How to configure Active Directory authentication with TLS on Red Hat Satellite 6?

SOLUTION VERIFIED - Updated October 6 2021 at 8:45 AM - English

Environment

- Red Hat Satellite 6.3 or later
- Active Directory

Issue

- How to configure Active Directory authentication with TLS on Satellite 6.3 or later?
- Active Directory authentication with Red Hat Satellite 6.3 or later
- Logging in with an LDAP account results in an SSL error:

```
SSL_connect returned=1 errno=0 state=SSLv3 read server certificate B: certificate
verify failed OpenSSL::SSL::SSLError SSL_connect returned=1 errno=0 state=SSLv3 read
server certificate B: certificate verify failed
app/models/auth_sources/auth_source_ldap.rb:50:in `authenticate'
app/models/user.rb:190:in `try_to_login' app/controllers/users_controller.rb:71:in
`login' app/models/concerns/foreman/thread_session.rb:33:in `clear_thread'
lib/middleware/catch_json_parse_errors.rb:9:in `call'
```

Resolution

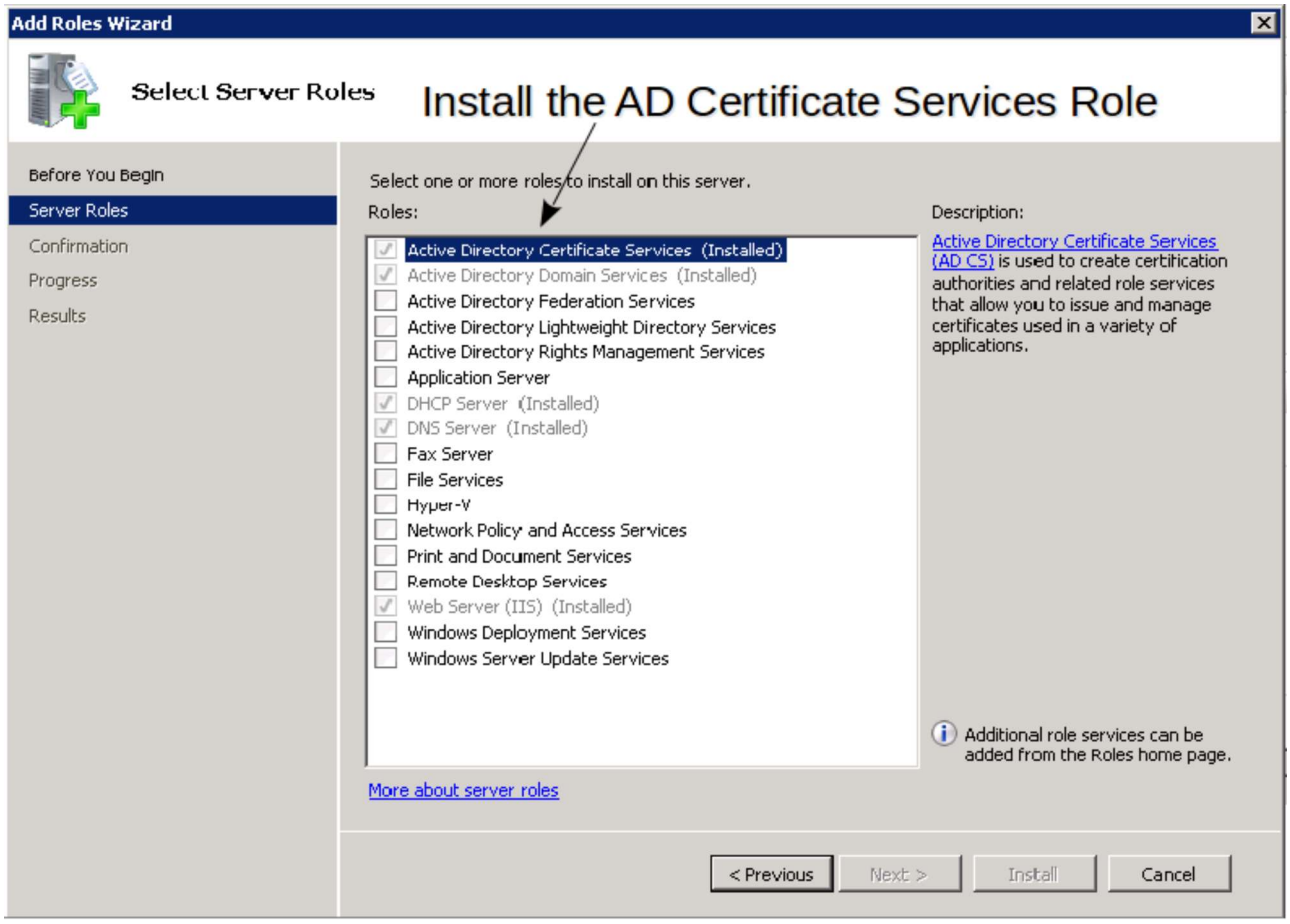
This solution is for creating a certificate in Active Directory, which can then be installed on the Satellite Servers base system, to enable secure LDAP (LDAPS).

The procedure to configure Red Hat Satellite to use **AD as an LDAP** server is Using LDAP. This procedure is only required if you are using AD as an LDAP server. This method does not provide single-sign on.

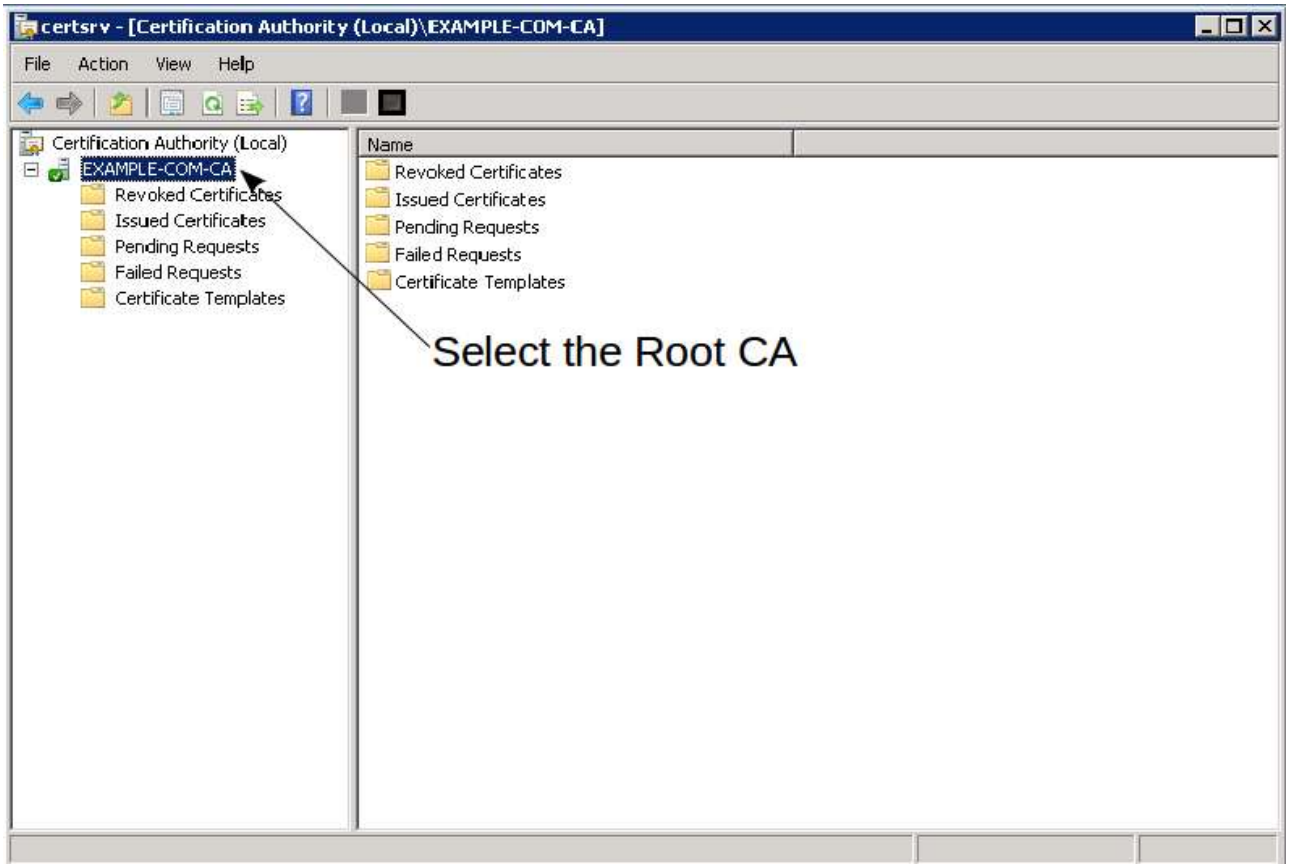
Note that when the use of AD is required, Red Hat recommends using AD directly as described in Using Active Directory. This method uses **Kerberos for authentication**, which allows for **single sign-on**, and does not require the certificate described here.

If **secure LDAP**(Lightweight Directory Access Protocol) to an Active Directory server is required, the following solution is available.

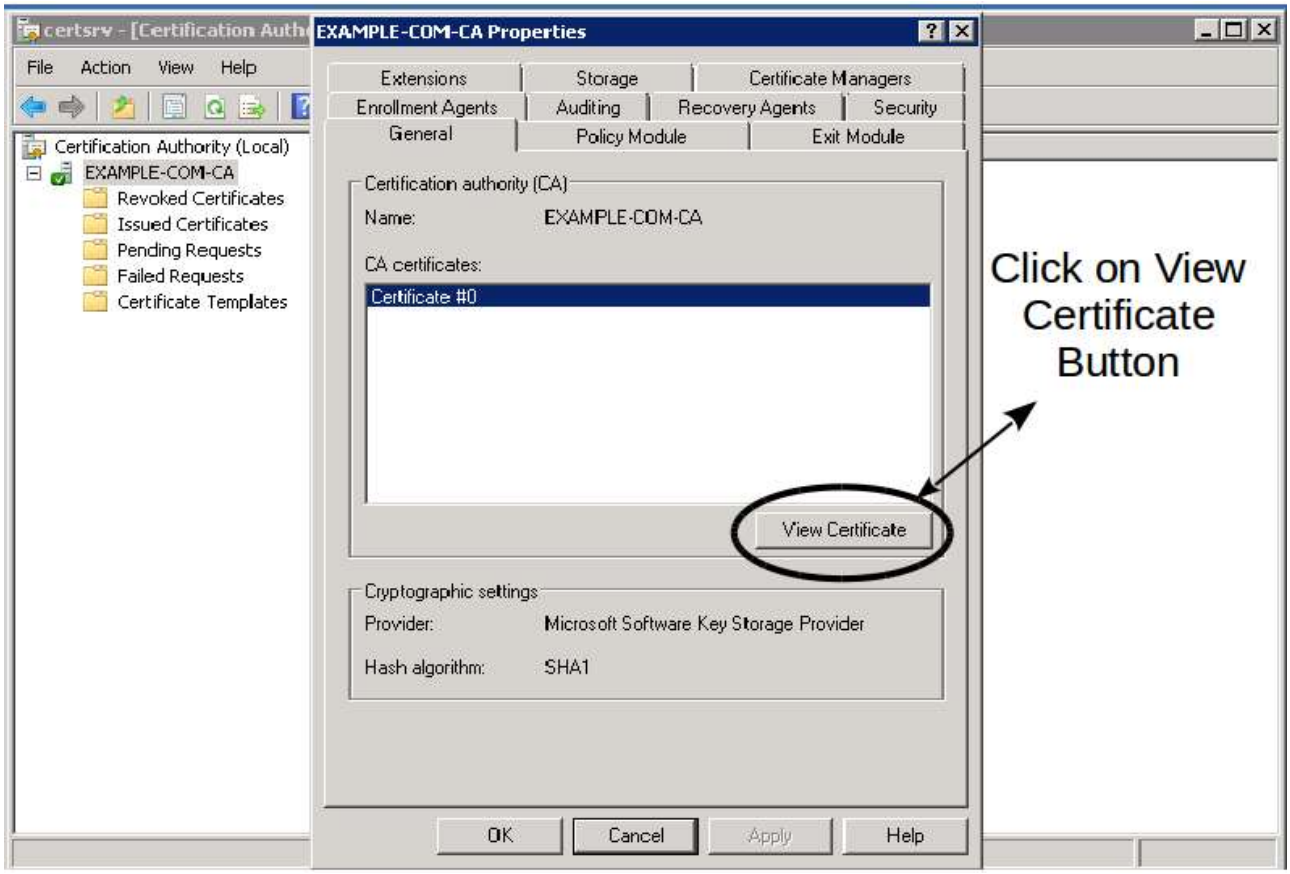
1. Install the Active Directory Certificate services role:



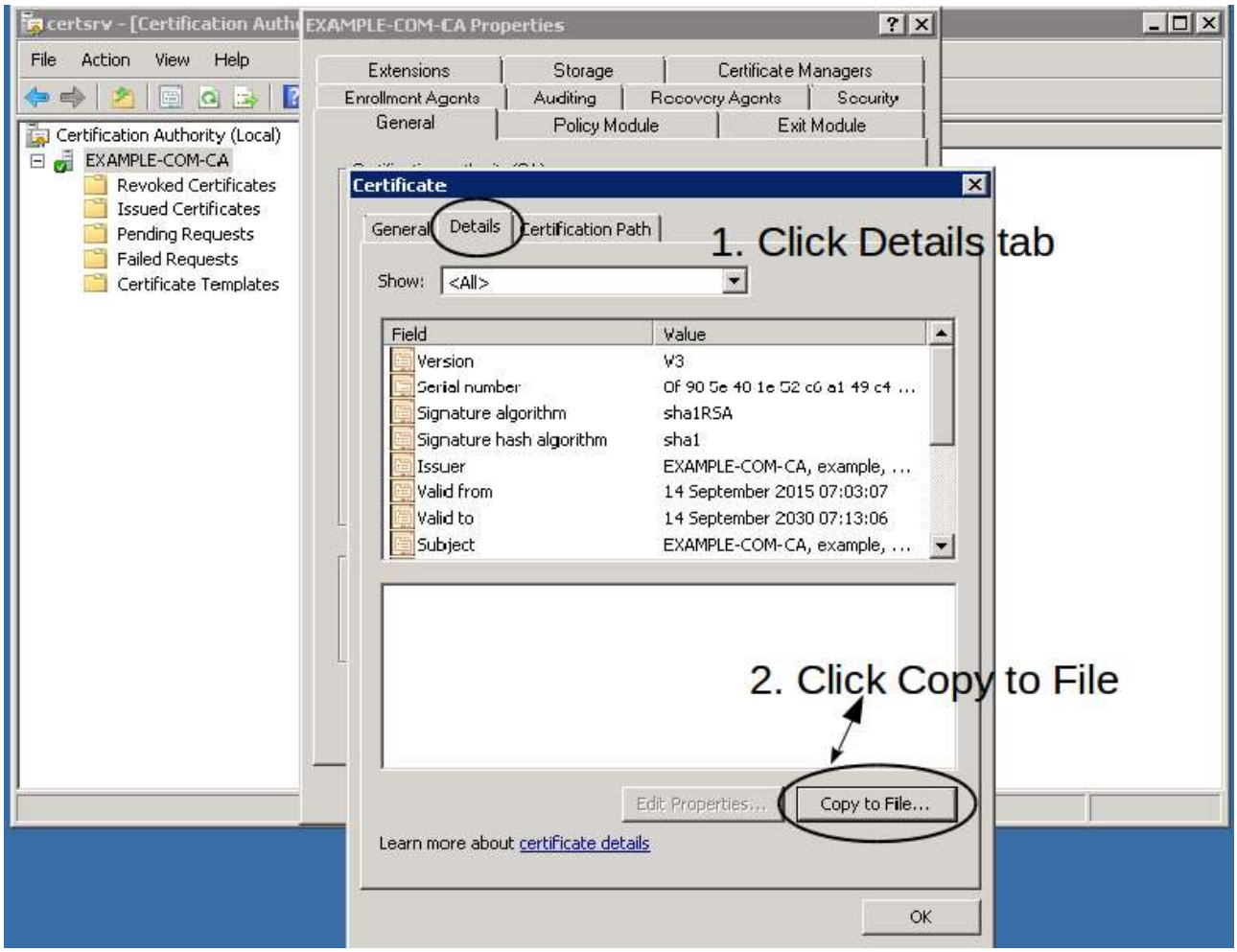
2. Select the Root CA server from the Active Directory Certificate Services console:



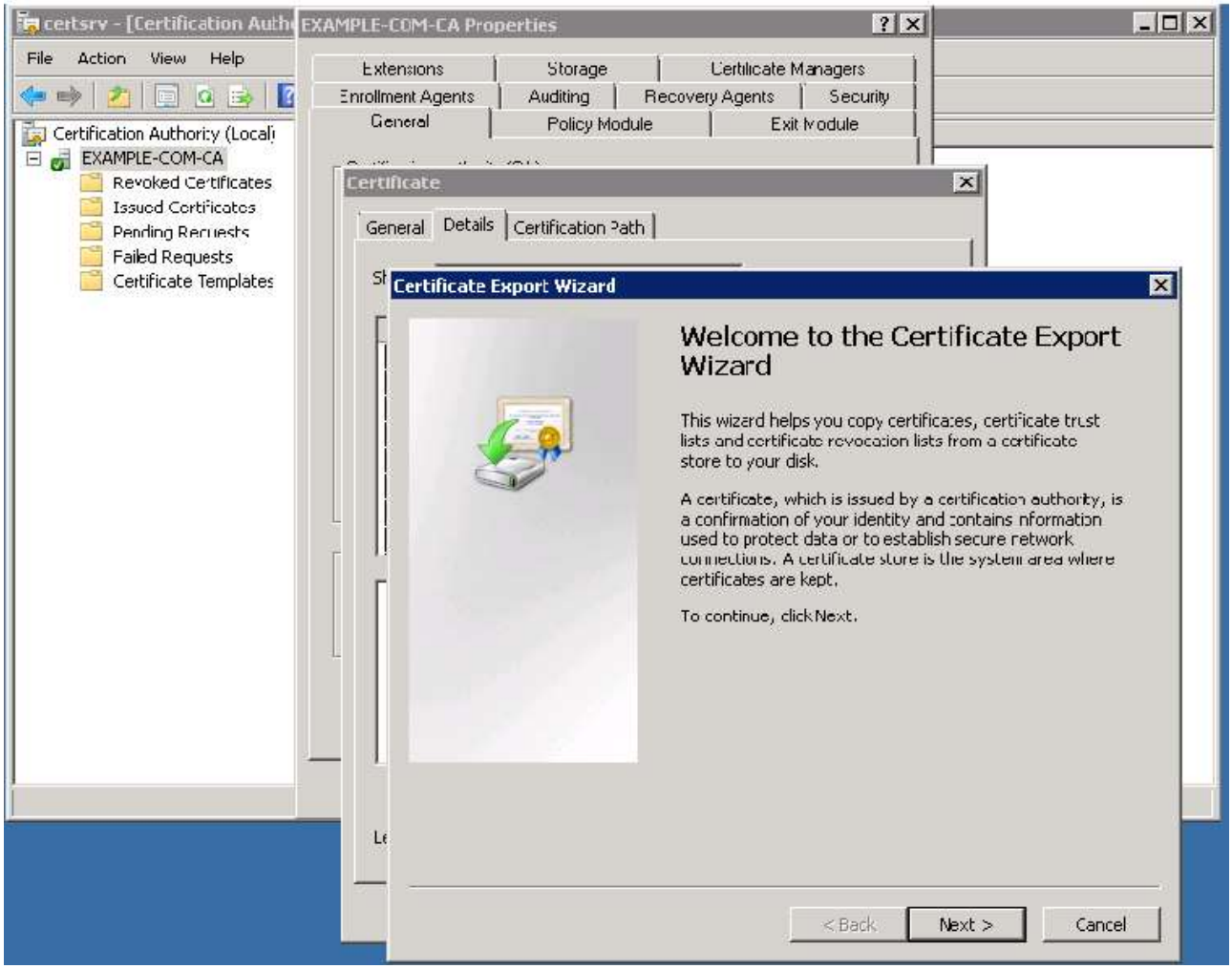
3. Right click on the Root CA server and click on its properties:



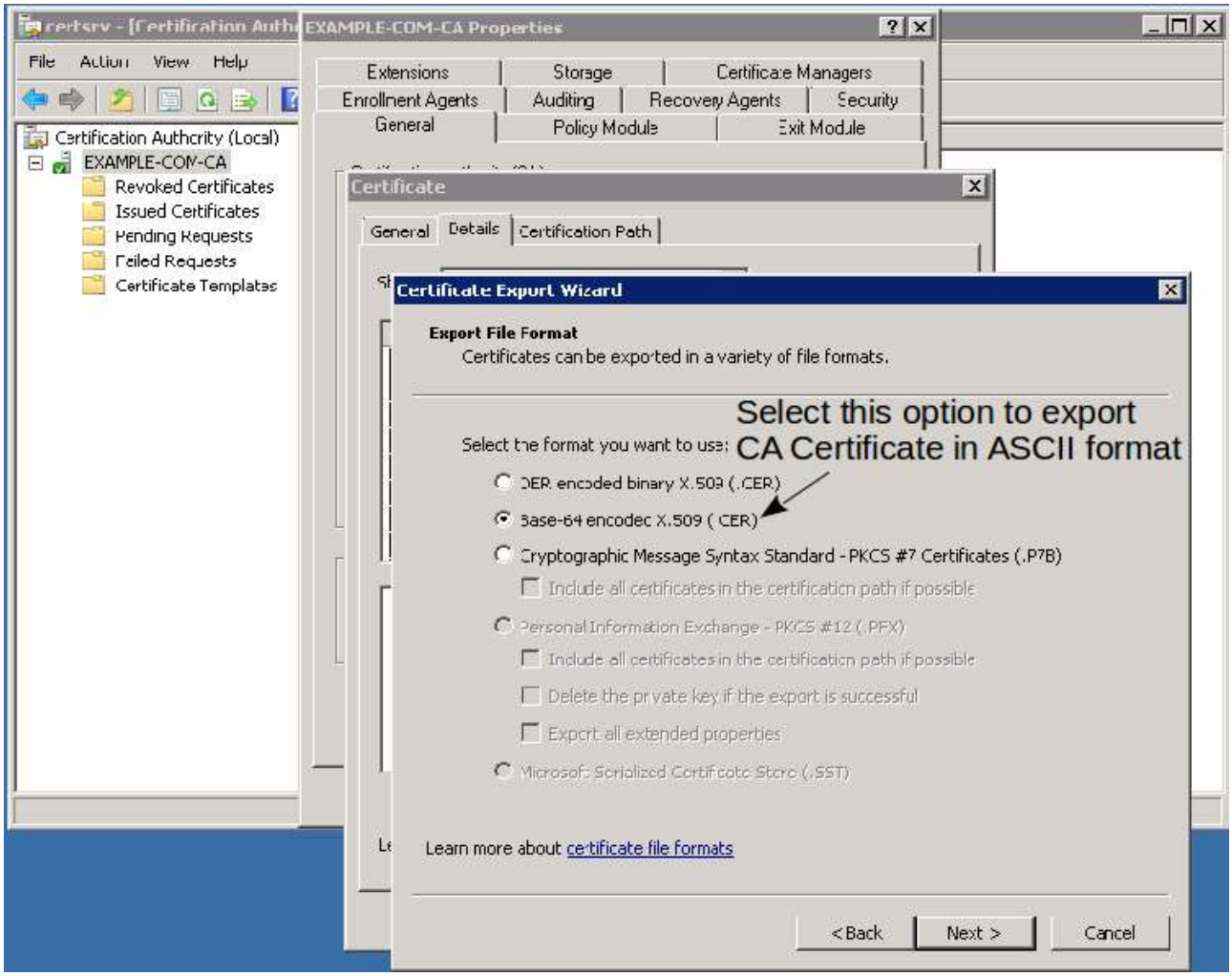
4. Click the **Details** tab and then click on **Copy to File** Button to export Active Directory CA certificate:



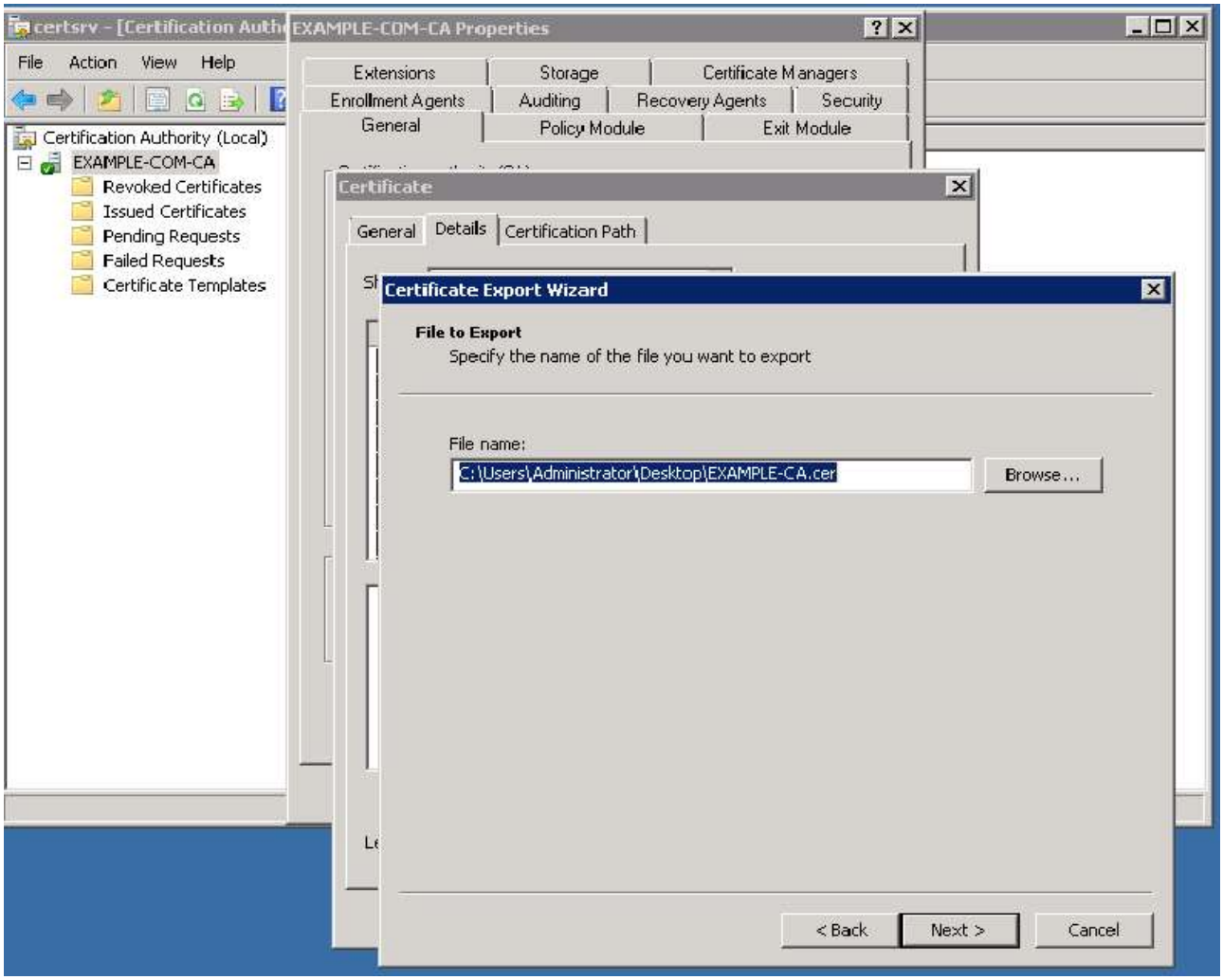
5. Select **Next** on the CA Certificate export wizard:



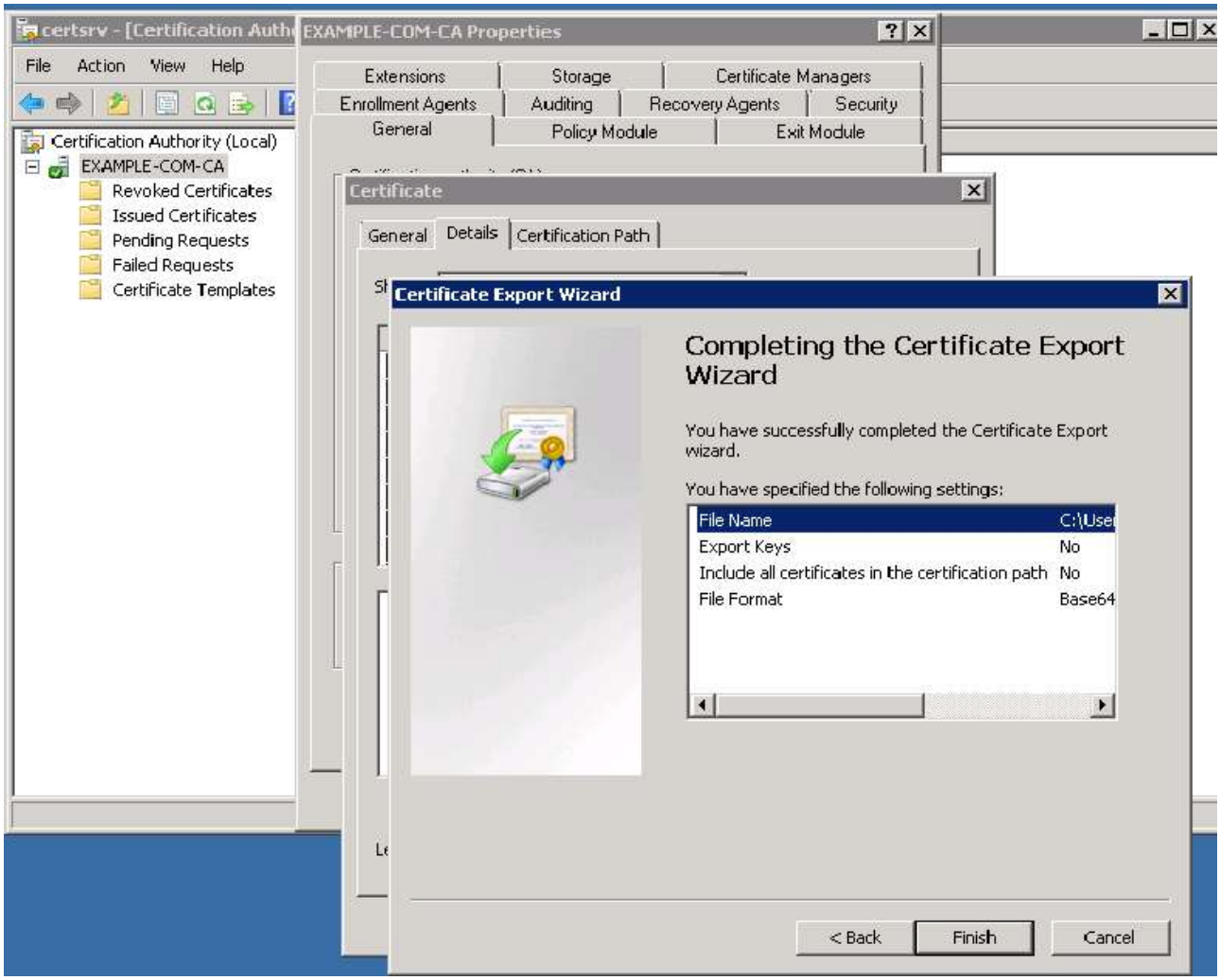
6. Select **Base-64 encoded X.509** option to export the CA certificate in ASCII mode:



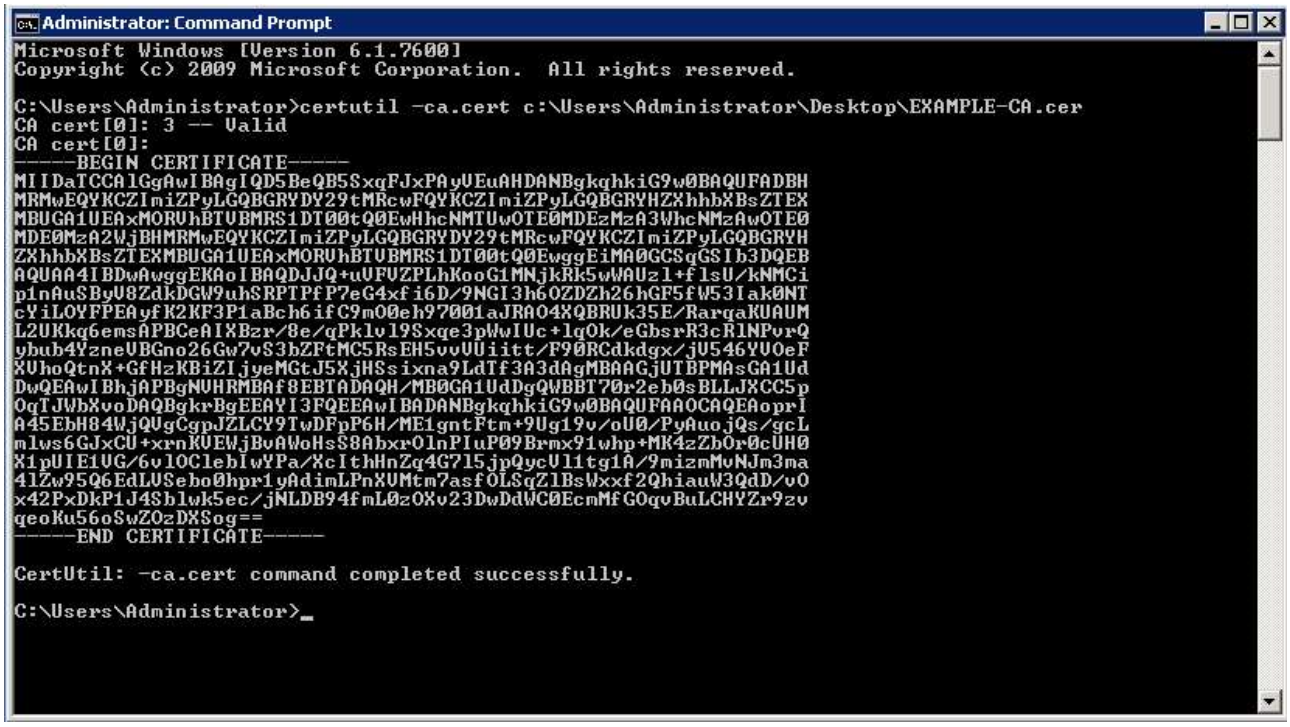
7. Specify the path and file name of the CA certificate to export:



8. Review the details of the CA certificate export wizard and click on **Finish** to complete the export process:



9. Alternatively, Active Directory CA certificates can be generated from the **Windows Command Prompt** seen here:



10. Copy over the exported CA Certificate file to the Red Hat Satellite 6.3 or later server and execute the following commands:

```
# openssl x509 -inform DER -in EXAMPLE-CA.cer -out example.crt # install example.crt
/etc/pki/tls/certs/ # ln -s example.crt /etc/pki/tls/certs/$(openssl x509 -noout -
hash -in /etc/pki/tls/certs/example.crt).0
```

    - **Note**: Make sure the certificate is in **PEM** format (Example: `example.crt`).
      Ensure the **CA chain** is complete and has all the required Certificate Authorities inside the bundle. (Root + Intermediate CAs).

```
# openssl s_client -connect <FQDN_AD>:636 -CAfile example.crt -showcerts -state
```

11. Restart the httpd service:

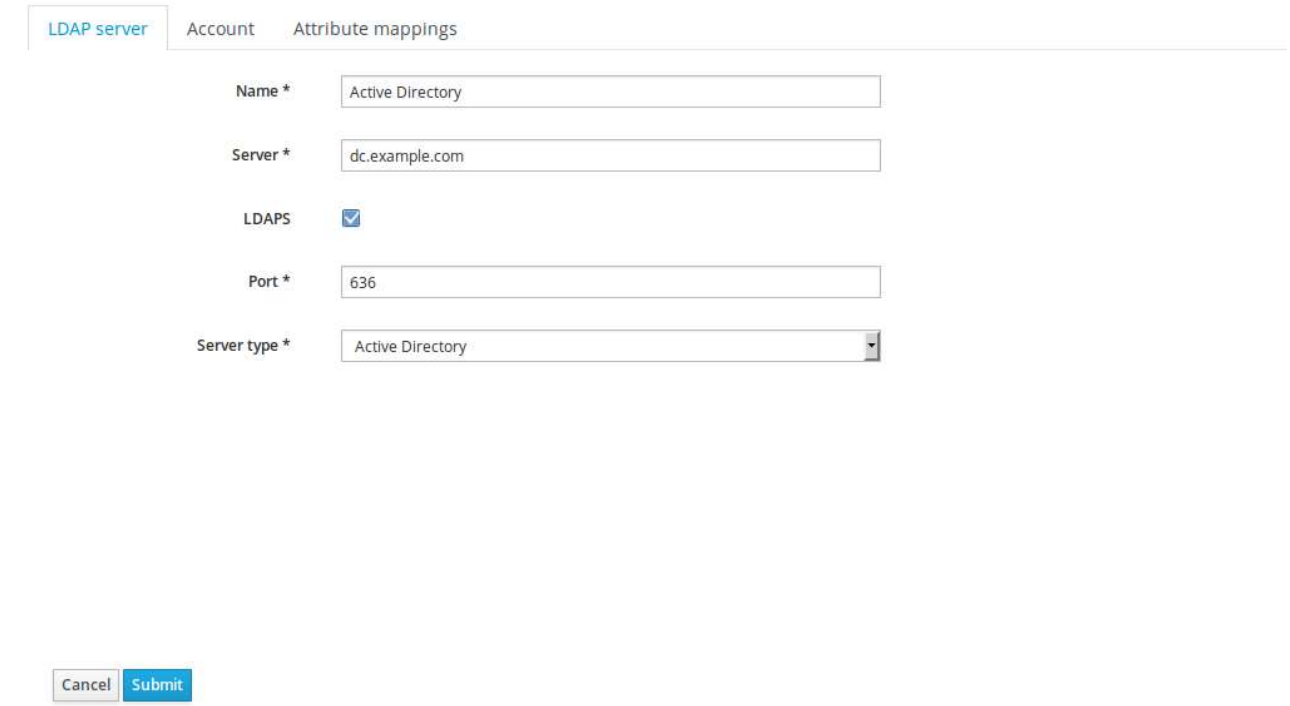
    - RHEL 7:

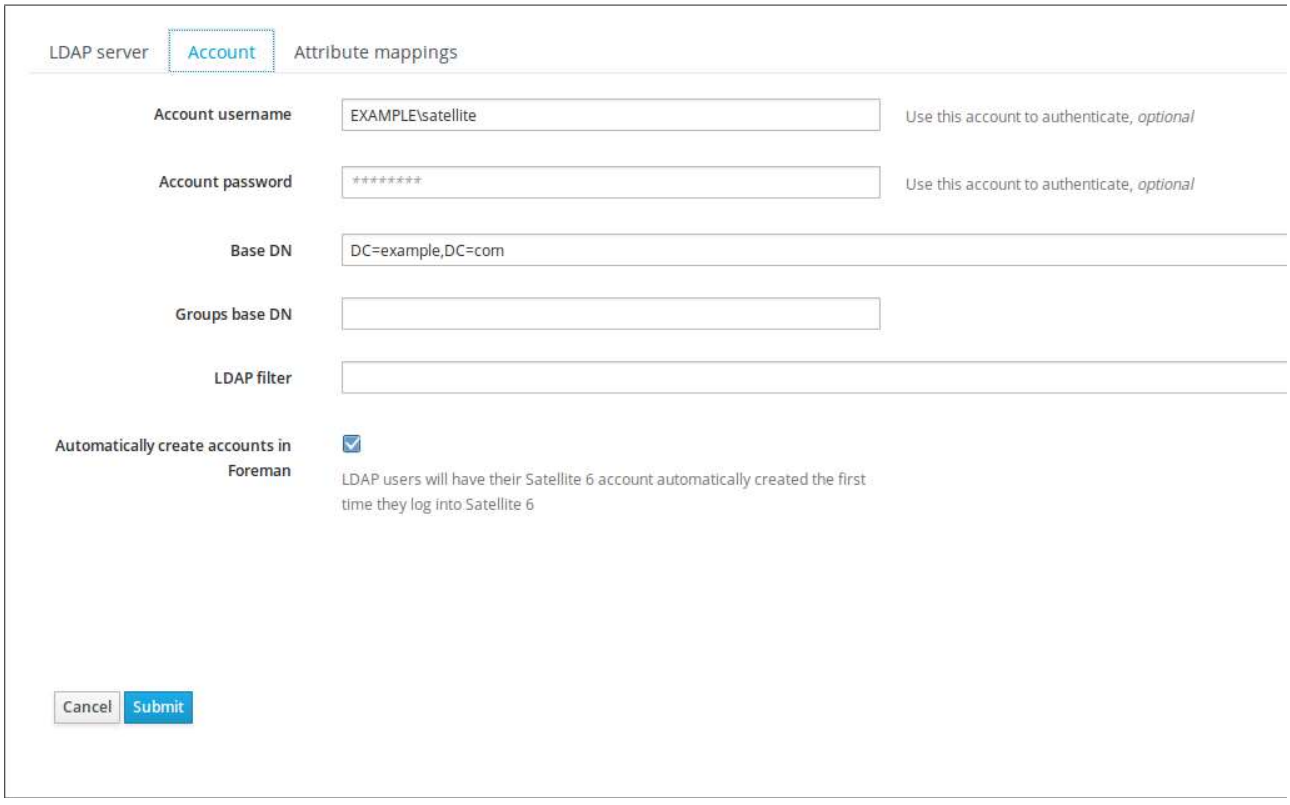
      ```
      [root@satellite ~]# systemctl restart httpd.service
      ```

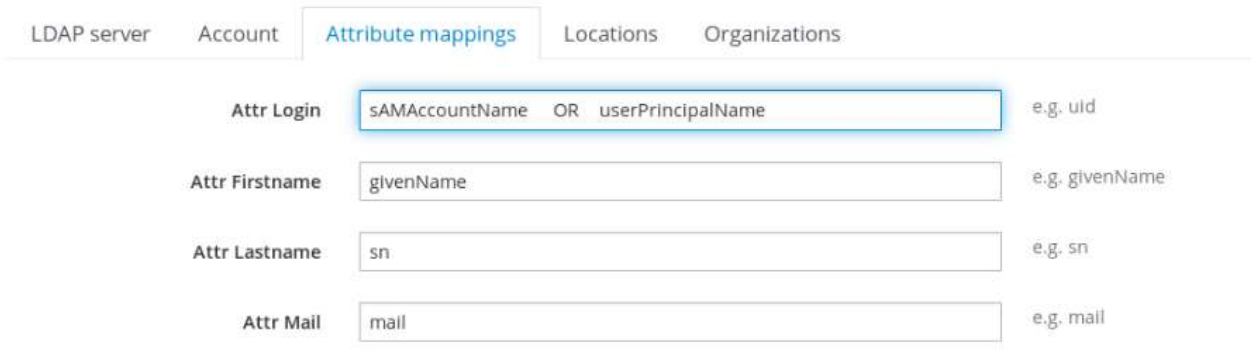
    - RHEL 6:

      ```
      [root@satellite ~]# service httpd restart
      ```

12. Configure LDAP Authentication on Red Hat Satellite 6.1. Click **Administer** ---> **LDAP authentication** and configure it as per the following screenshots:


LDAP server
Account
Attribute mappings
Name *
Active Directory
Server *
dc.example.com
LDAPS
Port *
636
Server type *
Active Directory
Cancel
Submit


LDAP server
Account
Attribute mappings
Account username
EXAMPLE\satellite
Use this account to authenticate, optional
Account password
****
Use this account to authenticate, optional
Base DN
DC=example,DC=com
Groups base DN
LDAP filter
Automatically create accounts in Foreman
LDAP users will have their Satellite 6 account automatically created the first time they log into Satellite 6
Cancel
Submit


LDAP server
Account
Attribute mappings
Locations
Organizations
Attr Login
sAMAccountName OR userPrincipalName
e.g. uid
Attr Firstname
givenName
e.g. givenName
Attr Lastname
sn
e.g. sn
Attr Mail
mail
e.g. mail