client_callback_service_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_client_callback_service_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_client_callback_service_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 888 of file obsolete.c.

7.66.2.30 void [gsasl_client_callback_service_set](#) (*Gsasl * ctx*,
Gsasl_client_callback_service cb)

[gsasl_client_callback_service_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the client to set the name of the service. The service buffer should be a registered GSSAPI host-based service name, hostname the name of the server. Servicename is used by DIGEST-MD5 and should be the name of generic server in case of a replicated service. The function can be later retrieved using [gsasl_client_callback_service_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 866 of file obsolete.c.

7.66.2.31 Gsasl* gsasl_client_ctx_get(Gsasl_session * sctx)

gsasl_client_ctx_get:

Parameters

| | |
|-------------|------------------------|
| <i>sctx</i> | libgsasl client handle |
|-------------|------------------------|

Get the libgsasl handle given a libgsasl client handle.

Return value: Returns the libgsasl handle given a libgsasl client handle.

Deprecated: This function is not useful with the new 0.2.0 API.

Definition at line 315 of file obsolete.c.

7.66.2.32 void gsasl_client_finish(Gsasl_session * sctx)

gsasl_client_finish:

Parameters

| | |
|-------------|-------------------------|
| <i>sctx</i> | libgsasl client handle. |
|-------------|-------------------------|

Destroy a libgsasl client handle. The handle must not be used with other libgsasl functions after this call.

Deprecated: Use [gsasl_finish\(\)](#) instead.

Definition at line 284 of file obsolete.c.

7.66.2.33 int gsasl_client_listmech(Gsasl * ctx, char * out, size_t * outlen)

gsasl_client_listmech:

Parameters

| | |
|---------------|---|
| <i>ctx</i> | libgsasl handle. |
| <i>out</i> | output character array. |
| <i>outlen</i> | input maximum size of output character array, on output contains actual length of output array. |

Write SASL names, separated by space, of mechanisms supported by the libgsasl client to the output array. To find out how large the output array must be, call this function with a NULL parameter.

Return value: Returns GSASL_OK if successful, or error code.

Deprecated: Use [gsasl_client_mechlist\(\)](#) instead.

Definition at line 46 of file obsolete.c.

7.66.2.34 `int gsasl_client_step (Gsasl_session * sctx, const char * input, size_t input_len, char * output, size_t * output_len)`

gsasl_client_step:

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgsasl client handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Perform one step of SASL authentication in client. This reads data from server (specified with input and input_len), processes it (potentially invoking callbacks to the application), and writes data to server (into variables output and output_len).

The contents of the output buffer is unspecified if this functions returns anything other than GSASL_NEEDS_MORE.

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Deprecated: Use [gsasl_step\(\)](#) instead.

Definition at line 167 of file obsolete.c.

7.66.2.35 `int gsasl_client_step_base64 (Gsasl_session * sctx, const char * b64input, char * b64output, size_t b64output_len)`

gsasl_client_step_base64:

Parameters

| | |
|-----------------|----------------------------------|
| <i>sctx</i> | libgsasl client handle. |
| <i>b64input</i> | input base64 encoded byte array. |

| | |
|----------------------|---|
| <i>b64output</i> | output base64 encoded byte array. |
| <i>b64output_len</i> | size of output base64 encoded byte array. |

This is a simple wrapper around [gsasl_client_step\(\)](#) that base64 decodes the input and base64 encodes the output.

Return value: See [gsasl_client_step\(\)](#).

Deprecated: Use [gsasl_step64\(\)](#) instead.

Definition at line 245 of file obsolete.c.

7.66.2.36 Gsasl* gsasl_ctx_get(Gsasl_session * sctx)

gsasl_ctx_get:

Parameters

| | |
|-------------|-------------------------|
| <i>sctx</i> | libgsasl session handle |
|-------------|-------------------------|

Get the libgsasl handle given a libgsasl session handle.

Return value: Returns the libgsasl handle given a libgsasl session handle.

Deprecated: This function is not useful with the new 0.2.0 API.

Definition at line 450 of file obsolete.c.

7.66.2.37 int gsasl_decode_inline(Gsasl_session * sctx, const char * input, size_t input_len, char * output, size_t * output_len)

gsasl_decode_inline:

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgsasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Decode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

Return value: Returns GSASL_OK if encoding was successful, otherwise an error code.

Deprecated: Use [gsasl_decode\(\)](#) instead.

Since: 0.2.0

Definition at line 514 of file obsolete.c.

7.66.2.38 `int gsasl_encode_inline(Gsasl_session * sctx, const char * input, size_t input_len, char * output, size_t * output_len)`

gsasl_encode_inline:

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgsasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Encode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

Return value: Returns GSASL_OK if encoding was successful, otherwise an error code.

Deprecated: Use [gsasl_encode\(\)](#) instead.

Since: 0.2.0

Definition at line 474 of file obsolete.c.

7.66.2.39 `int gsasl_md5pwd_get_password(const char * filename, const char * username, char * key, size_t * keylen)`

gsasl_md5pwd_get_password:

Parameters

| | |
|-----------------|---|
| <i>filename</i> | filename of file containing passwords. |
| <i>username</i> | username string. |
| <i>key</i> | output character array. |
| <i>keylen</i> | input maximum size of output character array, on output contains actual length of output array. |

Retrieve password for user from specified file. To find out how large the output array must be, call this function with out=NULL.

The file should be on the UoW "MD5 Based Authentication" format, which means it is in text format with comments denoted by # first on the line, with user entries looking as "usernameTABpassword". This function removes CR and LF at the end of lines before processing. TAB, CR, and LF denote ASCII values 9, 13, and 10, respectively.

Return value: Return GSASL_OK if output buffer contains the password, GSASL_AUTHENTICATION_ERROR if the user could not be found, or other error code.

Deprecated: Use [gsasl_simple_getpass\(\)](#) instead.

Definition at line 1769 of file obsolete.c.

7.66.2.40 `int gsasl_randomize (int strong, char * data, size_t datalen)`

`gsasl_randomize`:

Parameters

| | |
|----------------|---|
| <i>strong</i> | 0 iff operation should not block, non-0 for very strong randomness. |
| <i>data</i> | output array to be filled with random data. |
| <i>datalen</i> | size of output array. |

Store cryptographically random data of given size in the provided buffer.

Return value: Returns GSASL_OK iff successful.

Deprecated: Use [gsasl_random\(\)](#) or [gsasl_nonce\(\)](#) instead.

Definition at line 432 of file `obsolete.c`.

7.66.2.41 `void* gsasl_server_application_data_get (Gsasl_session * sctx)`

`gsasl_server_application_data_get`:

Parameters

| | |
|-------------|-------------------------|
| <i>sctx</i> | libgsasl server handle. |
|-------------|-------------------------|

Retrieve application specific data from libgsasl server handle. The application data is set using [gsasl_server_application_data_set\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Return value: Returns the application specific data, or NULL.

Deprecated: Use [gsasl_callback_hook_get\(\)](#) or [gsasl_session_hook_get\(\)](#) instead.

Definition at line 413 of file `obsolete.c`.

7.66.2.42 `void gsasl_server_application_data_set (Gsasl_session * sctx, void * application_data)`

`gsasl_server_application_data_set`:

Parameters

| | |
|-------------------------|--|
| <i>sctx</i> | libgsasl server handle. |
| <i>application_data</i> | opaque pointer to application specific data. |

Store application specific data in the libgsasl server handle. The application data can be later (for instance, inside a callback) be retrieved by calling [gsasl_server_application_data_get\(\)](#). It is normally used by the application to maintain state between the main program and the callback.

Deprecated: Use [gsasl_callback_hook_set\(\)](#) or [gsasl_session_hook_set\(\)](#) instead.

Definition at line 392 of file obsolete.c.

7.66.2.43 Gsasl_server_callback_anonymous gsasl_server_callback_anonymous_get (Gsasl * ctx)

gsasl_server_callback_anonymous_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_anonymous_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_anonymous_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1315 of file obsolete.c.

7.66.2.44 void gsasl_server_callback_anonymous_set (Gsasl * ctx, Gsasl_server_callback_anonymous cb)

gsasl_server_callback_anonymous_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is permitted anonymous access. The function can be later retrieved using [gsasl_server_callback_anonymous_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1293 of file obsolete.c.

7.66.2.45 Gsasl_server_callback_cipher gsasl_server_callback_cipher_get (Gsasl * ctx)

gsasl_server_callback_cipher_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_cipher_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_cipher_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1489 of file obsolete.c.

7.66.2.46 `void gsasl_server_callback_cipher_set (Gsasl * ctx,
Gsasl_server_callback_cipher cb)`

`gsasl_server_callback_cipher_set:`

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server to inform the client of the cipher suites supported. The DES and 3DES ciphers must be supported for interoperability. It is currently used by the DIGEST-MD5 mechanism. The function can be later retrieved using [gsasl_server_callback_cipher_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1467 of file obsolete.c.

7.66.2.47 `Gsasl_server_callback_cram_md5 gsasl_server_callback_cram_md5_
get (Gsasl * ctx)`

`gsasl_server_callback_cram_md5_get:`

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_cram_md5_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_cram_md5_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1188 of file obsolete.c.

7.66.2.48 `void gssasl_server_callback_cram_md5_set (Gssasl * ctx,
Gssasl_server_callback_cram_md5 cb)`

`gssasl_server_callback_cram_md5_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgssasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated using CRAM-MD5 challenge and response. The function can be later retrieved using [gssasl_server_callback_cram_md5_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssasl_callback_set\(\)](#) to set the application callback, and uses [gssasl_callback\(\)](#) or [gssasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1166 of file `obsolete.c`.

7.66.2.49 `Gssasl_server_callback_digest_md5 gssasl_server_callback_digest_md5_get (Gssasl * ctx)`

`gssasl_server_callback_digest_md5_get`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgssasl handle. |
|------------------|-------------------|

Get the callback earlier set by calling [gssasl_server_callback_digest_md5_set\(\)](#).

Return value: Return the callback earlier set by calling [gssasl_server_callback_digest_md5_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gssasl_callback_set\(\)](#) to set the application callback, and uses [gssasl_callback\(\)](#) or [gssasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1231 of file `obsolete.c`.

7.66.2.50 `void gssasl_server_callback_digest_md5_set (Gssasl * ctx,
Gssasl_server_callback_digest_md5 cb)`

`gssasl_server_callback_digest_md5_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgssasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server for retrieving the secret hash of the username, realm and password for use in the DIGEST-MD5 mechanism. The function

can be later retrieved using [gsasl_server_callback_digest_md5_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1209 of file obsolete.c.

7.66.251 Gsasl_server_callback_external [gsasl_server_callback_external_get\(Gsasl * ctx \)](#)

[gsasl_server_callback_external_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_external_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_external_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1273 of file obsolete.c.

7.66.252 void gsasl_server_callback_external_set (Gsasl * ctx, Gsasl_server_callback_external cb)

[gsasl_server_callback_external_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated out of band. The function can be later retrieved using [gsasl_server_callback_external_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1251 of file obsolete.c.

7.66.253 Gsasl_server_callback_gssapi [gsasl_server_callback_gssapi_get\(Gsasl * ctx \)](#)

[gsasl_server_callback_gssapi_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_gssapi_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_gssapi_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1583 of file obsolete.c.

7.66.2.54 void [gsasl_server_callback_gssapi_set](#) (**Gsasl** * *ctx*,
Gsasl_server_callback_gssapi *cb*)

[gsasl_server_callback_gssapi_set](#):

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for checking if a GSSAPI user is authorized for username (by, e.g., calling `krb5_kuserok`). The function should return `GSASL_OK` if the user should be permitted access, or an error code such as `GSASL_AUTHENTICATION_ERROR` on failure. The function can be later retrieved using [gsasl_server_callback_gssapi_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1561 of file obsolete.c.

7.66.2.55 **Gsasl_server_callback_maxbuf** [gsasl_server_callback_maxbuf_get](#) (
Gsasl * *ctx*)

[gsasl_server_callback_maxbuf_get](#):

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_maxbuf_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_maxbuf_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1445 of file obsolete.c.

7.66.2.56 void `gsasl_server_callback_maxbuf_set` (`Gsasl * ctx`,
`Gsasl_server_callback_maxbuf cb`)

`gsasl_server_callback_maxbuf_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server to inform the client of the largest buffer the server is able to receive when using the DIGEST-MD5 "auth-int" or "auth-conf" Quality of Protection (qop). If this directive is missing, the default value 65536 will be assumed. The function can be later retrieved using [gsasl_server_callback_maxbuf_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1423 of file obsolete.c.

7.66.2.57 `Gsasl_server_callback_qop` `gsasl_server_callback_qop_get` (`Gsasl *`
`ctx`)

`gsasl_server_callback_qop_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_qop_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_qop_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1400 of file obsolete.c.

7.66.2.58 void `gsasl_server_callback_qop_set` (`Gsasl * ctx`,
`Gsasl_server_callback_qop cb`)

`gsasl_server_callback_qop_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server to know which quality of protection it accepts. The quality of protection eventually used is selected by the client though. It is currently used by the DIGEST-MD5 mechanism. The function can be later retrieved using [gsasl_server_callback_qop_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1379 of file `obsolete.c`.

7.66.2.59 `Gsasl_server_callback_realm` [gsasl_server_callback_realm_get](#)(`Gsasl * ctx`)

`gsasl_server_callback_realm_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_realm_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_realm_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1357 of file `obsolete.c`.

7.66.2.60 `void` [gsasl_server_callback_realm_set](#)(`Gsasl * ctx`, `Gsasl_server_callback_realm cb`)

`gsasl_server_callback_realm_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server to know which realm it serves. The realm is used by the user to determine which username and password to use. The function can be later retrieved using [gsasl_server_callback_realm_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1336 of file `obsolete.c`.

7.66.2.61 Gsasl_server_callback_retrieve `gsasl_server_callback_retrieve_get (Gsasl * ctx)`

`gsasl_server_callback_retrieve_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_retrieve_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_retrieve_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1145 of file `obsolete.c`.

7.66.2.62 void gsasl_server_callback_retrieve_set (`Gsasl * ctx, Gsasl_server_callback_retrieve cb`)

`gsasl_server_callback_retrieve_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated using authentication identity, authorization identity and password. The function can be later retrieved using [gsasl_server_callback_retrieve_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1123 of file `obsolete.c`.

7.66.2.63 Gsasl_server_callback_secuid `gsasl_server_callback_secuid_get (Gsasl * ctx)`

`gsasl_server_callback_secuid_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_secuid_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_secuid_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1538 of file obsolete.c.

```
7.66.2.64 void gsasl_server_callback_securid_set ( Gsasl * ctx,
          Gsasl_server_callback_securid cb )
```

gsasl_server_callback_securid_set:

Parameters

| | |
|------------|-------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>cb</i> | callback function |

Specify the callback function to use in the server for validating a user via the SECURID mechanism. The function should return GSASL_OK if user authenticated successfully, GSASL_SECURID_SERVER_NEED_ADDITIONAL_PASSCODE if it wants another passcode, GSASL_SECURID_SERVER_NEED_NEW_PIN if it wants a PIN change, or an error. When (and only when) GSASL_SECURID_SERVER_NEED_NEW_PIN is returned, suggestpin can be populated with a PIN code the server suggests, and suggestpinlen set to the length of the PIN. The function can be later retrieved using [gsasl_server_callback_securid_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1516 of file obsolete.c.

```
7.66.2.65 Gsasl_server_callback_service gsasl_server_callback_service_get (
          Gsasl * ctx )
```

gsasl_server_callback_service_get:

Parameters

| | |
|------------|------------------|
| <i>ctx</i> | libgsasl handle. |
|------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_service_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_service_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1627 of file obsolete.c.

7.66.2.66 `void gsasl_server_callback_service_set (Gsasl * ctx,
Gsasl_server_callback_service cb)`

`gsasl_server_callback_service_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server to set the name of the service. The service buffer should be a registered GSSAPI host-based service name, hostname the name of the server. The function can be later retrieved using [gsasl_server_callback_service_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1605 of file `obsolete.c`.

7.66.2.67 `Gsasl_server_callback_validate gsasl_server_callback_validate_get (Gsasl * ctx)`

`gsasl_server_callback_validate_get`:

Parameters

| | |
|------------------|------------------|
| <code>ctx</code> | libgsasl handle. |
|------------------|------------------|

Get the callback earlier set by calling [gsasl_server_callback_validate_set\(\)](#).

Return value: Returns the callback earlier set by calling [gsasl_server_callback_validate_set\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1102 of file `obsolete.c`.

7.66.2.68 `void gsasl_server_callback_validate_set (Gsasl * ctx,
Gsasl_server_callback_validate cb)`

`gsasl_server_callback_validate_set`:

Parameters

| | |
|------------------|-------------------|
| <code>ctx</code> | libgsasl handle. |
| <code>cb</code> | callback function |

Specify the callback function to use in the server for deciding if user is authenticated using authentication identity, authorization identity and password. The function can be later retrieved using [gsasl_server_callback_validate_get\(\)](#).

Deprecated: This function is part of the old callback interface. The new interface uses [gsasl_callback_set\(\)](#) to set the application callback, and uses [gsasl_callback\(\)](#) or [gsasl_property_get\(\)](#) to invoke the callback for certain properties.

Definition at line 1080 of file obsolete.c.

7.66.2.69 Gsasl* gsasl_server_ctx_get(Gsasl_session * sctx)

gsasl_server_ctx_get:

Parameters

| | |
|-------------|------------------------|
| <i>sctx</i> | libgsasl server handle |
|-------------|------------------------|

Get the libgsasl handle given a libgsasl server handle.

Return value: Returns the libgsasl handle given a libgsasl server handle.

Deprecated: This function is not useful with the new 0.2.0 API.

Definition at line 372 of file obsolete.c.

7.66.2.70 void gsasl_server_finish(Gsasl_session * sctx)

gsasl_server_finish:

Parameters

| | |
|-------------|-------------------------|
| <i>sctx</i> | libgsasl server handle. |
|-------------|-------------------------|

Destroy a libgsasl server handle. The handle must not be used with other libgsasl functions after this call.

Deprecated: Use [gsasl_finish\(\)](#) instead.

Definition at line 299 of file obsolete.c.

7.66.2.71 int gsasl_server_listmech(Gsasl * ctx, char * out, size_t * outlen)

gsasl_server_listmech:

Parameters

| | |
|---------------|---|
| <i>ctx</i> | libgsasl handle. |
| <i>out</i> | output character array. |
| <i>outlen</i> | input maximum size of output character array, on output contains actual length of output array. |

Write SASL names, separated by space, of mechanisms supported by the libgsasl server to the output array. To find out how large the output array must be, call this function with a NULL parameter.

Return value: Returns GSASL_OK if successful, or error code.

Deprecated: Use [gsasl_server_mechlist\(\)](#) instead.

Definition at line 89 of file obsolete.c.

7.66.2.72 `int gsasl_server_step(Gsasl_session * sctx, const char * input, size_t input_len, char * output, size_t * output_len)`

gsasl_server_step:

Parameters

| | |
|-------------------|----------------------------|
| <i>sctx</i> | libgsasl server handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | output byte array. |
| <i>output_len</i> | size of output byte array. |

Perform one step of SASL authentication in server. This reads data from client (specified with *input* and *input_len*), processes it (potentially invoking callbacks to the application), and writes data to client (into variables *output* and *output_len*).

The contents of the output buffer is unspecified if this functions returns anything other than GSASL_NEEDS_MORE.

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Deprecated: Use [gsasl_step\(\)](#) instead.

Definition at line 197 of file obsolete.c.

7.66.2.73 `int gsasl_server_step_base64(Gsasl_session * sctx, const char * b64input, char * b64output, size_t b64output_len)`

gsasl_server_step_base64:

Parameters

| | |
|----------------------|---|
| <i>sctx</i> | libgsasl server handle. |
| <i>b64input</i> | input base64 encoded byte array. |
| <i>b64output</i> | output base64 encoded byte array. |
| <i>b64output_len</i> | size of output base64 encoded byte array. |

This is a simple wrapper around [gsasl_server_step\(\)](#) that base64 decodes the input and base64 encodes the output.

Return value: See [gsasl_server_step\(\)](#).

Deprecated: Use [gsasl_step64\(\)](#) instead.

Definition at line 267 of file obsolete.c.

7.66.2.74 `const char* gsasl_server_suggest_mechanism (Gsasl * ctx, const char * meclist)`

`gsasl_server_suggest_mechanism`:

Parameters

| | |
|----------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>meclist</i> | input character array with SASL mechanism names, separated by invalid characters (e.g. SPC). |

Get name of "best" SASL mechanism supported by the libgsasl server which is present in the input string.

Return value: Returns name of "best" SASL mechanism supported by the libgsasl server which is present in the input string.

Deprecated: This function was never useful, since it is the client that chose which mechanism to use.

Definition at line 627 of file obsolete.c.

7.66.2.75 `char* gsasl_stringprep_nfkc (const char * in, ssize_t len)`

`gsasl_stringprep_nfkc`:

Parameters

| | |
|------------|---|
| <i>in</i> | a UTF-8 encoded string. |
| <i>len</i> | length of <i>in</i> , in bytes, or -1 if is nul-terminated. |

Converts a string into canonical form, standardizing such issues as whether a character with an accent is represented as a base character and combining accent or as a single precomposed character.

The normalization mode is NFKC (ALL COMPOSE). It standardizes differences that do not affect the text content, such as the above-mentioned accent representation. It standardizes the "compatibility" characters in Unicode, such as SUPERSCRIPT THREE to the standard forms (in this case DIGIT THREE). Formatting information may be lost but for most text operations such characters should be considered the same. It returns a result with composed forms rather than a maximally decomposed form.

Return value: Return a newly allocated string, that is the NFKC normalized form of *in*, or NULL on error.

Deprecated: No replacement functionality in GNU SASL, use GNU Libidn instead. - Note that in SASL, you most likely want to use SASLprep and not bare NFKC, see

[gsasl_saslprep\(\)](#).

Definition at line 1663 of file obsolete.c.

7.66.2.76 `char* gsasl_stringprep_saslprep(const char * in, int * stringprep_rc)`

`gsasl_stringprep_saslprep`:

Parameters

| | |
|----------------------|--|
| <i>in</i> | input ASCII or UTF-8 string with data to prepare according to SASLprep. |
| <i>stringprep_rc</i> | pointer to output variable with stringprep error code, or NULL to indicate that you don't care about it. |

Process a Unicode string for comparison, according to the "SASLprep" stringprep profile. This function is intended to be used by Simple Authentication and Security Layer (SASL) mechanisms (such as PLAIN, CRAM-MD5, and DIGEST-MD5) as well as other protocols exchanging user names and/or passwords.

Return value: Return a newly allocated string that is the "SASLprep" processed form of the input string, or NULL on error, in which case contain the stringprep library error code.

Deprecated: Use [gsasl_saslprep\(\)](#) instead.

Definition at line 1694 of file obsolete.c.

7.66.2.77 `char* gsasl_stringprep_trace(const char * in, int * stringprep_rc)`

`gsasl_stringprep_trace`:

Parameters

| | |
|----------------------|--|
| <i>in</i> | input ASCII or UTF-8 string with data to prepare according to "trace". |
| <i>stringprep_rc</i> | pointer to output variable with stringprep error code, or NULL to indicate that you don't care about it. |

Process a Unicode string for use as trace information, according to the "trace" stringprep profile. The profile is designed for use with the SASL ANONYMOUS Mechanism.

Return value: Return a newly allocated string that is the "trace" processed form of the input string, or NULL on error, in which case contain the stringprep library error code.

Deprecated: No replacement functionality in GNU SASL, use GNU Libidn instead.

Definition at line 1728 of file obsolete.c.

7.67 openid20.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_OPENID20_NAME](#) "OPENID20"

Functions

- int [_gsasl_openid20_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_openid20_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_openid20_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)
- int [_gsasl_openid20_server_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_openid20_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_openid20_server_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

Variables

- [Gsasl_mechanism_gsasl_openid20_mechanism](#)

7.67.1 Define Documentation

7.67.1.1 #define [GSASL_OPENID20_NAME](#) "OPENID20"

Definition at line 28 of file openid20.h.

7.67.2 Function Documentation

7.67.2.1 void [_gsasl_openid20_client_finish](#)([Gsasl_session](#) * *sctx*, void * *mech_data*)

Definition at line 164 of file openid20/client.c.

7.67.2.2 int [_gsasl_openid20_client_start](#)([Gsasl_session](#) * *sctx*, void ** *mech_data*)

Definition at line 48 of file openid20/client.c.

7.67.2.3 `int _gsasl_openid20_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 62 of file openid20/client.c.

7.67.2.4 `void _gsasl_openid20_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 186 of file openid20/server.c.

7.67.2.5 `int _gsasl_openid20_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 46 of file openid20/server.c.

7.67.2.6 `int _gsasl_openid20_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 60 of file openid20/server.c.

7.67.3 Variable Documentation

7.67.3.1 `Gsasl_mechanism gsasl_openid20_mechanism`

Definition at line 30 of file openid20/mechinfo.c.

7.68 parser.c File Reference

```
#include "parser.h" #include <stdlib.h> #include <string.-
h> #include "validate.h"
```

Defines

- #define `DEFAULT_CHARSET` "utf-8"
- #define `DEFAULT_ALGORITHM` "md5-sess"

Enumerations

- enum { `CHALLENGE_REALM` = 0, `CHALLENGE_NONCE`, `CHALLENGE_QOP`, `CHALLENGE_STALE`, `CHALLENGE_MAXBUF`, `CHALLENGE_CHARSET`, `CHALLENGE_ALGORITHM`, `CHALLENGE_CIPHER` }
- enum { `QOP_AUTH` = 0, `QOP_AUTH_INT`, `QOP_AUTH_CONF` }

- enum { CIPHER_DES = 0, CIPHER_3DES, CIPHER_RC4, CIPHER_RC4_40, CIPHER_RC4_56, CIPHER_AES_CBC }
- enum { RESPONSE_USERNAME = 0, RESPONSE_REALM, RESPONSE_NONCE, RESPONSE_CNONCE, RESPONSE_NC, RESPONSE_QOP, RESPONSE_DIGEST_URI, RESPONSE_RESPONSE, RESPONSE_MAXBUF, RESPONSE_CHARSET, RESPONSE_CIPHER, RESPONSE_AUTHZID }
- enum { RESPONSEAUTH_RSPAUTH = 0 }

Functions

- int `digest_md5_parse_challenge` (const char *challenge, size_t len, `digest_md5_challenge` *out)
- int `digest_md5_parse_response` (const char *response, size_t len, `digest_md5_response` *out)
- int `digest_md5_parse_finish` (const char *finish, size_t len, `digest_md5_finish` *out)

7.68.1 Define Documentation

7.68.1.1 #define DEFAULT_ALGORITHM "md5-sess"

Definition at line 40 of file digest-md5/parser.c.

7.68.1.2 #define DEFAULT_CHARSET "utf-8"

Definition at line 39 of file digest-md5/parser.c.

7.68.2 Enumeration Type Documentation

7.68.2.1 anonymous enum

Enumerator:

CHALLENGE_REALM
CHALLENGE_NONCE
CHALLENGE_QOP
CHALLENGE_STALE
CHALLENGE_MAXBUF
CHALLENGE_CHARSET
CHALLENGE_ALGORITHM
CHALLENGE_CIPHER

Definition at line 42 of file digest-md5/parser.c.

7.68.2.2 anonymous enum

Enumerator:

QOP_AUTH
QOP_AUTH_INT
QOP_AUTH_CONF

Definition at line 69 of file digest-md5/parser.c.

7.68.2.3 anonymous enum

Enumerator:

CIPHER_DES
CIPHER_3DES
CIPHER_RC4
CIPHER_RC4_40
CIPHER_RC4_56
CIPHER_AES_CBC

Definition at line 89 of file digest-md5/parser.c.

7.68.2.4 anonymous enum

Enumerator:

RESPONSE_USERNAME
RESPONSE_REALM
RESPONSE_NONCE
RESPONSE_CNONCE
RESPONSE_NC
RESPONSE_QOP
RESPONSE_DIGEST_URI
RESPONSE_RESPONSE
RESPONSE_MAXBUF
RESPONSE_CHARSET
RESPONSE_CIPHER
RESPONSE_AUTHZID

Definition at line 315 of file digest-md5/parser.c.

7.68.2.5 anonymous enum

Enumerator:

RESPONSEAUTH_RSPAUTH

Definition at line 521 of file digest-md5/parser.c.

7.68.3 Function Documentation

7.68.3.1 int `digest_md5_parse_challenge` (const char * *challenge*, size_t *len*,
digest_md5_challenge* *out*)

Definition at line 569 of file digest-md5/parser.c.

7.68.3.2 int `digest_md5_parse_finish` (const char * *finish*, size_t *len*,
digest_md5_finish* *out*)

Definition at line 603 of file digest-md5/parser.c.

7.68.3.3 int `digest_md5_parse_response` (const char * *response*, size_t *len*,
digest_md5_response* *out*)

Definition at line 586 of file digest-md5/parser.c.

7.69 parser.c File Reference

```
#include "parser.h" #include <stdlib.h> #include <string.-  
h> #include "validate.h" #include "c-ctype.h"
```

Functions

- int `scram_parse_client_first` (const char *str, size_t len, struct `scram_client_first` *cf)
- int `scram_parse_server_first` (const char *str, size_t len, struct `scram_server_first` *sf)
- int `scram_parse_client_final` (const char *str, size_t len, struct `scram_client_final` *cl)
- int `scram_parse_server_final` (const char *str, size_t len, struct `scram_server_final` *sl)

7.69.1 Function Documentation

7.69.1.1 `int scram_parse_client_final (const char * str, size_t len, struct scram_client_final * cl)`

Definition at line 329 of file `scram/parser.c`.

7.69.1.2 `int scram_parse_client_first (const char * str, size_t len, struct scram_client_first * cf)`

Definition at line 78 of file `scram/parser.c`.

7.69.1.3 `int scram_parse_server_final (const char * str, size_t len, struct scram_server_final * sf)`

Definition at line 457 of file `scram/parser.c`.

7.69.1.4 `int scram_parse_server_first (const char * str, size_t len, struct scram_server_first * sf)`

Definition at line 220 of file `scram/parser.c`.

7.70 parser.h File Reference

```
#include "tokens.h"
```

Functions

- `int digest_md5_getsubopt (char **optionp, const char *const *tokens, char **valuep)`
- `int digest_md5_parse_challenge (const char *challenge, size_t len, digest_md5_challenge *out)`
- `int digest_md5_parse_response (const char *response, size_t len, digest_md5_response *out)`
- `int digest_md5_parse_finish (const char *finish, size_t len, digest_md5_finish *out)`

7.70.1 Function Documentation

7.70.1.1 `int digest_md5_getsubopt (char ** optionp, const char *const * tokens, char ** valuep)`

Definition at line 46 of file `getsubopt.c`.

7.70.1.2 int `digest_md5_parse_challenge`(const char * *challenge*, size_t *len*,
digest_md5_challenge * *out*)

Definition at line 569 of file digest-md5/parser.c.

7.70.1.3 int `digest_md5_parse_finish`(const char * *finish*, size_t *len*,
digest_md5_finish * *out*)

Definition at line 603 of file digest-md5/parser.c.

7.70.1.4 int `digest_md5_parse_response`(const char * *response*, size_t *len*,
digest_md5_response * *out*)

Definition at line 586 of file digest-md5/parser.c.

7.71 parser.h File Reference

```
#include "tokens.h"
```

Functions

- int `scram_parse_client_first`(const char **str*, size_t *len*, struct `scram_client_first` **cf*)
- int `scram_parse_server_first`(const char **str*, size_t *len*, struct `scram_server_first` **cf*)
- int `scram_parse_client_final`(const char **str*, size_t *len*, struct `scram_client_final` **cl*)
- int `scram_parse_server_final`(const char **str*, size_t *len*, struct `scram_server_final` **sl*)

7.71.1 Function Documentation

7.71.1.1 int `scram_parse_client_final`(const char * *str*, size_t *len*, struct
scram_client_final * *cl*)

Definition at line 329 of file scram/parser.c.

7.71.1.2 int `scram_parse_client_first`(const char * *str*, size_t *len*, struct
scram_client_first * *cf*)

Definition at line 78 of file scram/parser.c.

7.71.1.3 `int scram_parse_server_final (const char * str, size_t len, struct scram_server_final * sl)`

Definition at line 457 of file `scram/parser.c`.

7.71.1.4 `int scram_parse_server_first (const char * str, size_t len, struct scram_server_first * cf)`

Definition at line 220 of file `scram/parser.c`.

7.72 plain.h File Reference

```
#include <gsasl.h>
```

Defines

- `#define GSASL_PLAIN_NAME "PLAIN"`

Functions

- `int _gsasl_plain_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int _gsasl_plain_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

Variables

- `Gsasl_mechanism gsasl_plain_mechanism`

7.72.1 Define Documentation

7.72.1.1 `#define GSASL_PLAIN_NAME "PLAIN"`

Definition at line 28 of file `plain.h`.

7.72.2 Function Documentation

7.72.2.1 `int _gsasl_plain_client_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 37 of file `plain/client.c`.

7.72.2.2 `int _gsasl_plain_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 37 of file plain/server.c.

7.72.3 Variable Documentation

7.72.3.1 `Gsasl_mechanism gsasl_plain_mechanism`

Definition at line 30 of file plain/mechinfo.c.

7.73 printer.c File Reference

```
#include "printer.h" #include <stdlib.h> #include <stdio.-  
h> #include "validate.h"
```

Functions

- `char * digest_md5_print_challenge(digest_md5_challenge *c)`
- `char * digest_md5_print_response(digest_md5_response *r)`
- `char * digest_md5_print_finish(digest_md5_finish *finish)`

7.73.1 Function Documentation

7.73.1.1 `char* digest_md5_print_challenge(digest_md5_challenge * c)`

Definition at line 74 of file digest-md5/printer.c.

7.73.1.2 `char* digest_md5_print_finish(digest_md5_finish * finish)`

Definition at line 390 of file digest-md5/printer.c.

7.73.1.3 `char* digest_md5_print_response(digest_md5_response * r)`

Definition at line 243 of file digest-md5/printer.c.

7.74 printer.c File Reference

```
#include "printer.h" #include <stdlib.h> #include <stdio.-  
h> #include <string.h> #include "validate.h"
```

Functions

- int [scram_print_client_first](#) (struct [scram_client_first](#) *cf, char **out)
- int [scram_print_server_first](#) (struct [scram_server_first](#) *sf, char **out)
- int [scram_print_client_final](#) (struct [scram_client_final](#) *cl, char **out)
- int [scram_print_server_final](#) (struct [scram_server_final](#) *sl, char **out)

7.74.1 Function Documentation

7.74.1.1 int [scram_print_client_final](#)(struct [scram_client_final](#) * *cl*, char ** *out*)

Definition at line 144 of file `scram/printer.c`.

7.74.1.2 int [scram_print_client_first](#)(struct [scram_client_first](#) * *cf*, char ** *out*)

Definition at line 79 of file `scram/printer.c`.

7.74.1.3 int [scram_print_server_final](#)(struct [scram_server_final](#) * *sl*, char ** *out*)

Definition at line 164 of file `scram/printer.c`.

7.74.1.4 int [scram_print_server_first](#)(struct [scram_server_first](#) * *sf*, char ** *out*)

Definition at line 123 of file `scram/printer.c`.

7.75 printer.h File Reference

```
#include "tokens.h"
```

Functions

- char * [digest_md5_print_challenge](#) ([digest_md5_challenge](#) *challenge)
- char * [digest_md5_print_response](#) ([digest_md5_response](#) *response)
- char * [digest_md5_print_finish](#) ([digest_md5_finish](#) *out)

7.75.1 Function Documentation

7.75.1.1 char* [digest_md5_print_challenge](#)([digest_md5_challenge](#) * *challenge*)

Definition at line 74 of file `digest-md5/printer.c`.

7.75.1.2 `char* digest_md5_print_finish(digest_md5_finish * out)`

Definition at line 390 of file digest-md5/printer.c.

7.75.1.3 `char* digest_md5_print_response(digest_md5_response * response)`

Definition at line 243 of file digest-md5/printer.c.

7.76 printer.h File Reference

```
#include "tokens.h"
```

Functions

- `int scram_print_client_first(struct scram_client_first *cf, char **out)`
- `int scram_print_server_first(struct scram_server_first *cf, char **out)`
- `int scram_print_client_final(struct scram_client_final *cl, char **out)`
- `int scram_print_server_final(struct scram_server_final *sl, char **out)`

7.76.1 Function Documentation

7.76.1.1 `int scram_print_client_final(struct scram_client_final * cl, char ** out)`

Definition at line 144 of file scram/printer.c.

7.76.1.2 `int scram_print_client_first(struct scram_client_first * cf, char ** out)`

Definition at line 79 of file scram/printer.c.

7.76.1.3 `int scram_print_server_final(struct scram_server_final * sl, char ** out)`

Definition at line 164 of file scram/printer.c.

7.76.1.4 `int scram_print_server_first(struct scram_server_first * cf, char ** out)`

Definition at line 123 of file scram/printer.c.

7.77 property.c File Reference

```
#include "internal.h"
```

Functions

- void `gsasl_property_set` (`Gsasl_session` *sctx, `Gsasl_property` prop, const char *data)
- void `gsasl_property_set_raw` (`Gsasl_session` *sctx, `Gsasl_property` prop, const char *data, size_t len)
- const char * `gsasl_property_fast` (`Gsasl_session` *sctx, `Gsasl_property` prop)
- const char * `gsasl_property_get` (`Gsasl_session` *sctx, `Gsasl_property` prop)

7.77.1 Function Documentation

7.77.1.1 `const char* gsasl_property_fast(Gsasl_session * sctx, Gsasl_property prop)`

`gsasl_property_fast`:

Parameters

| | |
|-------------------|--|
| <code>sctx</code> | session handle. |
| <code>prop</code> | enumerated value of <code>Gsasl_property</code> type, indicating the type of data in . |

Retrieve the data stored in the session handle for given property .

The pointer is to live data, and must not be deallocated or modified in any way.

This function will not invoke the application callback.

Return value: Return property value, if known, or NULL if no value known.

Since: 0.2.0

Definition at line 218 of file `property.c`.

7.77.1.2 `const char* gsasl_property_get(Gsasl_session * sctx, Gsasl_property prop)`

`gsasl_property_get`:

Parameters

| | |
|-------------------|--|
| <code>sctx</code> | session handle. |
| <code>prop</code> | enumerated value of <code>Gsasl_property</code> type, indicating the type of data in . |

Retrieve the data stored in the session handle for given property , possibly invoking the application callback to get the value.

The pointer is to live data, and must not be deallocated or modified in any way.

This function will invoke the application callback, using `gsasl_callback()`, when a property value is not known.

If no value is known, and no callback is specified or if the callback fail to return data, and if any obsolete callback functions has been set by the application, this function will try to call these obsolete callbacks, and store the returned data as the corresponding property. This behaviour of this function will be removed when the obsolete callback interfaces are removed.

Return value: Return data for property, or NULL if no value known.

Since: 0.2.0

Definition at line 255 of file property.c.

7.77.1.3 void `gsasl_property_set` (`Gsasl_session * sctx`, `Gsasl_property prop`, `const char * data`)

`gsasl_property_set`:

Parameters

| | |
|-------------------|--|
| <code>sctx</code> | session handle. |
| <code>prop</code> | enumerated value of <code>Gsasl_property</code> type, indicating the type of data in . |
| <code>data</code> | zero terminated character string to store. |

Make a copy of and store it in the session handle for the indicated property .

You can immediately deallocate after calling this function, without affecting the data stored in the session handle.

Since: 0.2.0

Definition at line 150 of file property.c.

7.77.1.4 void `gsasl_property_set_raw` (`Gsasl_session * sctx`, `Gsasl_property prop`, `const char * data`, `size_t len`)

`gsasl_property_set_raw`:

Parameters

| | |
|-------------------|--|
| <code>sctx</code> | session handle. |
| <code>prop</code> | enumerated value of <code>Gsasl_property</code> type, indicating the type of data in . |
| <code>data</code> | character string to store. |
| <code>len</code> | length of character string to store. |

Make a copy of sized and store a zero terminated version of it in the session handle for the indicated property .

You can immediately deallocate after calling this function, without affecting the data stored in the session handle.

Except for the length indicator, this function is identical to `gsasl_property_set`.

Since: 0.2.0

Definition at line 176 of file property.c.

7.78 qop.c File Reference

```
#include "qop.h" #include "tokens.h" #include "parser.h"  
#include <string.h> #include <stdlib.h>
```

Functions

- int [digest_md5_qopstr2qops](#) (const char *qopstr)
- const char * [digest_md5_qops2qopstr](#) (int qops)

7.78.1 Function Documentation

7.78.1.1 const char* [digest_md5_qops2qopstr](#) (int *qops*)

Definition at line 92 of file qop.c.

7.78.1.2 int [digest_md5_qopstr2qops](#) (const char * *qopstr*)

Definition at line 37 of file qop.c.

7.79 qop.h File Reference

Functions

- int [digest_md5_qopstr2qops](#) (const char *qopstr)
- const char * [digest_md5_qops2qopstr](#) (int qops)

7.79.1 Function Documentation

7.79.1.1 const char* [digest_md5_qops2qopstr](#) (int *qops*)

Definition at line 92 of file qop.c.

7.79.1.2 int [digest_md5_qopstr2qops](#) (const char * *qopstr*)

Definition at line 37 of file qop.c.

7.80 register.c File Reference

```
#include "internal.h"
```

Functions

- int [gsasl_register](#) ([Gsasl](#) *ctx, const [Gsasl_mechanism](#) *mech)

7.80.1 Function Documentation

7.80.1.1 int [gsasl_register](#) ([Gsasl](#) * ctx, const [Gsasl_mechanism](#) * mech)

gsasl_register:

Parameters

| | |
|-------------|---|
| <i>ctx</i> | pointer to libgsasl handle. |
| <i>mech</i> | plugin structure with information about plugin. |

This function initialize given mechanism, and if successful, add it to the list of plugins that is used by the library.

Return value: GSASL_OK iff successful, otherwise GSASL_MALLOC_ERROR.

Since: 0.2.0

Definition at line 38 of file register.c.

7.81 saml20.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_SAML20_NAME](#) "SAML20"

Functions

- int [_gsasl_saml20_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_saml20_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_saml20_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)
- int [_gsasl_saml20_server_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_saml20_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_saml20_server_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

Variables

- [Gsasl_mechanism gsasl_saml20_mechanism](#)

7.81.1 Define Documentation

7.81.1.1 `#define GSASL_SAML20_NAME "SAML20"`

Definition at line 28 of file saml20.h.

7.81.2 Function Documentation

7.81.2.1 `void _gsasl_saml20_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 120 of file saml20/client.c.

7.81.2.2 `int _gsasl_saml20_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 48 of file saml20/client.c.

7.81.2.3 `int _gsasl_saml20_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 62 of file saml20/client.c.

7.81.2.4 `void _gsasl_saml20_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 139 of file saml20/server.c.

7.81.2.5 `int _gsasl_saml20_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 45 of file saml20/server.c.

7.81.2.6 `int _gsasl_saml20_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 59 of file saml20/server.c.

7.81.3 Variable Documentation

7.81.3.1 Gsasl_mechanism gsasl_saml20_mechanism

Definition at line 30 of file saml20/mechinfo.c.

7.82 saslprep.c File Reference

```
#include "internal.h"
```

Functions

- int [gsasl_saslprep](#) (const char *in, [Gsasl_saslprep_flags](#) flags, char **out, int *stringpreprc)

7.82.1 Function Documentation

7.82.1.1 int [gsasl_saslprep](#) (const char * *in*, [Gsasl_saslprep_flags](#) *flags*, char ** *out*, int * *stringpreprc*)

[gsasl_saslprep](#):

Parameters

| | |
|---------------------|---|
| <i>in</i> | a UTF-8 encoded string. |
| <i>flags</i> | any SASLprep flag, e.g., GSASL_ALLOW_UNASSIGNED . |
| <i>out</i> | on exit, contains newly allocated output string. |
| <i>stringpreprc</i> | if non-NULL, will hold precise stringprep return code. |

Prepare string using SASLprep. On success, the variable must be deallocated by the caller.

Return value: Returns [GSASL_OK](#) on success, or [GSASL_SASLPREP_ERROR](#) on error.

Since: 0.2.3

Definition at line 48 of file saslprep.c.

7.83 scram.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_SCRAM_SHA1_NAME](#) "SCRAM-SHA-1"
- #define [GSASL_SCRAM_SHA1_PLUS_NAME](#) "SCRAM-SHA-1-PLUS"

Functions

- `int _gsasl_scram_sha1_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_scram_sha1_plus_client_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_scram_sha1_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_scram_sha1_client_finish (Gsasl_session *sctx, void *mech_data)`
- `int _gsasl_scram_sha1_server_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_scram_sha1_plus_server_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_scram_sha1_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_scram_sha1_server_finish (Gsasl_session *sctx, void *mech_data)`

Variables

- `Gsasl_mechanism gsasl_scram_sha1_mechanism`
- `Gsasl_mechanism gsasl_scram_sha1_plus_mechanism`

7.83.1 Define Documentation

7.83.1.1 `#define GSASL_SCRAM_SHA1_NAME "SCRAM-SHA-1"`

Definition at line 28 of file `scram.h`.

7.83.1.2 `#define GSASL_SCRAM_SHA1_PLUS_NAME "SCRAM-SHA-1-PLUS"`

Definition at line 29 of file `scram.h`.

7.83.2 Function Documentation

7.83.2.1 `void _gsasl_scram_sha1_client_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 452 of file `scram/client.c`.

7.83.2.2 `int _gsasl_scram_sha1_client_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 116 of file `scram/client.c`.

7.83.2.3 `int _gsasl_scram_sha1_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 168 of file `scram/client.c`.

7.83.2.4 `int _gsasl_scram_sha1_plus_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 122 of file `scram/client.c`.

7.83.2.5 `int _gsasl_scram_sha1_plus_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 134 of file `scram/server.c`.

7.83.2.6 `void _gsasl_scram_sha1_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 457 of file `scram/server.c`.

7.83.2.7 `int _gsasl_scram_sha1_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 128 of file `scram/server.c`.

7.83.2.8 `int _gsasl_scram_sha1_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 140 of file `scram/server.c`.

7.83.3 Variable Documentation

7.83.3.1 `Gsasl_mechanism gsasl_scram_sha1_mechanism`

7.83.3.2 `Gsasl_mechanism gsasl_scram_sha1_plus_mechanism`

7.84 securid.h File Reference

```
#include <gsasl.h>
```

Defines

- `#define GSASL_SECURID_NAME "SECURID"`

Functions

- `int _gsasl_secured_client_start(Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_secured_client_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_secured_client_finish (Gsasl_session *sctx, void *mech_data)`
- `int _gsasl_secured_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

Variables

- `Gsasl_mechanism gsasl_secured_mechanism`

7.84.1 Define Documentation

7.84.1.1 `#define GSASL_SECURID_NAME "SECURID"`

Definition at line 28 of file `securid.h`.

7.84.2 Function Documentation

7.84.2.1 `void _gsasl_secured_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 163 of file `securid/client.c`.

7.84.2.2 `int _gsasl_secured_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 40 of file `securid/client.c`.

7.84.2.3 `int _gsasl_secured_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 56 of file `securid/client.c`.

7.84.2.4 `int _gsasl_secured_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 40 of file `securid/server.c`.

7.84.3 Variable Documentation

7.84.3.1 `Gsasl_mechanism gsasl_secured_mechanism`

Definition at line 30 of file `securid/mechinfo.c`.

7.85 server.c File Reference

```
#include "anonymous.h"
```

Functions

- [int _gsasl_anonymous_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

7.85.1 Function Documentation

7.85.1.1 [int _gsasl_anonymous_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

Definition at line 31 of file anonymous/server.c.

7.86 server.c File Reference

```
#include "cram-md5.h" #include <stdlib.h> #include <string.-  
h> #include "challenge.h" #include "digest.h"
```

Defines

- [#define MD5LEN](#) 16

Functions

- [int _gsasl_cram_md5_server_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- [int _gsasl_cram_md5_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [void _gsasl_cram_md5_server_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

7.86.1 Define Documentation

7.86.1.1 [#define MD5LEN](#) 16

Definition at line 42 of file cram-md5/server.c.

7.86.2 Function Documentation

7.86.2.1 `void _gsasl_cram_md5_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 127 of file `cram-md5/server.c`.

7.86.2.2 `int _gsasl_cram_md5_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 45 of file `cram-md5/server.c`.

7.86.2.3 `int _gsasl_cram_md5_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 64 of file `cram-md5/server.c`.

7.87 server.c File Reference

```
#include "digest-md5.h" #include <stdlib.h> #include <string.-
h> #include "nonascii.h" #include "tokens.h" #include
"parser.h" #include "printer.h" #include "free.h" #include
"session.h" #include "digesthmac.h" #include "validate.h"
#include "qop.h"
```

Data Structures

- struct [_Gsasl_digest_md5_server_state](#)

Defines

- #define [NONCE_ENTROPY_BYTES](#) 16

Typedefs

- typedef struct [_Gsasl_digest_md5_server_state](#) [Gsasl_digest_md5_server_state](#)

Functions

- int [_gsasl_digest_md5_server_start](#)(Gsasl_session *sctx, void **mech_data)
- int [_gsasl_digest_md5_server_step](#)(Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_digest_md5_server_finish](#)(Gsasl_session *sctx, void *mech_data)
- int [_gsasl_digest_md5_server_encode](#)(Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

- `int _gsasl_digest_md5_server_decode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

7.87.1 Define Documentation

7.87.1.1 `#define NONCE_ENTROPY_BYTES 16`

Definition at line 47 of file digest-md5/server.c.

7.87.2 Typedef Documentation

7.87.2.1 `typedef struct _Gsasl_digest_md5_server_state _Gsasl_digest_md5_server_state`

Definition at line 62 of file digest-md5/server.c.

7.87.3 Function Documentation

7.87.3.1 `int _gsasl_digest_md5_server_decode (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 375 of file digest-md5/server.c.

7.87.3.2 `int _gsasl_digest_md5_server_encode (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 351 of file digest-md5/server.c.

7.87.3.3 `void _gsasl_digest_md5_server_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 336 of file digest-md5/server.c.

7.87.3.4 `int _gsasl_digest_md5_server_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 65 of file digest-md5/server.c.

7.87.3.5 `int _gsasl_digest_md5_server_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 143 of file digest-md5/server.c.

7.88 server.c File Reference

```
#include "external.h" #include <string.h>
```

Functions

- [int _gsasl_external_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)

7.88.1 Function Documentation

7.88.1.1 [int _gsasl_external_server_step](#) ([Gsasl_session](#) * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)

Definition at line 34 of file external/server.c.

7.89 server.c File Reference

```
#include "gs2.h" #include <stdlib.h> #include <string.-  
h> #include "gss-extra.h" #include "gs2helper.h" #include  
"mechtools.h"
```

Data Structures

- [struct _Gsasl_gs2_server_state](#)

Typedefs

- [typedef struct _Gsasl_gs2_server_state _Gsasl_gs2_server_state](#)

Functions

- [int _gsasl_gs2_server_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- [int _gsasl_gs2_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- [void _gsasl_gs2_server_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

7.89.1 Typedef Documentation

7.89.1.1 [typedef struct _Gsasl_gs2_server_state _Gsasl_gs2_server_state](#)

Definition at line 50 of file gs2/server.c.

7.89.2 Function Documentation

7.89.2.1 void `_gsasl_gs2_server_finish` (`Gsasl_session * sctx`, void * `mech_data`)

Definition at line 296 of file `gs2/server.c`.

7.89.2.2 int `_gsasl_gs2_server_start` (`Gsasl_session * sctx`, void ** `mech_data`)

Definition at line 118 of file `gs2/server.c`.

7.89.2.3 int `_gsasl_gs2_server_step` (`Gsasl_session * sctx`, void * `mech_data`, const char * `input`, size_t `input_len`, char ** `output`, size_t * `output_len`)

Definition at line 167 of file `gs2/server.c`.

7.90 server.c File Reference

```
#include <stdlib.h> #include <string.h> #include "x-gssapi.-  
h" #include "gss-extra.h"
```

Data Structures

- struct [_Gsasl_gssapi_server_state](#)

Typedefs

- typedef struct [_Gsasl_gssapi_server_state](#) [_Gsasl_gssapi_server_state](#)

Functions

- int [_gsasl_gssapi_server_start](#) (`Gsasl_session *sctx`, void **`mech_data`)
- int [_gsasl_gssapi_server_step](#) (`Gsasl_session *sctx`, void *`mech_data`, const char *`input`, size_t `input_len`, char **`output`, size_t *`output_len`)
- void [_gsasl_gssapi_server_finish](#) (`Gsasl_session *sctx`, void *`mech_data`)

7.90.1 Typedef Documentation

7.90.1.1 typedef struct [_Gsasl_gssapi_server_state](#) [_Gsasl_gssapi_server_state](#)

Definition at line 53 of file `gssapi/server.c`.

7.90.2 Function Documentation

7.90.2.1 `void _gsasl_gssapi_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 272 of file gssapi/server.c.

7.90.2.2 `int _gsasl_gssapi_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 56 of file gssapi/server.c.

7.90.2.3 `int _gsasl_gssapi_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 118 of file gssapi/server.c.

7.91 server.c File Reference

```
#include "kerberos_v5.h" #include "shared.h"
```

Data Structures

- [struct _Gsasl_kerberos_v5_server_state](#)

Functions

- [int _gsasl_kerberos_v5_server_init](#) (Gsasl_ctx *ctx)
- [int _gsasl_kerberos_v5_server_start](#) (Gsasl_session *sctx, void **mech_data)
- [int _gsasl_kerberos_v5_server_step](#) (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)
- [int _gsasl_kerberos_v5_server_encode](#) (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)
- [int _gsasl_kerberos_v5_server_decode](#) (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char *output, size_t *output_len)
- [int _gsasl_kerberos_v5_server_finish](#) (Gsasl_session *sctx, void *mech_data)

7.91.1 Function Documentation

7.91.1.1 `int _gsasl_kerberos_v5_server_decode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 535 of file kerberos_v5/server.c.

7.91.1.2 `int _gsasl_kerberos_v5_server_encode(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 488 of file `kerberos_v5/server.c`.

7.91.1.3 `int _gsasl_kerberos_v5_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 586 of file `kerberos_v5/server.c`.

7.91.1.4 `int _gsasl_kerberos_v5_server_init(Gsasl_ctx * ctx)`

Definition at line 56 of file `kerberos_v5/server.c`.

7.91.1.5 `int _gsasl_kerberos_v5_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 65 of file `kerberos_v5/server.c`.

7.91.1.6 `int _gsasl_kerberos_v5_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char * output, size_t * output_len)`

Definition at line 106 of file `kerberos_v5/server.c`.

7.92 server.c File Reference

```
#include <stdlib.h> #include <string.h> #include "login.h"
```

Data Structures

- [struct _Gsasl_login_server_state](#)

Defines

- `#define CHALLENGE_USERNAME "User Name"`
- `#define CHALLENGE_PASSWORD "Password"`

Functions

- `int _gsasl_login_server_start(Gsasl_session *sctx, void **mech_data)`

- `int _gsasl_login_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_login_server_finish (Gsasl_session *sctx, void *mech_data)`

7.92.1 Define Documentation

7.92.1.1 `#define CHALLENGE_PASSWORD "Password"`

Definition at line 44 of file login/server.c.

7.92.1.2 `#define CHALLENGE_USERNAME "User Name"`

Definition at line 43 of file login/server.c.

7.92.2 Function Documentation

7.92.2.1 `void _gsasl_login_server_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 149 of file login/server.c.

7.92.2.2 `int _gsasl_login_server_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 47 of file login/server.c.

7.92.2.3 `int _gsasl_login_server_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 61 of file login/server.c.

7.93 server.c File Reference

```
#include "openid20.h" #include <string.h> #include <stdlib.-  
h> #include "mechtools.h"
```

Data Structures

- struct `openid20_server_state`

Functions

- `int _gsasl_openid20_server_start (Gsasl_session *sctx, void **mech_data)`

- `int _gsasl_openid20_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_openid20_server_finish (Gsasl_session *sctx, void *mech_data)`

7.93.1 Function Documentation

7.93.1.1 `void _gsasl_openid20_server_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 186 of file openid20/server.c.

7.93.1.2 `int _gsasl_openid20_server_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 46 of file openid20/server.c.

7.93.1.3 `int _gsasl_openid20_server_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 60 of file openid20/server.c.

7.94 server.c File Reference

```
#include "plain.h" #include <string.h> #include <stdlib.-h>
```

Functions

- `int _gsasl_plain_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`

7.94.1 Function Documentation

7.94.1.1 `int _gsasl_plain_server_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 37 of file plain/server.c.

7.95 server.c File Reference

```
#include "saml20.h" #include <string.h> #include <stdlib.-h> #include "mechtools.h"
```

Data Structures

- struct [saml20_server_state](#)

Functions

- int [_gsasl_saml20_server_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_saml20_server_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_saml20_server_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

7.95.1 Function Documentation

7.95.1.1 void [_gsasl_saml20_server_finish](#)([Gsasl_session](#) * *sctx*, void * *mech_data*)

Definition at line 139 of file saml20/server.c.

7.95.1.2 int [_gsasl_saml20_server_start](#)([Gsasl_session](#) * *sctx*, void ** *mech_data*)

Definition at line 45 of file saml20/server.c.

7.95.1.3 int [_gsasl_saml20_server_step](#)([Gsasl_session](#) * *sctx*, void * *mech_data*, const char * *input*, size_t *input_len*, char ** *output*, size_t * *output_len*)

Definition at line 59 of file saml20/server.c.

7.96 server.c File Reference

```
#include "scram.h" #include <stdlib.h> #include <limits.-
h> #include <string.h> #include "minmax.h" #include "tokens.-
h" #include "parser.h" #include "printer.h" #include "gc.-
h" #include "memxor.h"
```

Data Structures

- struct [scram_server_state](#)

Defines

- #define [DEFAULT_SALT_BYTES](#) 12
- #define [SNONCE_ENTROPY_BYTES](#) 18
- #define [CLIENT_KEY](#) "Client Key"

- #define `SERVER_KEY` "Server Key"

Functions

- int `_gsasl_scram_sha1_server_start` (`Gsasl_session` *sctx, void **mech_data)
- int `_gsasl_scram_sha1_plus_server_start` (`Gsasl_session` *sctx, void **mech_data)
- int `_gsasl_scram_sha1_server_step` (`Gsasl_session` *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void `_gsasl_scram_sha1_server_finish` (`Gsasl_session` *sctx, void *mech_data)

7.96.1 Define Documentation

7.96.1.1 #define `CLIENT_KEY` "Client Key"

7.96.1.2 #define `DEFAULT_SALT_BYTES` 12

Definition at line 48 of file `scram/server.c`.

7.96.1.3 #define `SERVER_KEY` "Server Key"

7.96.1.4 #define `SNONCE_ENTROPY_BYTES` 18

Definition at line 49 of file `scram/server.c`.

7.96.2 Function Documentation

7.96.2.1 int `_gsasl_scram_sha1_plus_server_start` (`Gsasl_session` * *sctx*, void ** *mech_data*)

Definition at line 134 of file `scram/server.c`.

7.96.2.2 void `_gsasl_scram_sha1_server_finish` (`Gsasl_session` * *sctx*, void * *mech_data*)

Definition at line 457 of file `scram/server.c`.

7.96.2.3 int `_gsasl_scram_sha1_server_start` (`Gsasl_session` * *sctx*, void ** *mech_data*)

Definition at line 128 of file `scram/server.c`.

7.96.2.4 `int _gsasl_scram_sha1_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 140 of file `scram/server.c`.

7.97 server.c File Reference

```
#include "securid.h" #include <stdlib.h> #include <string.-  
h>
```

Defines

- `#define PASSCODE "passcode"`
- `#define PIN "pin"`

Functions

- `int _gsasl_securid_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

7.97.1 Define Documentation

7.97.1.1 `#define PASSCODE "passcode"`

Definition at line 36 of file `securid/server.c`.

7.97.1.2 `#define PIN "pin"`

Definition at line 37 of file `securid/server.c`.

7.97.2 Function Documentation

7.97.2.1 `int _gsasl_securid_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 40 of file `securid/server.c`.

7.98 session.c File Reference

```
#include "session.h" #include <stdlib.h> #include <string.-  
h> #include <gc.h>
```

Defines

- #define [MD5LEN](#) 16
- #define [SASL_INTEGRITY_PREFIX_LENGTH](#) 4
- #define [MAC_DATA_LEN](#) 4
- #define [MAC_HMAC_LEN](#) 10
- #define [MAC_MSG_TYPE](#) "\x00\x01"
- #define [MAC_MSG_TYPE_LEN](#) 2
- #define [MAC_SEQNUM_LEN](#) 4
- #define [C2I](#)(buf)

Functions

- int [digest_md5_encode](#) (const char *input, size_t input_len, char **output, size_t *output_len, [digest_md5_qop](#) qop, unsigned long sendseqnum, char key[[DIGEST_MD5_LENGTH](#)])
- int [digest_md5_decode](#) (const char *input, size_t input_len, char **output, size_t *output_len, [digest_md5_qop](#) qop, unsigned long readseqnum, char key[[DIGEST_MD5_LENGTH](#)])

7.98.1 Define Documentation

7.98.1.1 #define [C2I](#)(buf)

Value:

```
((buf[3] & 0xFF) |
      ((buf[2] & 0xFF) << 8) |
      ((buf[1] & 0xFF) << 16) |
      ((buf[0] & 0xFF) << 24))
```

Definition at line 116 of file session.c.

7.98.1.2 #define [MAC_DATA_LEN](#) 4

Definition at line 41 of file session.c.

7.98.1.3 #define [MAC_HMAC_LEN](#) 10

Definition at line 42 of file session.c.

7.98.1.4 #define [MAC_MSG_TYPE](#) "\x00\x01"

Definition at line 43 of file session.c.

7.98.1.5 #define MAC_MSG_TYPE_LEN 2

Definition at line 44 of file session.c.

7.98.1.6 #define MAC_SEQNUM_LEN 4

Definition at line 45 of file session.c.

7.98.1.7 #define MD5LEN 16

Definition at line 39 of file session.c.

7.98.1.8 #define SASL_INTEGRITY_PREFIX_LENGTH 4

Definition at line 40 of file session.c.

7.98.2 Function Documentation

7.98.2.1 `int digest_md5_decode(const char * input, size_t input_len, char ** output, size_t * output_len, digest_md5_qop qop, unsigned long readseqnum, char key[DIGEST_MD5_LENGTH])`

Definition at line 122 of file session.c.

7.98.2.2 `int digest_md5_encode(const char * input, size_t input_len, char ** output, size_t * output_len, digest_md5_qop qop, unsigned long sendseqnum, char key[DIGEST_MD5_LENGTH])`

Definition at line 48 of file session.c.

7.99 session.h File Reference

```
#include "tokens.h"
```

Functions

- `int digest_md5_encode` (const char *input, size_t input_len, char **output, size_t *output_len, `digest_md5_qop` qop, unsigned long sendseqnum, char key[DIGEST_MD5_LENGTH])
- `int digest_md5_decode` (const char *input, size_t input_len, char **output, size_t *output_len, `digest_md5_qop` qop, unsigned long readseqnum, char key[DIGEST_MD5_LENGTH])

7.99.1 Function Documentation

7.99.1.1 `int digest_md5_decode(const char * input, size_t input_len, char ** output, size_t * output_len, digest_md5_qop qop, unsigned long readseqnum, char key[DIGEST_MD5_LENGTH])`

Definition at line 122 of file session.c.

7.99.1.2 `int digest_md5_encode(const char * input, size_t input_len, char ** output, size_t * output_len, digest_md5_qop qop, unsigned long sendseqnum, char key[DIGEST_MD5_LENGTH])`

Definition at line 48 of file session.c.

7.100 shared.h File Reference

```
#include "kerberos_v5.h" #include <shishi.h>
```

Defines

- `#define DEBUG 0`
- `#define BITMAP_LEN 1`
- `#define MAXBUF_LEN 4`
- `#define RANDOM_LEN 16`
- `#define MUTUAL (1 << 3)`
- `#define SERVER_HELLO_LEN BITMAP_LEN + MAXBUF_LEN + RANDOM_LEN`
- `#define CLIENT_HELLO_LEN BITMAP_LEN + MAXBUF_LEN`
- `#define MAXBUF_DEFAULT 65536`

7.100.1 Define Documentation

7.100.1.1 `#define BITMAP_LEN 1`

Definition at line 34 of file shared.h.

7.100.1.2 `#define CLIENT_HELLO_LEN BITMAP_LEN + MAXBUF_LEN`

Definition at line 40 of file shared.h.

7.100.1.3 `#define DEBUG 0`

Definition at line 32 of file shared.h.

7.100.1.4 `#define MAXBUF_DEFAULT 65536`

Definition at line 42 of file shared.h.

7.100.1.5 `#define MAXBUF_LEN 4`

Definition at line 35 of file shared.h.

7.100.1.6 `#define MUTUAL (1 << 3)`

Definition at line 37 of file shared.h.

7.100.1.7 `#define RANDOM_LEN 16`

Definition at line 36 of file shared.h.

7.100.1.8 `#define SERVER_HELLO_LEN BITMAP_LEN + MAXBUF_LEN +
RANDOM_LEN`

Definition at line 39 of file shared.h.

7.101 suggest.c File Reference

```
#include "internal.h"
```

Functions

- const char * [gsasl_client_suggest_mechanism](#) (Gsasl *ctx, const char *mechlist)

7.101.1 Function Documentation

7.101.1.1 const char* [gsasl_client_suggest_mechanism](#) (Gsasl * ctx, const char *
mechlist)

gsasl_client_suggest_mechanism:

Parameters

| | |
|-----------------|--|
| <i>ctx</i> | libgsasl handle. |
| <i>mechlist</i> | input character array with SASL mechanism names, separated by invalid characters (e.g. SPC). |

Given a list of mechanisms, suggest which to use.

Return value: Returns name of "best" SASL mechanism supported by the libgsasl client which is present in the input string, or NULL if no supported mechanism is found.

Definition at line 38 of file suggest.c.

7.102 supportp.c File Reference

```
#include "internal.h"
```

Functions

- int [gsasl_client_support_p](#) (Gsasl *ctx, const char *name)
- int [gsasl_server_support_p](#) (Gsasl *ctx, const char *name)

7.102.1 Function Documentation

7.102.1.1 int [gsasl_client_support_p](#) (Gsasl * ctx, const char * name)

gsasl_client_support_p:

Parameters

| | |
|-------------|-------------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>name</i> | name of SASL mechanism. |

Decide whether there is client-side support for a specified mechanism.

Return value: Returns 1 if the libgsasl client supports the named mechanism, otherwise 0.

Definition at line 49 of file supportp.c.

7.102.1.2 int [gsasl_server_support_p](#) (Gsasl * ctx, const char * name)

gsasl_server_support_p:

Parameters

| | |
|-------------|-------------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>name</i> | name of SASL mechanism. |

Decide whether there is server-side support for a specified mechanism.

Return value: Returns 1 if the libgsasl server supports the named mechanism, otherwise 0.

Definition at line 66 of file supportp.c.

7.103 test-parser.c File Reference

```
#include <stdio.h> #include <stdlib.h> #include <string.-  
h> #include "parser.h" #include "printer.h" #include "digestmac.-  
h" #include "gc.h"
```

Functions

- int [main](#) (int argc, char *argv[])

7.103.1 Function Documentation

7.103.1.1 int [main](#) (int *argc*, char * *argv* [])

Definition at line 34 of file test-parser.c.

7.104 tokens.c File Reference

```
#include "tokens.h" #include <stdlib.h> #include <string.-  
h>
```

Functions

- void [scram_free_client_first](#) (struct [scram_client_first](#) *cf)
- void [scram_free_server_first](#) (struct [scram_server_first](#) *sf)
- void [scram_free_client_final](#) (struct [scram_client_final](#) *cl)
- void [scram_free_server_final](#) (struct [scram_server_final](#) *sl)

7.104.1 Function Documentation

7.104.1.1 void [scram_free_client_final](#) (struct [scram_client_final](#) * *cl*)

Definition at line 53 of file tokens.c.

7.104.1.2 void [scram_free_client_first](#) (struct [scram_client_first](#) * *cf*)

Definition at line 33 of file tokens.c.

7.104.1.3 void [scram_free_server_final](#) (struct [scram_server_final](#) * *sl*)

Definition at line 63 of file tokens.c.

7.104.1.4 void `scram_free_server_first(struct scram_server_first * sf)`

Definition at line 44 of file `tokens.c`.

7.105 tokens.h File Reference

```
#include <stddef.h>
```

Data Structures

- struct [digest_md5_challenge](#)
- struct [digest_md5_response](#)
- struct [digest_md5_finish](#)

Defines

- #define [DIGEST_MD5_LENGTH](#) 16
- #define [DIGEST_MD5_RESPONSE_LENGTH](#) 32

Typedefs

- typedef enum [digest_md5_qop](#) [digest_md5_qop](#)
- typedef enum [digest_md5_cipher](#) [digest_md5_cipher](#)
- typedef struct [digest_md5_challenge](#) [digest_md5_challenge](#)
- typedef struct [digest_md5_response](#) [digest_md5_response](#)
- typedef struct [digest_md5_finish](#) [digest_md5_finish](#)

Enumerations

- enum [digest_md5_qop](#) { [DIGEST_MD5_QOP_AUTH](#) = 1, [DIGEST_MD5_QOP_AUTH_INT](#) = 2, [DIGEST_MD5_QOP_AUTH_CONF](#) = 4 }
- enum [digest_md5_cipher](#) { [DIGEST_MD5_CIPHER_DES](#) = 1, [DIGEST_MD5_CIPHER_3DES](#) = 2, [DIGEST_MD5_CIPHER_RC4](#) = 4, [DIGEST_MD5_CIPHER_RC4_40](#) = 8, [DIGEST_MD5_CIPHER_RC4_56](#) = 16, [DIGEST_MD5_CIPHER_AES_CBC](#) = 32 }

7.105.1 Define Documentation

7.105.1.1 #define [DIGEST_MD5_LENGTH](#) 16

Definition at line 30 of file `digest-md5/tokens.h`.

7.105.1.2 `#define DIGEST_MD5_RESPONSE_LENGTH 32`

Definition at line 95 of file digest-md5/tokens.h.

7.105.2 Typedef Documentation

7.105.2.1 `typedef struct digest_md5_challenge digest_md5_challenge`

Definition at line 93 of file digest-md5/tokens.h.

7.105.2.2 `typedef enum digest_md5_cipher digest_md5_cipher`

Definition at line 51 of file digest-md5/tokens.h.

7.105.2.3 `typedef struct digest_md5_finish digest_md5_finish`

Definition at line 150 of file digest-md5/tokens.h.

7.105.2.4 `typedef enum digest_md5_qop digest_md5_qop`

Definition at line 39 of file digest-md5/tokens.h.

7.105.2.5 `typedef struct digest_md5_response digest_md5_response`

Definition at line 141 of file digest-md5/tokens.h.

7.105.3 Enumeration Type Documentation

7.105.3.1 `enum digest_md5_cipher`

Enumerator:

```
DIGEST_MD5_CIPHER_DES  
DIGEST_MD5_CIPHER_3DES  
DIGEST_MD5_CIPHER_RC4  
DIGEST_MD5_CIPHER_RC4_40  
DIGEST_MD5_CIPHER_RC4_56  
DIGEST_MD5_CIPHER_AES_CBC
```

Definition at line 42 of file digest-md5/tokens.h.

7.105.3.2 enum digest_md5_qop

Enumerator:

DIGEST_MD5_QOP_AUTH
DIGEST_MD5_QOP_AUTH_INT
DIGEST_MD5_QOP_AUTH_CONF

Definition at line 33 of file digest-md5/tokens.h.

7.106 tokens.h File Reference

```
#include <stddef.h>
```

Data Structures

- struct [scram_client_first](#)
- struct [scram_server_first](#)
- struct [scram_client_final](#)
- struct [scram_server_final](#)

Functions

- void [scram_free_client_first](#) (struct [scram_client_first](#) *cf)
- void [scram_free_server_first](#) (struct [scram_server_first](#) *sf)
- void [scram_free_client_final](#) (struct [scram_client_final](#) *cl)
- void [scram_free_server_final](#) (struct [scram_server_final](#) *sl)

7.106.1 Function Documentation

7.106.1.1 void [scram_free_client_final](#)(struct [scram_client_final](#) * cl)

Definition at line 53 of file tokens.c.

7.106.1.2 void [scram_free_client_first](#)(struct [scram_client_first](#) * cf)

Definition at line 33 of file tokens.c.

7.106.1.3 void [scram_free_server_final](#)(struct [scram_server_final](#) * sl)

Definition at line 63 of file tokens.c.

7.106.1.4 `void scram_free_server_first(struct scram_server_first * sf)`

Definition at line 44 of file tokens.c.

7.107 validate.c File Reference

```
#include "validate.h" #include <string.h>
```

Functions

- int [digest_md5_validate_challenge](#) (digest_md5_challenge *c)
- int [digest_md5_validate_response](#) (digest_md5_response *r)
- int [digest_md5_validate_finish](#) (digest_md5_finish *f)
- int [digest_md5_validate](#) (digest_md5_challenge *c, digest_md5_response *r)

7.107.1 Function Documentation

7.107.1.1 `int digest_md5_validate(digest_md5_challenge * c,
digest_md5_response * r)`

Definition at line 116 of file digest-md5/validate.c.

7.107.1.2 `int digest_md5_validate_challenge(digest_md5_challenge * c)`

Definition at line 34 of file digest-md5/validate.c.

7.107.1.3 `int digest_md5_validate_finish(digest_md5_finish * f)`

Definition at line 103 of file digest-md5/validate.c.

7.107.1.4 `int digest_md5_validate_response(digest_md5_response * r)`

Definition at line 53 of file digest-md5/validate.c.

7.108 validate.c File Reference

```
#include "validate.h" #include <string.h>
```

Functions

- bool [scram_valid_client_first](#) (struct [scram_client_first](#) *cf)
- bool [scram_valid_server_first](#) (struct [scram_server_first](#) *sf)
- bool [scram_valid_client_final](#) (struct [scram_client_final](#) *cl)
- bool [scram_valid_server_final](#) (struct [scram_server_final](#) *sl)

7.108.1 Function Documentation

7.108.1.1 bool [scram_valid_client_final](#)(struct [scram_client_final](#) * cl)

Definition at line 106 of file [scram/validate.c](#).

7.108.1.2 bool [scram_valid_client_first](#)(struct [scram_client_first](#) * cf)

Definition at line 34 of file [scram/validate.c](#).

7.108.1.3 bool [scram_valid_server_final](#)(struct [scram_server_final](#) * sl)

Definition at line 136 of file [scram/validate.c](#).

7.108.1.4 bool [scram_valid_server_first](#)(struct [scram_server_first](#) * sf)

Definition at line 81 of file [scram/validate.c](#).

7.109 validate.h File Reference

```
#include "tokens.h"
```

Functions

- int [digest_md5_validate_challenge](#) ([digest_md5_challenge](#) *c)
- int [digest_md5_validate_response](#) ([digest_md5_response](#) *r)
- int [digest_md5_validate_finish](#) ([digest_md5_finish](#) *f)
- int [digest_md5_validate](#) ([digest_md5_challenge](#) *c, [digest_md5_response](#) *r)

7.109.1 Function Documentation

7.109.1.1 int [digest_md5_validate](#)([digest_md5_challenge](#) * c,
[digest_md5_response](#) * r)

Definition at line 116 of file [digest-md5/validate.c](#).

7.109.1.2 `int digest_md5_validate_challenge(digest_md5_challenge * c)`

Definition at line 34 of file digest-md5/validate.c.

7.109.1.3 `int digest_md5_validate_finish(digest_md5_finish * f)`

Definition at line 103 of file digest-md5/validate.c.

7.109.1.4 `int digest_md5_validate_response(digest_md5_response * r)`

Definition at line 53 of file digest-md5/validate.c.

7.110 validate.h File Reference

```
#include "tokens.h" #include <stdbool.h>
```

Functions

- bool [scram_valid_client_first](#) (struct [scram_client_first](#) *cf)
- bool [scram_valid_server_first](#) (struct [scram_server_first](#) *sf)
- bool [scram_valid_client_final](#) (struct [scram_client_final](#) *cl)
- bool [scram_valid_server_final](#) (struct [scram_server_final](#) *sl)

7.110.1 Function Documentation

7.110.1.1 `bool scram_valid_client_final(struct scram_client_final * cl)`

Definition at line 106 of file scram/validate.c.

7.110.1.2 `bool scram_valid_client_first(struct scram_client_first * cf)`

Definition at line 34 of file scram/validate.c.

7.110.1.3 `bool scram_valid_server_final(struct scram_server_final * sl)`

Definition at line 136 of file scram/validate.c.

7.110.1.4 `bool scram_valid_server_first(struct scram_server_first * sf)`

Definition at line 81 of file scram/validate.c.

7.111 version.c File Reference

```
#include "internal.h" #include <string.h>
```

Functions

- const char * [gsasl_check_version](#) (const char *req_version)

7.111.1 Function Documentation

7.111.1.1 const char* [gsasl_check_version](#) (const char * *req_version*)

[gsasl_check_version](#):

Parameters

| | |
|--------------------|--|
| <i>req_version</i> | version string to compare with, or NULL. |
|--------------------|--|

Check GNU SASL Library version.

See GSASL_VERSION for a suitable string.

This function is one of few in the library that can be used without a successful call to [gsasl_init\(\)](#).

Return value: Check that the version of the library is at minimum the one given as a string in and return the actual version string of the library; return NULL if the condition is not met. If NULL is passed to this function no check is done and only the version string is returned.

Definition at line 45 of file version.c.

7.112 x-gssapi.h File Reference

```
#include <gsasl.h>
```

Defines

- #define [GSASL_GSSAPI_NAME](#) "GSSAPI"

Functions

- int [_gsasl_gssapi_client_start](#) ([Gsasl_session](#) *sctx, void **mech_data)
- int [_gsasl_gssapi_client_step](#) ([Gsasl_session](#) *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)
- void [_gsasl_gssapi_client_finish](#) ([Gsasl_session](#) *sctx, void *mech_data)

- `int _gsasl_gssapi_client_encode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int _gsasl_gssapi_client_decode (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int _gsasl_gssapi_server_start (Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_gssapi_server_step (Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_gssapi_server_finish (Gsasl_session *sctx, void *mech_data)`

Variables

- `Gsasl_mechanism gsasl_gssapi_mechanism`

7.112.1 Define Documentation

7.112.1.1 `#define GSASL_GSSAPI_NAME "GSSAPI"`

Definition at line 28 of file x-gssapi.h.

7.112.2 Function Documentation

7.112.2.1 `int _gsasl_gssapi_client_decode (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 327 of file gssapi/client.c.

7.112.2.2 `int _gsasl_gssapi_client_encode (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 272 of file gssapi/client.c.

7.112.2.3 `void _gsasl_gssapi_client_finish (Gsasl_session * sctx, void * mech_data)`

Definition at line 254 of file gssapi/client.c.

7.112.2.4 `int _gsasl_gssapi_client_start (Gsasl_session * sctx, void ** mech_data)`

Definition at line 56 of file gssapi/client.c.

7.112.2.5 `int _gsasl_gssapi_client_step (Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 75 of file gssapi/client.c.

7.112.2.6 `void _gsasl_gssapi_server_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 272 of file gssapi/server.c.

7.112.2.7 `int _gsasl_gssapi_server_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 56 of file gssapi/server.c.

7.112.2.8 `int _gsasl_gssapi_server_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 118 of file gssapi/server.c.

7.112.3 Variable Documentation

7.112.3.1 `Gsasl_mechanism gsasl_gssapi_mechanism`

Definition at line 30 of file gssapi/mechinfo.c.

7.113 x-ntlm.h File Reference

```
#include <gsasl.h>
```

Defines

- `#define GSASL_NTLM_NAME "NTLM"`

Functions

- `int _gsasl_ntlm_client_start(Gsasl_session *sctx, void **mech_data)`
- `int _gsasl_ntlm_client_step(Gsasl_session *sctx, void *mech_data, const char *input, size_t input_len, char **output, size_t *output_len)`
- `void _gsasl_ntlm_client_finish(Gsasl_session *sctx, void *mech_data)`

Variables

- `Gsasl_mechanism gsasl_ntlm_mechanism`

7.113.1 Define Documentation

7.113.1.1 `#define GSASL_NTLM_NAME "NTLM"`

Definition at line 28 of file x-ntlm.h.

7.113.2 Function Documentation

7.113.2.1 `void _gsasl_ntlm_client_finish(Gsasl_session * sctx, void * mech_data)`

Definition at line 167 of file ntlm.c.

7.113.2.2 `int _gsasl_ntlm_client_start(Gsasl_session * sctx, void ** mech_data)`

Definition at line 45 of file ntlm.c.

7.113.2.3 `int _gsasl_ntlm_client_step(Gsasl_session * sctx, void * mech_data, const char * input, size_t input_len, char ** output, size_t * output_len)`

Definition at line 61 of file ntlm.c.

7.113.3 Variable Documentation

7.113.3.1 `Gsasl_mechanism gsasl_ntlm_mechanism`

Definition at line 30 of file ntlm/mechinfo.c.

7.114 xcode.c File Reference

```
#include "internal.h"
```

Functions

- `int gsasl_encode(Gsasl_session *sctx, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int gsasl_decode(Gsasl_session *sctx, const char *input, size_t input_len, char **output, size_t *output_len)`

7.114.1 Function Documentation

7.114.1.1 `int gvasl_decode(Gvasl_session * sctx, const char * input, size_t input_len, char ** output, size_t * output_len)`

gvasl_decode:

Parameters

| | |
|-------------------|------------------------------------|
| <i>sctx</i> | libgvasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | newly allocated output byte array. |
| <i>output_len</i> | size of output byte array. |

Decode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

The buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling free().

Return value: Returns GSASL_OK if encoding was successful, otherwise an error code.

Definition at line 96 of file xcode.c.

7.114.1.2 `int gvasl_encode(Gvasl_session * sctx, const char * input, size_t input_len, char ** output, size_t * output_len)`

gvasl_encode:

Parameters

| | |
|-------------------|------------------------------------|
| <i>sctx</i> | libgvasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | newly allocated output byte array. |
| <i>output_len</i> | size of output byte array. |

Encode data according to negotiated SASL mechanism. This might mean that data is integrity or privacy protected.

The buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling free().

Return value: Returns GSASL_OK if encoding was successful, otherwise an error code.

Definition at line 64 of file xcode.c.

7.115 xfinish.c File Reference

```
#include "internal.h"
```

Functions

- void [gsasl_finish](#) ([Gsasl_session](#) *sctx)

7.115.1 Function Documentation

7.115.1.1 void [gsasl_finish](#) ([Gsasl_session](#) * *sctx*)

[gsasl_finish](#):

Parameters

| | |
|-------------|--------------------------|
| <i>sctx</i> | libgsasl session handle. |
|-------------|--------------------------|

Destroy a libgsasl client or server handle. The handle must not be used with other libgsasl functions after this call.

Definition at line 33 of file xfinish.c.

7.116 xstart.c File Reference

```
#include "internal.h"
```

Functions

- int [gsasl_client_start](#) ([Gsasl](#) *ctx, const char *mech, [Gsasl_session](#) **sctx)
- int [gsasl_server_start](#) ([Gsasl](#) *ctx, const char *mech, [Gsasl_session](#) **sctx)

7.116.1 Function Documentation

7.116.1.1 int [gsasl_client_start](#) ([Gsasl](#) * *ctx*, const char * *mech*, [Gsasl_session](#) ** *sctx*)

[gsasl_client_start](#):

Parameters

| | |
|-------------|---------------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>mech</i> | name of SASL mechanism. |
| <i>sctx</i> | pointer to client handle. |

This functions initiates a client SASL authentication. This function must be called before any other [gsasl_client_*](#)() function is called.

Return value: Returns GSASL_OK if successful, or error code.

Definition at line 119 of file xstart.c.

7.116.1.2 `int gsasl_server_start(Gsasl * ctx, const char * mech, Gsasl_session ** sctx)`

gsasl_server_start:

Parameters

| | |
|-------------|---------------------------|
| <i>ctx</i> | libgsasl handle. |
| <i>mech</i> | name of SASL mechanism. |
| <i>sctx</i> | pointer to server handle. |

This functions initiates a server SASL authentication. This function must be called before any other `gsasl_server_*`(`)` function is called.

Return value: Returns GSASL_OK if successful, or error code.

Definition at line 137 of file xstart.c.

7.117 xstep.c File Reference

```
#include "internal.h"
```

Functions

- `int gsasl_step (Gsasl_session *sctx, const char *input, size_t input_len, char **output, size_t *output_len)`
- `int gsasl_step64 (Gsasl_session *sctx, const char *b64input, char **b64output)`

7.117.1 Function Documentation

7.117.1.1 `int gsasl_step(Gsasl_session * sctx, const char * input, size_t input_len, char ** output, size_t * output_len)`

gsasl_step:

Parameters

| | |
|-------------------|--|
| <i>sctx</i> | libgsasl session handle. |
| <i>input</i> | input byte array. |
| <i>input_len</i> | size of input byte array. |
| <i>output</i> | newly allocated output byte array. |
| <i>output_len</i> | pointer to output variable with size of output byte array. |

Perform one step of SASL authentication. This reads data from the other end (from and), processes it (potentially invoking callbacks to the application), and writes data to server (into newly allocated variable and that indicate the length of).

The contents of the buffer is unspecified if this functions returns anything other than GSASL_OK or GSASL_NEEDS_MORE. If this function return GSASL_OK or GSASL_NEEDS_MORE, however, the buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling free ().

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Definition at line 51 of file xstep.c.

7.117.1.2 `int gsasl_step64 (Gsasl_session * sctx, const char * b64input, char ** b64output)`

gsasl_step64:

Parameters

| | |
|------------------------|---|
| <code>sctx</code> | libgsasl client handle. |
| <code>b64input</code> | input base64 encoded byte array. |
| <code>b64output</code> | newly allocated output base64 encoded byte array. |

This is a simple wrapper around [gsasl_step\(\)](#) that base64 decodes the input and base64 encodes the output.

The contents of the buffer is unspecified if this functions returns anything other than GSASL_OK or GSASL_NEEDS_MORE. If this function return GSASL_OK or GSASL_NEEDS_MORE, however, the buffer is allocated by this function, and it is the responsibility of caller to deallocate it by calling free ().

Return value: Returns GSASL_OK if authenticated terminated successfully, GSASL_NEEDS_MORE if more data is needed, or error code.

Definition at line 86 of file xstep.c.

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