

Configure TLS for LDAP

OPERATING INSTRUCTIONS

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1 Introduction

This document describes how to configure Transport Layer Security (TLS) between LDAP Server and the Management Element (ME).

Authentication of the LDAP server and the ME, and encryption of the LDAP communication, are established by Public-Key Infrastructure (PKI) X.509 certificates.

TLS connection uses the system-wide TLS cipher suite configured in the managed object *Tls* see OPI *Configure TLS Ciphers*.

1.1 Prerequisites

This section describes the prerequisites, which must be fulfilled before using the procedure.

1.1.1 Conditions

The following conditions must apply:

- The user has the System Security Administrator role.
- The LDAP server is set up for TLS and has an X.509 certificate.
- The x.509 certificate that the LDAP server sends to the ME to set up TLS is constructed properly: The `subjectAltName` (or `subject`) field in the certificate contains the Uniform Resource Identifier (URI), which is configured in the ME to reach the LDAP server. That is, the attribute `ldapIpAddress` in *Ldap* Managed Object (MO).
- The MO for the node credential certificate for LDAP TLS is known.
- The MO for the trust category for LDAP TLS is known.
- An Ericsson Command-Line Interface (ECLI) session in Exec mode is in progress.





2 Procedure

To configure TLS for LDAP:

1. Navigate to the *Ldap* MO, for example:

```
>dn ManagedElement=NODE06ST,SystemFunctions=1,SecM=1,UserManagement=1,LdapAuthenticationMethod=1,Ldap=1
```

2. Enter Config mode:

```
(Ldap=1)>configure
```

3. Set `ldapIpAddress` to the IP address of the remote LDAP server, for example:

```
(config-Ldap=1)>ldapIpAddress="192.168.0.10"
```

4. Optionally, set the `fallbackLdapIpAddress` to be used when the primary LDAP server is down, for example:

```
(config-Ldap=1)>fallbackLdapIpAddress="192.168.0.11"
```

5. Configure the `baseDn` from where the LDAP server starts to search for users, for example:

```
(config-Ldap=1)>baseDn="dc=my-domain,dc=com"
```

6. If LDAP server is listening to a non-default port, then the `serverPort` must be set, for example:

```
(config-Ldap=1)>serverPort=1000
```

Enable TLS and Set the `TlsMode` in *Ldap* MO

7. Enable TLS

```
(config-Ldap=1)>useTls=true
```

8. Optionally, configure the `tlsMode` attribute, for example:

```
(config-Ldap=1)>tlsMode=LDAPS
```

Configure Certificates to Be Used for TLS

9. Set the reference to the applicable trust category, for example:

```
(config-Ldap=1)>trustCategory="ManagedElement=NODE06ST, SystemFunctions=1, SecM=1, CertM=1, TrustCategory=1"
```



10. Optionally, set the reference to the applicable node credential certificate, for example:

```
(config-Ldap=1) >nodeCredential="ManagedElement=NODE06ST, SystemFunctions=1, SecM=1, CertM=1, NodeCredential=1"
```

Note: It is mandatory to set the reference to the applicable node credential certificate if LDAP server requires a certificate for TLS.

11. Commit the setting:

```
(config-Ldap=1) >commit
```

12. Verify the result:

```
(Ldap=1) >show
```

The following is an example output:

```
Ldap=1
  baseDn="dc=my-domain, dc=com"
  fallbackLdapIpAddress="192.0.2.11"
  ldapIpAddress="192.0.2.10"
  nodeCredential="ManagedElement=NODE06ST, SystemFunctions=1, =>
SecM=1, CertM=1, NodeCredential=1"
  serverPort=1000
  tlsMode=LDAPS
  trustCategory="ManagedElement=NODE06ST, SystemFunctions=1, =>
SecM=1, CertM=1, TrustCategory=1"
  userLabel="LDAP based login authentication"
  useTls=true
  [...]
```

Note: If attribute `useTls` in `Ldap` MO is set to `true`, then either one of the following conditions must be met

- Only `trustCategory` is set
- Both `nodeCredential` and `trustCategory` are set.

If these conditions are not met, depending on the configuration one of the following error messages is reported to NBI during `commit` or `validate` operation:

- Error: neither `nodeCredential` nor `trustCategory` is available
- Error: `trustCategory` is not available