

User Guide

Dynamark Authentication Protocol

Supported technologies

D-/F-Series

D310/D310e

G-/Gx-Series

Dx-Series

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0 Version History

| Revision | Date | Changes |
|----------|-------------|---|
| R01 | 25-Jun-2021 | First release of combined D/F-Series & D310/D310e & G/Gx-Series Dynamark authentication user guide. |
| R02 | 11-Apr-2025 | Added Dx-Series support to document. Fixed description of LOGIN command (MD5 is only supported on D/F-Series). Updated document font. |

1 General

To authenticate from a remote server to the controller, printer or laser coder, an implemented TCP/IP server is needed on the remote peer.

Contact Domino to receive details about configuring the remote access.

There are several commands for the authentication process regarding user login and password policy.

The authentication server must provide and manage the information listed in the two tables below.

For each user:

| Name of Variable | Description |
|-----------------------|--|
| nUserIndex: Integer | Unique index of this user. |
| strUserID: Text | Unique login-name. |
| nStatus: Integer | Enumeration of a status. Can be ACTIVE=0, EXPIRED, DORMANT, DELETED, LOCKED. |
| strSurname | Text |
| strForename | Text |
| strDepartment | Text |
| strGrantID | Text Encoded bitset, defining the permissions. |
| Groups: set | The set of groups to which the user belongs. Each group has a strGrantID as above. |
| strPassword | Text |
| expiry: Date | Date When this account will expire (can be not set). |
| nChangePasswordPeriod | Integer Period in days, after which a password must be changed. |

| | |
|---------------------|---|
| ChangePassword | Date When the next password change must take place. |
| nTimeout | Integer Time in minutes after which a user will be logged out if inactive. |
| nLoginattempts | Integer Number of unsuccessful login attempts. |
| bMustchangePassword | Boolean Flag that the user must change the password. Can be set e.g. by the admin if stolen passwords are assumed, or at first login of the user with a preset password. |

Globally for Password Policy:

| Name of Variable | Description |
|-------------------|---|
| nMinLength | Minimum length of password |
| nMinUpperChar | Minimum number of upper-case characters |
| nMinLowerChar | Minimum number of lower-case characters |
| nMinNumericChar | Minimum number of numeric characters |
| nMaxMultipleChar | Maximum number of multiple character occurrences |
| nMaxPartOfUserID | Maximum number of consecutive characters of the user-ID |
| nMinReusePassword | Minimum number of password changes until a password may be reused again |
| nMinSpecChar | Minimum number of special characters (see strSpecChar below) |
| nMaxLoginAttempts | Maximum number of unsuccessful login attempts allowed before the account is locked |
| strSpecChar | Characters of which a certain number must appear in the password (see nMinSpecChar above) |
| nPWChangeRemind | Number of days to warn the user that the password must be changed. |
| nExpiryRemind | Number of days to warn the user that the account will expire. |

2 G-Series Specifics

2.1 Authentication

The G-Series has four user levels. These user levels are "User", "Settings", "Service" and "Manufacturer". There is no password necessary for the level "User". The "User" level can only perform basic operations, such as loading of print messages, and turning print groups on.

The function "LOGOUT" is used to exit from any higher user level back to "User". To enter "Settings", "Service" or "Manufacturer", fixed passwords are sufficient.

If the authentication function is activated the "User" will no longer be allowed to load messages. To load and print messages, the minimum user level is "Settings". When the authentication function is activated, every user must sign in with a unique username and password.

If the external authentication function is activated, the menu "change user level" will give the possibility to enter a unique username and password. These two values will be sent to the external authentication server which will check the values and return the access rights either as "Settings", "Service" or "Manufacturer" for the user.

These access rights are passed in parameter "strGroupID" as plaintext and in the parameter "strUserGrant" as bit coded:

- "Manufacturer" : "strUserGrant" = "00000008"
- "Service" : "strUserGrant" = "00000004"
- "Settings" : "strUserGrant" = "00000002"
- "User" : "strUserGrant" = "00000001"

If the username and password do not match, an error message will be shown and the password entry will be cleared.

- The name of the last user who signed in will be remembered until printer is rebooted, so it is sufficient to re-enter just the password if a user wants to sign in again.
- The access rights of the current user either "User" or "Settings" or "Service" or "Manufacturer" will be shown on the screen.

If remote security mode is activated, the connection to the authentication server will be checked by client. The client tries to establish the connection every 20 seconds. The existing connection is monitored by sending of the command "GETSECURITYMODE" every 10 seconds. After one unanswered request, a fault condition will be detected. The loss of the connection will be reported with an alarm. The alarm can be configured in the menu "Service > Set-Up > Alarms Errors".

3 Gx-Series Specifics

3.1 Authentication

The Gx-Series has four user levels. These user levels are "User", "Settings", "Service" and "Administrator". There is no password for the level "User". The "User" level can only perform basic operations, such as start/stop printing. To be able to load and print labels, the minimum user level is "Settings".

The command "LOGOUT" is used to exit from any higher user level back to "User". To enter "Settings", "Service" or "Administrator", fixed passwords are sufficient.

When the remote security mode is activated, every user must sign in with a unique username and password. The username and password values will be sent to the external authentication server which will check the values and return the access rights either as "Settings", "Service" or "Administrator" for the user.

These access rights are passed in parameter "strGroupID" as plaintext and in the parameter "strUserGrant" as bit coded:

- "Administrator" : "strUserGrant" = "00000008"
- "Service" : "strUserGrant" = "00000004"
- "Settings" : "strUserGrant" = "00000002"
- "User" : "strUserGrant" = "00000001"

If the username and password do not match, an error message will be shown and the password entry will be cleared.

- The name of the last user who signed in will be remembered until printer is rebooted, so it is sufficient to re-enter just the password if a user wants to sign in again.
- The access rights of the current user either "User" or "Settings" or "Service" or "Administrator" will be shown on the screen.

If remote security mode is activated, the connection to the authentication server will be checked by client. The client tries to establish the connection every 20 seconds. The existing connection is monitored by sending of the command "GETSECURITYMODE" every 10 seconds. After one unanswered request, a fault condition will be detected. The loss of the connection will be reported with an alarm. The alarm can be configured in the menu "*Home > Setup > Alert configuration*".

4 Dx-Series Specifics

4.1 Authentication

The Dx-Series with remote security has four user levels. These user levels are "Logout", "Operator", "Supervisor" and "Administrator". There is no password for the level "Logout". The "Logout" level can only see the home screen. To be able to load and print labels, the minimum user level is "Operator".

The command "LOGOUT" is used to exit from any higher user level back to "Logout".

When the remote security mode is activated, every user must sign in with a unique username and password. The username and password values will be sent to the external authentication server which will check the values and return the access rights either as "Operator", "Supervisor" or "Administrator" for the user.

These access rights are passed in parameter "strGroupID" as plaintext and in the parameter "strUserGrant" as bit coded:

- "Administrator" : "strUserGrant" = "00000008"
- "Supervisor" : "strUserGrant" = "00000004"
- "Operator" : "strUserGrant" = "00000002"
- "Logout" : "strUserGrant" = "00000001"

If the username and password do not match, an error message will be shown and the user name and password entry will be cleared.

If remote security mode is activated, the connection to the authentication server will be checked by client. The client tries to establish the connection every 20 seconds. The existing connection is monitored by sending of the command "GETSECURITYMODE" every 10 seconds. After one unanswered request, a fault condition will be detected. The loss of the connection will be reported with an alarm.

5 Command Syntax

The client connection to an authentication is based on TCP/IP via Ethernet.

The protocol is UTF-8-based. Every command starts with its token which can be of different length (e.g. GETUSER), followed by additional parameters which are comma separated (see 0) and terminated by a carriage-return and a linefeed character (0x0d, 0x0a).

6 Answer Syntax

The returned answer is on of:

- **OK**
- **RESULT <COMMAND> [parameters...]**
Where <COMMAND> is the same token as the sent command
- **ERROR <number>**
(see 0)

7 Parameter Syntax

The parameters are separated with commas as described below:

- No additional blanks, other than those belonging to the parameter before/after the comma can be inserted.
- A comma as a character of the parameter is enclosed in double quotes (, becomes ",")
- A double quote is escaped by a backslash (" becomes \")
- A backslash is escaped by another backslash (\ becomes \\)

Examples:

| Parameter 1 | Parameter 2 | Result |
|------------------|--------------|--------------------------|
| Hello | World | Hello,World |
| Well, what's up? | | Well", " what's up? |
| Well, what's up | Dude? | Well", " what's up,dude? |
| Here comes | A backslash\ | Here comes,a backslash\\ |
| "quoted" | | \ "Quoted" |

8 Error Numbers

The enumeration below is used to send an ERROR as answer:

| No. | Description |
|-----|--|
| 1 | Permission denied |
| 2 | Command not supported |
| 3 | Communication failed |
| 4 | Invalid session ID |
| 5 | Database access failed (in case of an error with a database backend) |
| 6 | The user state should be changed from expired to active, but no valid expiry date is set (see ALTERUSER) |
| 7 | The operation tried to delete a user that is currently logged on (see DELETEUSER) |
| 8 | Unknown command |
| 9 | Unknown response |
| 10 | Unknown client (see REGISTER) |
| 11 | Client has already registered (see REGISTER) |
| 12 | The server cannot perform audit-trail entries and is instructed to deny requests |
| 13 | Wrong number of parameters |
| 14 | A parameter could not be converted (i.e. number expected, but alpha characters received) |
| 15 | An operation tries to edit a deleted account |
| 16 | An operation tries to add a group that already exists |
| 17 | An operation tries to edit a group that does not exist |
| 18 | An operation tries to edit an account that already exists |
| 19 | An operation tries to edit an account that does not exist |

| | |
|----|---|
| 20 | File access failed (in case of an error with a file-based backend) |
| 21 | <i>Dongle not found</i> |
| 22 | An attempt was made to change the password of the special account "service". This action is not possible. |
| 23 | User ID has once been used and was deleted. It cannot be reused due to CFR21 part 11 restrictions. |
| 24 | Unknown error |
| 25 | Not initialised |
| 26 | Not connected |
| 27 | The client has not registered |
| 28 | Command not supported in remote mode |

Errors 4, 21, 26 and 27 occur on the client side, not the server side.

9 Command Reference

Mandatory parameters are enclosed in angular bracket< >.

Optional parameters are enclosed in square brackets [].

The parameter names are prefixed to reflect their data type:

n: Number

str: String

b: Boolean as 0=false, 1=true

ADDGROUP

| Command | |
|--|--|
| ADDGROUP <strExecutingUserID>, <strGroupID>, <strGrants> | |
| Description | |
| Adds a group with a set of granted permissions to the list of groups | |
| Parameter Description | |
| strExecutingUserID | ID of the user who executes this command |
| strGroupID | Name of the new group |
| strGrants | String representing the bitset of granted permissions |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |

Examples

```
ADDGROUP Administrator,dogs,0
```

In the example above, the user "Administrator" adds the group "dogs" to the list of groups. Dogs does not have any permission granted though (0).

See also

DELETEGROUP, GETGROUPS, ALTERGROUP

ADDUSER

| Command | |
|--|--|
| ADDUSER <strExecutingUserID>, <strUserID>, <strPassword>, <strUserGrant>, <strForename>, <strSurname>, <strDepartment>, <nStatus>, <nExpireDate>, <void>, <nPWChangePeriod>, <void>, <nInactivityTimeout>, <bExpireDate>, <bInactivityTimeout> | |
| Description | |
| Creates a new user account. | |
| Parameter Description | |
| strExecutingUserID | ID of the user who executes this command |
| strUserID | User-ID (i.e. login-name) |
| strPassword | Password as cleartext |
| strUserGrants | Encoded string representing the granted permissions |
| strForename | Forename of the user |
| strSurname | Surname of the user |
| strDepartment | Department of the user |
| nStatus | Status of this account. Can be Active Expired (see nExpireDate, bExpireDate) Dormant (i.e. temporarily disabled) Deleted (the account has been deleted, but is still present as reference due to <i>CFR21, part 11</i> compliance) Locked due to too many unsuccessful login attempts |
| nExpireDate | The date when the account will be expired in format YYYYMMDD |
| void | Not used |
| nPWChangePeriod | Timespan in days after which the password must be changed periodically. 0: No change forced >0: Number of days |
| void | Not used |
| nInactivityTimeout | Time in minutes until a user will be logged out automatically if no mouse/keyboard activity is notified. |

See also

GETUSER, GETUSERBYINDEX, DELETEUSER, ALTERUSER

ALTERGROUP

| | |
|--|--|
| Command | |
| ALTERGROUP <strExecutingUserID>, <strGroup>, <strGrants> | |
| Description | |
| Alters the permissions that have been granted for a group | |
| Parameter Description | |
| strExecutingUserID | ID of the user who executes this command |
| strGroupID | Name of the group to be altered |
| strGrants | Encoded string representing the granted permissions |
| Result Description: | |
| Success: | OK |
| Fault: | ERROR <NO> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples - D-/F-Series with Dynamark 3 | |
| <pre>ALTERGROUP Administrator,cats,ffffeff</pre> <p>In the example above, the user Administrator alters the group cats and assigns the permissions fffffeff.</p> <p>Note: Dynamark 3 requires the strUserGrants to be a hexadecimal encoded string representing the granted permissions (see Bit2HexGrantConverter).</p> | |

ALTERUSER

| Command | |
|---|---|
| ALTERUSER <strExecutingUserID>, <strUserID>, <void>, <strUserGrant>, <strForename>, <strSurname>, <strDepartment>, <nStatus>, <nExpireDate>, <void>, <nPWChangePeriod>, <void>, <nInactivityTimeout>, <bExpireDate>, <bInactivityTimeout> | |
| Description | |
| Alters the data of an existing user. The password cannot be altered using this command; due to the special treatment of password policy, use CHANGEPW instead. | |
| Parameter Description: | |
| strExecutingUserID | ID of the user who executes this command |
| strUserID | User ID (i.e. login-ID). The user must exist, hence the login-ID cannot be altered. |
| void | Not used |
| strUserGrants | Encoded string representing the granted permissions |
| strForename | Forename of the user |
| strSurname | Surname of the user |
| strDepartment | Department of the user |
| nStatus | Status of this account. Can be: Active Expired (see nExpireDate, bExpireDate) Dormant (i.e. temporarily disabled) Deleted (the account has been deleted, but is still present as reference due to <i>CFR21, part 11</i> compliance) Locked due to too many unsuccessful login attempts |
| nExpireDate | The date when the account will be expired in format YYYYMMDD |
| void | Not used |
| nPWChangePeriod | Timespan in days after which the password has to be changed periodically. 0: No change forced >0: Number of days |
| void | Not used |

See also

DELETEUSER, ADDUSER, GETUSER, GETUSERBYINDEX

AUTHUSER

| Command | |
|--|--|
| AUTHUSER <strUserID>, <strPassword> | |
| Description | |
| Authenticates a user by their login-ID and password. | |
| Parameter Description | |
| strUserID | User ID (i.e. login-name) |
| strPassword | There are two options for this command depending on the configuration of Dynamark: Default as hexadecimal encoded MD5 hash (see RFC 1321) Configurable not encoded and transfer as plaintext |
| Result Description | |
| Success: | RESULT AUTHUSER <nStatus>,[Message] OK Unknown User-ID Wrong password Optional: If [Message] is set and the login process fails, then the reason is given in the message. In this case nStatus is set to 256. |
| Fault: | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |

Examples

```
AUTHUSER geek42, f362256d0413d368d36c19af64e91609  
RESULT AUTHUSER 0
```

In the example above, the user geek42, whose password's MD5 hash is f362256d0413d368d36c19af64e91609, is to be authenticated. The login-ID/password is valid.

```
AUTHUSER novice, 72713bf88d84eb28ad93e94ae8be1f84  
ERROR 1
```

In the example above, the user novice, whose password's MD5 hash is 72713bf88d84eb28ad93e94ae8be1f84, is to be authenticated. The login-ID is wrong; perhaps user Novice accidentally used Caps-Lock?

See also

GETUSER, LOGIN

AUTOLOGIN

| Command | |
|--|---|
| AUTOLOGIN <strUserID> | |
| Description | |
| Informs the server that a user should be logged in automatically (needed to have a complete audit-trail) | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) |
| Result Description: | |
| Success | RESULT AUTOLOGIN <nStatus> <u>nStatus: OR combined bitset as a decimal number:</u> 0x00=0: OK 0x01=1: Unknown User 0x02=2: Wrong password 0x04=4: - 0x08=8: Account expired 0x10=16: Account locked 0x20=32: Password expired 0x40=64: Remind when account will expire 0x80=128: Remind when password will expire |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |

Examples

```
AUTOLOGIN Anneliese
```

```
RESULT AUTOLOGIN 40
```

In the example above, the user Anneliese should be automatically logged in. However, both the account and the password are expired, so the client should not login this user.

See also

AUTOLOGOUT

AUTOLOGOUT

| | |
|--|--|
| Command | |
| AUTOLOGOUT <strUserID> | |
| Description | |
| Informs the server that a user should be logged out automatically (this is needed to have a complete audit-trail). Returns the granted permissions for the logout state. | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) |
| Result Description | |
| Success | RESULT AUTOLOGOUT <strGrantID> |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>AUTOLOGOUT Anneliese RESULT AUTOLOGOUT 0a</pre> <p>In the example above, the user Anneliese will be automatically logged out by the client. The client may grant permissions 0a in the logout state afterwards.</p> | |
| See also | |
| AUTOLOGIN | |

CHANGEPW

| Command | |
|---|--|
| CHANGEPW <strExecutingUserID>, <strUserID>, <strPassword> | |
| Description | |
| Changes the password of a user. | |
| Parameter Description | |
| strExecutingUserID | User-ID (i.e. login-name) of the user who executes this command. |
| strUserID | ID (i.e. login-name) of the user whose password should be changed. Can be the same as the executing user. |
| strPassword | Cleartext password |
| Result Description | |
| Success | RESULT CHANGEPW <nStatus>,<nTaintedPasswordPolicy> nStatus: 1: OK 2: Unknown User-ID 4: Password policy has been tainted, password has not been changed! nTaintedPasswordPolicy: OR combined bitset as a decimal number: 0x00=0: OK 0x01=1: Too short 0x02=2: Not enough upper-case characters 0x04=4: Not enough lower-case characters 0x08=8: Not enough numeric characters 0x10=16: Too many multiple characters 0x20=32: Too many consecutive characters that also appear in the User-ID 0x40=64: Not enough "special" characters 0x80=128: Password appears in the list of the formerly used N passwords and may not (yet) be reused. |
| Fault | ERROR <no> |

| Supported technology | |
|---|--|
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>CHANGEPW: Administrator,geek42,Hällo_WÖRLD RESULT CHANGEPW 0 0</pre> <p>In the example above, the user Administrator has changed the password for the user geek42 to Hällo_WÖRLD</p> <pre>CHANGEPW geek42,geek42,pwgeek RESULT CHANGEPW 4 34</pre> <p>In the example above, the user geek42 failed to change their password. The password contains too many consecutive characters of the User-ID and too few upper-case characters.</p> | |
| See also | |
| CHECKPW, SETPWPOLICY, GETPWPOLICY | |

CHECKPW

| Command | |
|---|---|
| CHECKPW <strUserID>, <strPassword> | |
| Description | |
| Checks if a password matches or fails the password policy | |
| Parameter Description | |
| strUserID | ID (i.e. login-name) of the user whose password should be checked. |
| strPassword | Clear text password |
| Result Description | |
| Success | RESULT CHECKPW <nTaintedPasswordPolicy> nTaintedPasswordPolicy: OR combined bitset as a decimal number: 0x00=0: OK 0x01=1: Too short 0x02=2: Not enough upper-case characters 0x04=4: Not enough lower-case characters 0x08=8: Not enough numeric characters 0x10=16: Too many multiple characters 0x20=32: Too many consecutive characters that also appear in the User-ID 0x40=64: Not enough "special" characters 0x80=128: Password appears in the list of the formerly used N passwords and may not (yet) be reused. |
| Fault | ERROR <no> |
| Supported technology | |
| LoginD-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |

Examples

```
CHECKPW geek42 UPPERlower123Spec!@|
RESULT CHECKPW 0
```

In the example above, the password for the user geek42 matches the password policy.

See also

CHANGEPW, SETPWPOLICY, GETPWPOLICY

DELETEGROUP

| | |
|---|--|
| Command | |
| DELETEGROUP <strExecutingUserID>, <strGroupID> | |
| Description | |
| Deletes a group. | |
| Parameter Description | |
| strExecutingUserID | ID of the user who executes this command. |
| strGroupID | ID of the group to be deleted. |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>DELETEGROUP cats</pre> <p>In the example above, the group "cats" is deleted.</p> | |
| See also | |
| ADDGROUP, ALTERGROUP, GETGROUPS | |

DELETEUSER

| | |
|---|--|
| Command | |
| DELETEUSER <strExecutingUserID>, <strUserID> | |
| Description | |
| Deletes the user | |
| Parameter Description | |
| strExecutingUserID | ID of the user who executes this command |
| strUserID | User-ID (ie.e login-name) of the user to be deleted |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>DELETEUSER geek42</pre> <p>In the example above, the user "geek42" is deleted.</p> | |
| See also | |
| ADDUSER, ALTERUSER, GETUSERS | |

GETDEPARTMENTS

| | |
|---|--|
| Command | |
| GETDEPARTMENTS | |
| Description | |
| Returns all departments that have been assigned to users. | |
| Result Description | |
| Success | RESULT GETDEPARTMENTS [dep1],[dep2],[...] |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>GETDEPARTMENTS RESULT GETDEPARTMENTS Mathematics,Astrophysics,Computer Science</pre> <p>In the example above, the Mathematics, Astrophysics and Computer Science departments are returned.</p> | |
| See also | |
| ADDUSER, ALTERUSER | |

GETGROUPS

| Command | |
|---|---|
| GETGROUPS | |
| Description | |
| Returns all groups. | |
| Result Description | |
| Success | RESULT GETGROUPS [group_id-1],[grant_id-1],[group_id-2],[group_id-2] ... |
| Fault: | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples - D-/F-Series with Dynamark 3 | |
| <pre>GETGROUPS RESULT GETGROUPS cats,f6ae82d,dogs,0d0a</pre> <p>In the example above, the group cats with grant ID "f6ae82d" and the group dogs with the grant ID "0d0a" is returned.</p> <p>Note: Dynamark 3 requires the strUserGrants to be a hexadecimal encoded string representing the granted permissions (see Bit2HexGrantConverter).</p> | |

GETMUSTCHANGEPW

| | |
|---|---|
| Command | |
| GETMUSTCHANGEPW <strUserID> | |
| Description | |
| Returns if the user must change their password. For example, the first time the user logs in after the account has been created. In that case, the client should initiate a password change before a login can succeed. | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) of the user whose flag is to be acquired. |
| Result Description | |
| Success | RESULT GETMUSTCHANGEPW bFlag bFlag: 0: No password change forced 1: Password change forced |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>GETMUSTCHANGEPW geek42 RESULT GETMUSTCHANGEPW 1</pre> <p>In the example above, the user geek42 must change their password.</p> | |
| See also | |
| SETMUSTCHANGEPW | |

GETPWPOLICY

| Command | |
|--|---|
| GETPWPOLICY | |
| Description | |
| Return the password policy that is applied to new created passwords. | |
| Result Description | |
| Success | RESULT GETPWPOLICY <nMinLength., <nMinUpperChar>, <nMinLowerChar>, <nMinNumericChar>, <nMaxMultipleChar>, <nMaxPartOfUserID>, <nMinReusePassword>, <nMinSpecChar>, <nMaxLoginAttempts>, <strSpecChar> <nMinLength. Minimum length of password <nMinUpperChar> Minimum number of upper-case characters <nMinLowerChar> Minimum number of lower-case characters <nMinNumericChar> Minimum number of numeric characters <nMaxMultipleChar> Maximum number of multiple character occurrences <nMaxPartOfUserID> Maximum number of consecutive characters of the user ID <nMinReusePassword> Minimum number of password changes before a password can be used again <nMinSpecChar> Minimum number of special characters. See "strSpecChar" below. <nMaxLoginAttempts> Maximum number of unsuccessful login attempts before the account will be locked <strSpecChar> Characters of which a certain number must be used in the password. See "nMinSpecChar" above. |
| Fault | ERROR <no> |

| Supported technology | |
|--|--|
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>GETPWPOLICY RESULT GETPWPOLICY 8,3,3,1,4,5,3,1,3,@*!#</pre> <p>In the example above the password policy is:</p> <ul style="list-style-type: none"> • Minimum password length = 8 characters • Minimum number of upper-case characters = 3 • Minimum number of lower-case characters = 3 • Minimum number of numeric characters = 1 • Maximum number of multiple character occurrences = 4 • Maximum number of consecutive characters of the user ID = 5 • Minimum number of password changes before a password can be used again = 3 • Minimum number of special characters = 1 • Maximum number of unsuccessful login attempts before the account will be locked = 3 • Special characters of which a certain number must be used in the password = @ * ! # | |
| See also | |
| SETPWPOLICY | |

GETSECURITYMODE

| Command | |
|---|---|
| GETSECURITYMODE | |
| Description | |
| Returns if the security mode is a simple scheme with a password mapped to a user level, or a CFR21, part 11 compliant mode with discrete users. | |
| Note: Marking system wise there is no difference between Mode 2 and Mode 3. The differentiation is designed for the server application only. | |
| Result Description | |
| Success | RESULT GETSECURITYMODE <nMode> <u>nMode=1</u> There is no user/password scheme, but only a password mapped to a user-level. <u>nMode=2</u> Discrete users with user-id/password are defined. The Authentication Server holds a local user definition database. <u>nMode=3</u> Discrete users with user-id/password are defined. The Authentication Server connects to a remoted user definition database. |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.06.1 |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 |
| Dx-Series | Supported since 3.0.0.0 |

Examples

```
GETSECURITYMODE
```

```
RESULT GETSECURITYMODE 1
```

In the example above, there is no user/password scheme, only a password mapped to a user-level.

GETSETTINGS

| | |
|--|---|
| Command | |
| GETSETTINGS | |
| Description | |
| Returns the number of days to remind before account expiration/forced password change. | |
| Result Description | |
| Success | RESULT GETSETTINGS <nExpiryPeriodRemind>, <nPWChangePeriodRemind> |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples: | |
| <pre>GETSETTINGS RESULT GETSETTINGS 30,30</pre> <p>In the example above, the user will be reminded 30 days before the account expires and 30 days before a password change will be forced.</p> | |
| See also: | |
| SETSETTINGS | |

GETUSER

| Command | |
|-----------------------------------|--|
| GETUSER <strUserID>,[strPassword] | |
| Description | |
| Returns information about a user. | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) of the user whose data is to be acquired. |
| strPassword | This parameter is optional. It is only sent in securitymode 0, where no distinct users exist. The first parameter is omitted, as all users (i.e. user levels) share a password. |
| Result Description | |
| Success | <p>RESULT GETUSER <nStatus>, <nIndex>, <strUserID>, <strGrant>, <strUserGrant>, <strGroupsGrant>, <strForename>, <strSurname>, <strDepartment>, <nStatus>, <nExpireDate>, <nExpireCountdown>, <nPWChangePeriod>, <nPWChangeDate>, <nPWChangeCountdown>, <nInactivityTimeout>, <bExpireNotify>, <bPWChangeNotify>, <nLoginAttempts>, <bExpireDate>, <bInactivityTimeout>, <strGroupID></p> <p>nReturnStatus 0: OK 1: Unknown User-ID</p> <p>nIndex Internal representation of the user as a numerical index</p> <p>strUserID User-ID (same as input parameter, or User-Level name in security mode 0)</p> <p>strGrant Granted permissions as a combination of the individually and per-group granted permissions</p> <p>strUserGrant Individual granted permissions</p> |

| | |
|--|---|
| | <p>strGroupsGrant Permissions granted by the groups the user belongs to</p> <p>strForename Forename</p> <p>strSurname Surname</p> <p>strDepartment Department</p> <p>nStatus 0: Active 1: Expired 2: Dormant (i.e. temporarily disabled) 3: Deleted 4: Locked</p> <p>nExpireDate The date when the account will be expired in format YYYYMMDD</p> <p>nExpireCountdown Days until the account expires</p> <p>nPWChangePeriod Timespan in days after which the password has to be changed periodically. 0: No change forced >0: Number of days</p> <p>nPWChangeDate The date when the password has to be changed in format YYYYMMDD</p> <p>nPWChangeCountdown Days until the password has to be changed</p> <p>nInactivityTimeout</p> |
|--|---|

| | |
|-----------------------------|--|
| | <p>Time in minutes until a user should be logged out automatically if no mouse/keyboard activity is notified.</p> <p>bExpireNotify Flag (0/1) if the user should be informed when the account will expire</p> <p>bPWChangeNotify Flag (0/1) if the user should be informed when the password needs to be changed</p> <p>nLoginAttempts Number of unsuccessful login attempts</p> <p>bExpireDate (0/1) account expiration disabled/enabled</p> <p>bInactivityTimeout (0/1) inactivity timeout disabled/enabled</p> <p>strGroupID textual representation of the user's group/grant level</p> |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.06.1 Revised in v4.10.3 to support "bInactivityTimeout" and "nInactivityTimeout". |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 |
| Dx-Series | Supported since 3.0.0.0 |

Examples - D-/F-Series with Dynamark 3

```
GETUSER Geek42
```

```
RESULT GETUSER 0, 11, geek42, f7fde7efaa2f, f7fde7efaa21, f7fde7efaa2f,  
John, von Neumann, Mathematics, 0, 20501123, 3245, 180, 20250125, 92, 5,  
0, 0, 0, 1, 1
```

In the example above:

- Return Status = OK
- Numerical Index = 11
- User-ID = geek42
- Granted Permissions = f7fde7efaa2f
- User Granted Permissions = f7fde7efaa21
- Group Granted Permissions = f7fde7efaa2f
- User's Forename = John
- User's Surname = von Neumann
- Department = Mathematics
- Account Status = Active
- Account Expiry Date = 23rd November 2050
- Days until the account expires = 3245
- Days between periodical password changes = 180
- Date when the password must be changed = 25th January 2025
- Days left until the password must be changed = 92 days
- Activity timeout = 5 minutes
- Expiry notification = The user will not be notified
- Password change notification = The user will not be notified
- Number of allowed unsuccessful login attempts = 0
- Account expiration = enabled
- Inactivity timeout = enabled

Note: Dynamark 3 requires the strUserGrants to be a hexadecimal encoded string representing the granted permissions (see Bit2HexGrantConverter).

- Account Expiry Date = 23rd November 2050
- Days until the account expires = 3245
- Days between periodical password changes = 180
- Date when the password must be changed = 25th January 2025
- Days left until the password must be changed = 92 days
- Activity timeout = 5 minutes
- Expiry notification = The user will not be notified
- Password change notification = The user will not be notified
- Number of allowed unsuccessful login attempts = 0
- Account expiration = enabled
- Inactivity timeout = enabled

Note: Dynamark 4 requires the strUserGrants to be a binary encoded string representing the granted permissions. It needs to contain the prefix: grantqs", "

Examples - G-Series

```
GETUSER hugo <CR><LF>
RESULT GETUSER 0,1234, hugo,0, 00000008, 0,,,, 0,0, -1,0,20131206,
-1,0,0,0,0,0,0, Manufacturer
```

Examples - Dx-Series

```
GETUSER hugo
RESULT GETUSER 0,1234,hugo,0,00000008, 0,,,,0,0,-1,0,20250319,
-1,0,0,0,0,0,0, Administrator
```

See also

GETUSERBYINDEX, ADDUSER, ALTERUSER

GETUSERBYINDEX

| Command | |
|---|---|
| GETUSERBYINDEX nIndex | |
| Description | |
| Convenience command. Does the same as GETUSER but uses the previously acquired index of the user. | |
| Parameter Description | |
| nIndex | Index, previously acquired by a GETUSER |
| Result Description | |
| Success | <p>RESULT GETUSERBYINDEX <nStatus>, <nIndex>, <strUserID>, <strGrant>, <strUserGrant>, <strGroupsGrant>, <strForename>, <strSurname>, <strDepartment>, <nStatus>, <nExpireDate>, <nExpireCountdown>, <nPWChangePeriod>, <nPWChangeDate>, <nPWChangeCountdown>, <nInactivityTimeout>, <bExpireNotify>, <bPWChangeNotify>, <nLoginAttempts>, <bExpireDate>, <bInactivityTimeout></p> <p>nReturnStatus 0: OK 1: Unknown User-ID</p> <p>nIndex Internal representation of the user as a numerical index</p> <p>strUserID User-ID (same as input parameter, or User-Level name in security mode 0)</p> <p>strGrant Granted permissions as a combination of the individually and per-group granted permissions</p> <p>strUserGrant Individual granted permissions</p> <p>strGroupsGrant Permissions granted by the groups the user belongs to</p> |

| | |
|--|---|
| | <p>strForename Forename</p> <p>strSurname Surname</p> <p>strDepartment Department</p> <p>nStatus 0: Active 1: Expired 2: Dormant (i.e. temporarily disabled) 3: Deleted 4: Locked</p> <p>nExpireDate The date when the account will be expired in format YYYYMMDD</p> <p>nExpireCountdown Days until the account expires</p> <p>nPWChangePeriod Timespan in days after which the password has to be changed periodically. 0: No change forced >0: Number of days</p> <p>nPWChangeDate The date when the password has to be changed in format YYYYMMDD</p> <p>nPWChangeCountdown Days until the password has to be changed</p> <p>nInactivityTimeout Time in minutes until a user should be logged out automatically if no mouse/keyboard activity is notified.</p> |
|--|---|

| | |
|-----------------------------|---|
| | <p>bExpireNotify Flag (0/1) if the user should be informed when the account will expire</p> <p>bPWChangeNotify Flag (0/1) if the user should be informed when the password needs to be changed</p> <p>nLoginAttempts Number of unsuccessful login attempts</p> <p>bExpireDate (0/1) account expiration disabled/enabled</p> <p>bInactivityTimeout (0/1) inactivity timeout disabled/enabled</p> |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |

Example - D-/F-Series with Dynamark 3

```
GETUSERBYINDEX 11  
RESULT GETUSERBYINDEX 0, 11, geek42, f7fde7efaa2f, f7fde7efaa21,  
f7fde7efaa2f, John, von Neumann, Mathematics, 0, 205001123, 3245, 180,  
20250125, 92, 5, 0, 0, 0, 1, 1
```

In the example above:

- Return Status = OK
- Numerical Index = 11
- User-ID = geek42
- Granted Permissions = f7fde7efaa2f
- User Granted Permissions = f7fde7efaa21
- Group Granted Permissions = f7fde7efaa2f
- User's Forename = John
- User's Surname = von Neumann
- Department = Mathematics
- Account Status = Active
- Account Expiry Date = 23rd November 2050
- Days until the account expires = 3245
- Days between periodical password changes: 180
- Date when the password must be changed: 25th January 2025
- Days left until the password must be changed: 92 days
- Activity timeout: 5 minutes
- Expiry notification: The user will not be notified
- Password change notification: The user will not be notified
- Number of allowed unsuccessful login attempts: 0
- Account expiration: enabled
- Inactivity timeout: enabled

Note: Dynamark 3 requires the strUserGrants to be a hexadecimal encoded string representing the granted permissions (see Bit2HexGrantConverter).

- Account Status = Active
- Account Expiry Date = 23rd November 2050
- Days until the account expires = 3245
- Days between periodical password changes = 180
- Date when the password must be changed = 25th January 2025
- Days left until the password must be changed = 92 days
- Activity timeout = 5 minutes
- Expiry notification = The user will not be notified
- Password change notification = The user will not be notified
- Number of allowed unsuccessful login attempts = 0
- Account expiration = enabled
- Inactivity timeout = enabled

Note: Dynamark 4 requires the strUserGrants to be a binary encoded string representing the granted permissions. It needs to contain the prefix: grantqs", "

See also

GETUSER, ADDUSER, ALTERUSER

LOGIN

| Command | |
|-------------------------------------|--|
| LOGIN <strUserID>,strPassword | |
| Description | |
| Log-in with a user-ID and password. | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) of the user whose data is to be acquired. |
| strPassword | Depending on the coder the following options for this parameter are available: No encoding and transfer as plaintext (Available on all printer, default on all except D-/F-Series) Hexadecimal encoded MD5 hash (see RFC 1321) (Only available on D-/F-Series and default option there) |
| Result Description | |
| Success | RESULT LOGIN <nStatus>,[Message] <nStatus> nStatus: OR combined bitset as a decimal number: <ul style="list-style-type: none"> • 0x00=0: OK • 0x01=1: Unknown User • 0x02=2: Wrong password • 0x04=4: - • 0x08=8: Account expired • 0x10=16: Account locked • 0x20=32: Password expired • 0x40=64: Remind when account will expire • 0x80=128: Remind when password will expire • 0x100=256: Remote Login Requested Optional: If [Message] is set and the login process fails, then the reason is displayed using the given message text. |
| Fault | ERROR <no> |

| Supported technology | |
|---|--|
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.06.1 |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 |
| Dx-Series | Supported since 3.0.0.0 |
| Example - Plaintext | |
| <pre>LOGIN Administrator admin RESULT LOGIN 0</pre> | |
| Example - MD5 | |
| <pre>LOGIN geek42 f362256d0413d368d36c19af64e91609 RESULT LOGIN 0</pre> <p>In the example above, the User-ID "geek42" with the password "f362256d0413d368d36c19af64e91609" is successfully logged in.</p> <pre>LOGIN geek42 f362256d0413d368d36c19af64e91609 RESULT LOGIN 256,Server does not know this user</pre> <p>In the example above, the User-ID "geek42" with the password "f362256d0413d368d36c19af64e91609" cannot be logged in. A text box displaying "Server does not know this user" is shown on the user interface.</p> | |
| See also | |
| AUTOLOGIN | |

LOGOUT

| | |
|--|--|
| Command | |
| LOGOUT <strUserID> | |
| Description | |
| Logout the user | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) |
| Result Description | |
| Success | RESULT LOGOUT <strGrantID> |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.08.2 |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 |
| Dx-Series | Supported since 3.0.0.0 |
| Examples | |
| <pre> LOGOUT Anneliese RESULT LOGOUT 0a </pre> <p>In the example above, the user Anneliese will be logged out by the client. The client may grant permissions 0a in the logout state afterwards.</p> | |
| See also | |
| AUTOLOGOUT | |

QUIT

| | |
|---|--|
| Command | |
| QUIT | |
| Description | |
| Asks the server process to terminate gracefully | |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| QUIT OK | |

REGISTER

| | |
|--|--|
| Command | |
| REGISTER <nTpeID>, <strIdentifier> | |
| Description | |
| Registers a client. The nTpeID and strIdentifier should be used to generate client-specific audit-trail entries, where a coherent set of devices has the same nTpeID, and the strIdentifier is unique for each device of this type. | |
| Parameter Description | |
| nTpeID | Numerical identifier for a coherent group of devices |
| strIdentifier | Unique identifier for this client |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.06.1 |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 |
| Dx-Series | Supported since 3.0.0.0 |
| Examples | |
| <pre>REGISTER 0,Domino OK</pre> <p>In the example above, the client called "Domino" has registered successfully.</p> | |

SETMUSTCHANGEPW

| | |
|---|--|
| Command | |
| SETMUSTCHANGEPW <strExecutingUserID>, <strUserID>, <bChange> | |
| Description | |
| Sets/resets the flag that the user must change the password before a login may succeed. | |
| Parameter Description | |
| strExecutingUserID | ID of the user who executes this command |
| strUserID | User-ID (i.e. login-name) |
| bChange | 0/1 |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>SETMUSTCHANGEPW Administrator,geek42,1 OK</pre> <p>In the example above, the Administrator has executed the command. The user geek42 must change their password when they next attempt to login.</p> | |
| See also | |
| GETMUSTCHANGEPW | |

SETPWPOLICY

| Command | |
|--|---|
| SETPWPOLICY <strExecutingUser>, <nMinLength>, <nMinUpperChar>, <nMinLowerChar>, <nMinNumericChar>, <nMaxMultipleChar>, <nMaxPartOfUserID>, <nMinReusePassword>, <nMinSpecChar>, <nMaxLoginAttempts>, <strSpecChar> | |
| Description | |
| Sets the password policy that will be applied when new passwords are set | |
| Parameter Description | |
| strExecutingUser | ID of the user who executes this command |
| nMinLength | Minimum length of password |
| nMinUpperChar | Minimum number of upper-case characters |
| nMinLowerChar | Minimum number of lower-case characters |
| nMinNumericLowerChar | Minimum number of numeric characters |
| nMaxMultipleChar | Maximum number of multiple character occurrences |
| nMaxPartOfUserID | Maximum number of consecutive characters of the user-ID |
| nMinReusePassword | Minimum number of password changes until a password may be reused again |
| nMinSpecChar | Minimum number of special characters (see strSpecChar below) |
| nMaxLoginAttempts | Maximum number of unsuccessful login attempts until the account is locked |
| strSpecChar | Characters of which a certain number must appear in the password (see nMinSpecChar above) |
| Result Description | |
| Success | OK |
| Fault | ERROR <no> |

| Supported technology | |
|--|--|
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre> SETPWPOLICY Administrator,8,3,3,1,4,5,3,1,3,@*!# OK </pre> <p>In the example above, the user Administrator has set the password policy to:</p> <ul style="list-style-type: none"> • Minimum length of password = 8 • Minimum number of upper-case characters = 3 • Minimum number of lower-case characters = 3 • Minimum number of numeric characters = 1 • Maximum number of multiple character occurrences = 4 • Maximum number of consecutive characters of the user-ID = 5 • Minimum number of password changes until a password may be reused again = 3 • Minimum number of special characters = 1 • Maximum number of unsuccessful login attempts until the account is locked =3 • Characters of which a certain number must appear in the password = @*!# | |
| See also | |
| GETPWPOLICY, CHANGEPW, CHECKPW, GETMUSTCHANGEPW | |

SETSETTINGS

| Command | |
|---|--|
| SETSETTINGS <nExpiryPeriodRemind>, <nPWChangePeriodRemind> | |
| Description | |
| Sets the number of days to remind about account expiration/forced password change | |
| Parameter Description | |
| nExpiryPeriodRemind | Number of days to remind before account expiration |
| nPWChangePeriodRemind | Number of days to remind before a forced password change |
| Result Description: | |
| Success: | OK |
| Fault: | ERROR <no> |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| <pre>SETSETTINGS 30.15 OK</pre> <p>In the example above, the reminder for account expiry is set to 30 days and the reminder for forced password change is set to 15 days.</p> | |
| See also | |
| GETSETTINGS | |

SIGN

| Command | |
|---|---|
| SIGN <strUserID>, <SignId> | |
| Description | |
| User wants to sign electronically. The action is given by the SignId. | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) of the user |
| strSignId | Actions to sign: 0: Send To Printer 1: Save Message/Label 2: Delete Message/Label 3: Rename Message/Label 4: Create Message/Label Store 5: Delete Message/Label Store 6: System Setup 7: Initial Setup Wizard 8: Restore 9: Remove File 10: Load File 11: Setup User 12: Setup Groups 13: Password Policy 14: Dynamic Text Setup 15: Print Field Offset 16: Laser Parameters 17: Delete User Action Log |
| Result Description: | |
| Success: | OK |
| Fault: | ERROR <no> |

| Supported technology | |
|---|--|
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.4.0 |
| D310/D310e | Not supported |
| G-Series | Not supported |
| Gx-Series | Not supported |
| Dx-Series | Not supported |
| Examples | |
| SIGN geek42,0 OK | |
| In the example above, the user geek42 has signed "Send To Printer". | |

10 APPENDIX A: SIGNALS

Signals will be sent by the client. The server doesn't respond on signals.

10.1 SIG_USERCHANGED

| Notification | |
|--|--|
| SIG_USERCHANGED | |
| Description | |
| This is a notification message and not a command. It will be sent if login/logout is activated with "MSG 1" or "MSG 2" and the operation was successful. | |
| Parameter Description | |
| strUserID | User-ID (i.e. login-name) |
| strUserGrants | Encoded string representing the granted permissions |
| strForename | Forename of the user |
| strSurname | Surname of the user |
| strDepartment | Department of the user |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.5.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.08.2 |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 |
| Dx-Series | Supported since 3.0.0.0 |
| Examples - D-/F-Series with Dynamark 3 | |
| <pre>SIG_USERCHANGED geek42,13ffe,John,von Neumann,Production</pre> | |
| <p>Note: Dynamark 3 requires the strUserGrants to be a hexadecimal encoded string representing the granted permissions (see Bit2HexGrantConverter).</p> | |

11 APPENDIX B: MESSAGES

Messages will be sent by the server.

11.1 MSG

| Message | |
|-----------------------------|--|
| MSG <MessageId> | |
| Description | |
| Message sent by the server. | |
| Parameter Description | |
| MessageId | See "Authentication message-ids" |
| Supported technology | |
| D-/F-Series | Supported since Dynamark 3 Authentication Client 1.5.0 |
| D310/D310e | Not supported |
| G-Series | Supported since Dynamark G-Series Software v4.08.2 |
| Gx-Series | Supported since GxOEM 1.4.1.0, GxIC7 3.4.1.0 and GxIC10 v5.4.1.0 Only MSG2 and MSG3 are supported. MSG1 is not currently supported. |
| Dx-Series | Supported since 3.0.0.0 |
| Examples | |
| MSG1 | |

11.2 Authentication Message-IDs

| MesgID | Message | Description of Message |
|--------|---|---|
| 1 | MSG 1 | Logging server has disconnected from the authentication server. |
| 2 | MSG 2,<strUserID>,<strUserGrants>, <strForename>,<strSurname>, <strDepartment> | Login – Sets the strUserID of the user to be logged in. See SIG_USERCHANGED. |
| 3 | MSG 3,<strLogoutGrants> | Logout – Would cause a logout. |

12 Document Reference

Doc-0018559 User Guide: Dynamark Interface Communication Protocol

Doc-0018741 User Guide: Dynamark Interface Logging Protocol