

Institute of Computer Technology
B. Tech Computer Science and Engineering

Sub: Identity and Access Management (2CSE507)

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Semester - 5

Class - A

Batch – 52

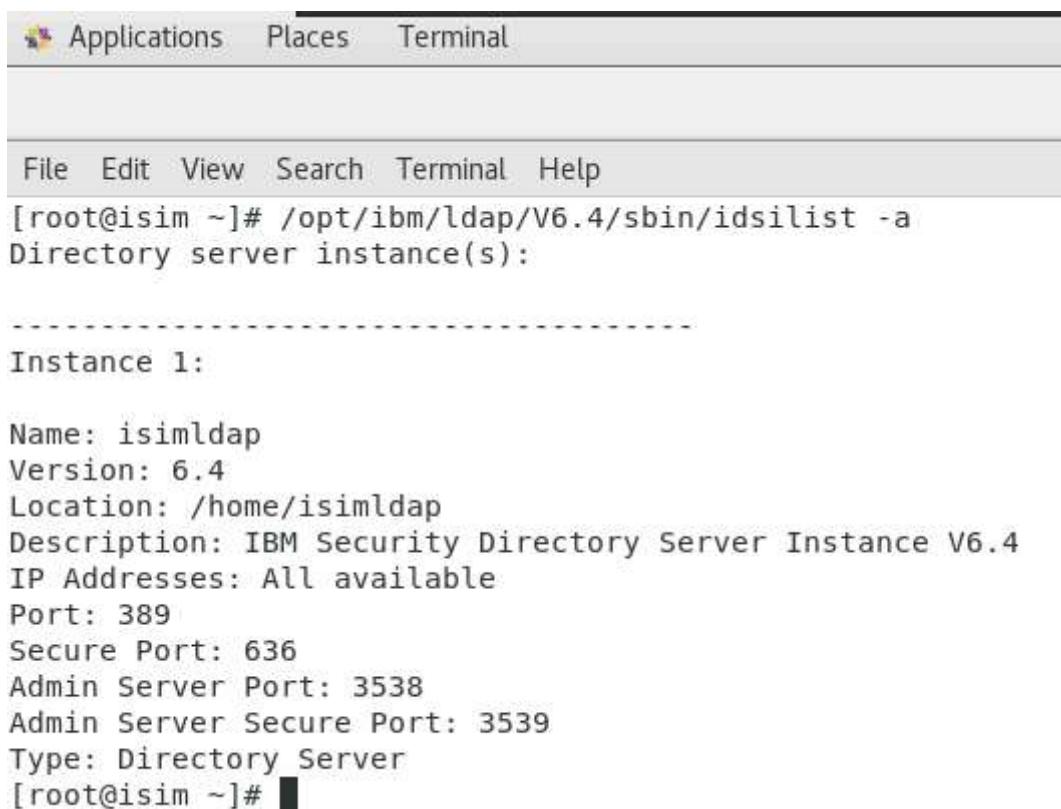
PRACTICAL NO:- 7

Aim : ISIM LDAP Setup and Configuration

Listing Instances:

Command : /opt/ibm/ldap/V6.4/sbin/idsilist -a

Explanation : This command lists all configured IBM Security Directory Server (LDAP) instances on a machine. The -a flag ensures it displays all associated details for each instance, such as its version, current status (started/stopped), IP address, and port numbers.



The screenshot shows a Linux desktop interface with a terminal window open. The terminal window has a title bar with "File Edit View Search Terminal Help" and a menu bar with "Applications Places Terminal". The main area of the terminal displays the output of the command "/opt/ibm/ldap/V6.4/sbin/idsilist -a". The output lists a single directory server instance named "isimldap" with details such as version 6.4, location in /home/isimldap, and various ports.

```
[root@isim ~]# /opt/ibm/ldap/V6.4/sbin/idsilist -a
Directory server instance(s):
-----
Instance 1:
Name: isimldap
Version: 6.4
Location: /home/isimldap
Description: IBM Security Directory Server Instance V6.4
IP Addresses: All available
Port: 389
Secure Port: 636
Admin Server Port: 3538
Admin Server Secure Port: 3539
Type: Directory Server
[root@isim ~]#
```

Creating 2 Users:

Command :

- ./idsadduser -u nisarg1 -w P@ssw0rd -l /home/nisarg1 -g idsldap -n
- ./idsadduser -u nisarg2 -w P@ssw0rd -l /home/nisarg2 -g idsldap -n

Explanation : These commands create two separate operating system users, nisarg1 and nisarg2, with a specified password. Both are assigned to the idsldap group, which sets them up with the necessary permissions to own and manage an IBM Directory Server (LDAP) instance.

```

Applications Places Terminal
root@lsim:/opt/ibm/ldap/V6.4/sbin
File Edit View Search Terminal Help
[root@lsim sbin]# ./idsadduser -u nisarg1 -w P@ssw0rd -l /home/nisarg1 -g idsldap -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/idsadduser' is used with the following arguments '-u nisarg1 -w ***** -l /home/nisarg1 -g idsldap -n'.

You have chosen to perform the following actions:
GLPGRP019I System user will be created for directory server instance.
GLPGRP020I The system user 'nisarg1' will be created.
GLPGRP021I The user's primary group 'idsldap' will be created.
GLPGRP022I The home directory for user 'nisarg1' will be '/home/nisarg1'.
GLPGRP024I The user 'nisarg1' will be a member of group 'idsldap'.
GLPGRP025I The user 'root' will be a member of group 'idsldap'.
GLPGRP005I The password for user 'nisarg1' will be set.
GLPGRP034I The group 'idsldap' already exists.
GLPGRP029I The user 'nisarg1' was created successfully.
GLPGRP030I The user 'nisarg1' was added to group 'idsldap' successfully.
GLPGRP047I The user 'root' is already a member of group 'idsldap'.
GLPGRP006I Setting the password for user 'nisarg1'
GLPGRP007I Successfully changed password for user 'nisarg1'.
[root@lsim sbin]# ./idsadduser -u nisarg2 -w P@ssw0rd -l /home/nisarg2 -g idsldap -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/idsadduser' is used with the following arguments '-u nisarg2 -w ***** -l /home/nisarg2 -g idsldap -n'.

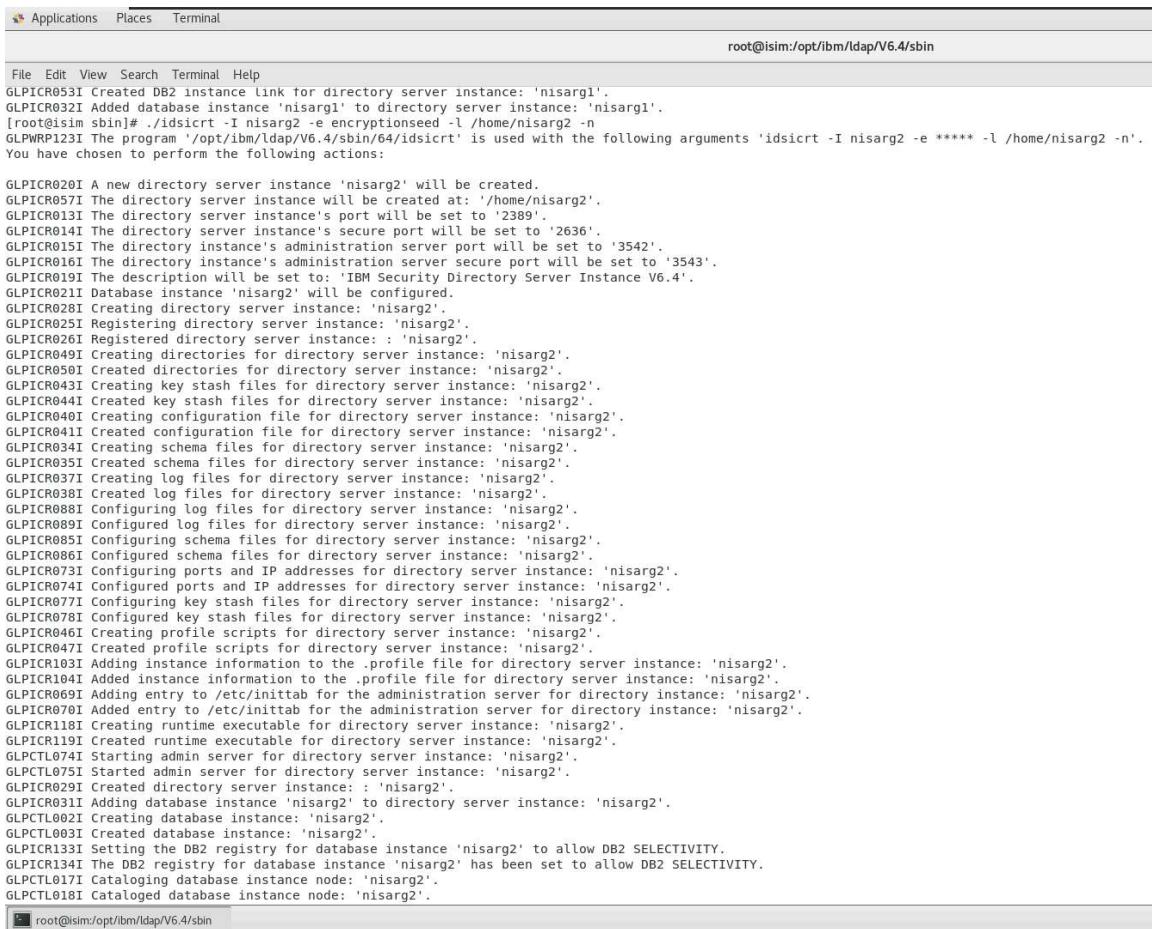
You have chosen to perform the following actions:
GLPGRP019I System user will be created for directory server instance.
GLPGRP020I The system user 'nisarg2' will be created.
GLPGRP021I The user's primary group 'idsldap' will be created.
GLPGRP022I The home directory for user 'nisarg2' will be '/home/nisarg2'.
GLPGRP024I The user 'nisarg2' will be a member of group 'idsldap'.
GLPGRP025I The user 'root' will be a member of group 'idsldap'.
GLPGRP005I The password for user 'nisarg2' will be set.
GLPGRP034I The group 'idsldap' already exists.
GLPGRP029I The user 'nisarg2' was created successfully.
GLPGRP030I The user 'nisarg2' was added to group 'idsldap' successfully.
GLPGRP047I The user 'root' is already a member of group 'idsldap'.
GLPGRP006I Setting the password for user 'nisarg2'
GLPGRP007I Successfully changed password for user 'nisarg2'.
[root@lsim sbin]#
[root@lsim sbin]#
```

Creating 2 Instances:

Command :

- ./idsicrt -I nisarg1 -e encryptionseed -l /home/nisarg1 -n
- ./idsicrt -I nisarg2 -e encryptionseed -l /home/nisarg2 -n

Explanation : These commands use the idsicrt utility to create two separate IBM Directory Server (LDAP) instances, named nisarg1 and nisarg2. Each instance is initialized with a specific encryption seed and a location for its files, while the -n flag ensures the instances are not started automatically after creation.



```

root@isim:/opt/ibm/ldap/V6.4/sbin
File Edit View Search Terminal Help
GLPICR053I Created DB2 instance link for directory server instance: 'nisarg1'.
GLPICR032I Added database instance 'nisarg1' to directory server instance: 'nisarg1'.
[root@isim sbin]# ./idsicrt -I nisarg2 -e encryptionseed -l /home/nisarg2 -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/idsicrt' is used with the following arguments 'idsicrt -I nisarg2 -e ***** -l /home/nisarg2 -n'.
You have chosen to perform the following actions:
GLPICR020I A new directory server instance 'nisarg2' will be created.
GLPICR057I The directory server instance will be created at: '/home/nisarg2'.
GLPICR013I The directory server instance's port will be set to '2389'.
GLPICR014I The directory server instance's secure port will be set to '2636'.
GLPICR015I The directory instance's administration server port will be set to '3542'.
GLPICR016I The directory instance's administration server secure port will be set to '3543'.
GLPICR019I The description will be set to: 'IBM Security Directory Server Instance V6.4'.
GLPICR021I Database instance 'nisarg2' will be configured.
GLPICR028I Creating directory server instance: 'nisarg2'.
GLPICR025I Registering directory server instance: 'nisarg2'.
GLPICR026I Registered directory server instance: 'nisarg2'.
GLPICR049I Creating directories for directory server instance: 'nisarg2'.
GLPICR050I Created directories for directory server instance: 'nisarg2'.
GLPICR043I Creating key stash files for directory server instance: 'nisarg2'.
GLPICR044I Created key stash files for directory server instance: 'nisarg2'.
GLPICR040I Creating configuration file for directory server instance: 'nisarg2'.
GLPICR041I Created configuration file for directory server instance: 'nisarg2'.
GLPICR034I Creating schema files for directory server instance: 'nisarg2'.
GLPICR035I Created schema files for directory server instance: 'nisarg2'.
GLPICR037I Creating log files for directory server instance: 'nisarg2'.
GLPICR038I Created log files for directory server instance: 'nisarg2'.
GLPICR088I Configuring log files for directory server instance: 'nisarg2'.
GLPICR089I Configured log files for directory server instance: 'nisarg2'.
GLPICR085I Configuring schema files for directory server instance: 'nisarg2'.
GLPICR086I Configured schema files for directory server instance: 'nisarg2'.
GLPICR073I Configuring ports and IP addresses for directory server instance: 'nisarg2'.
GLPICR074I Configured ports and IP addresses for directory server instance: 'nisarg2'.
GLPICR077I Configuring key stash files for directory server instance: 'nisarg2'.
GLPICR078I Configured key stash files for directory server instance: 'nisarg2'.
GLPICR046I Creating profile scripts for directory server instance: 'nisarg2'.
GLPICR047I Created profile scripts for directory server instance: 'nisarg2'.
GLPICR103I Adding instance information to the .profile file for directory server instance: 'nisarg2'.
GLPICR104I Added instance information to the .profile file for directory server instance: 'nisarg2'.
GLPICR069I Adding entry to /etc/inittab for the administration server for directory instance: 'nisarg2'.
GLPICR070I Added entry to /etc/inittab for the administration server for directory instance: 'nisarg2'.
GLPICR118I Creating runtime executable for directory server instance: 'nisarg2'.
GLPICR119I Created runtime executable for directory server instance: 'nisarg2'.
GLPCTL074I Starting admin server for directory server instance: 'nisarg2'.
GLPCTL075I Started admin server for directory server instance: 'nisarg2'.
GLPICR029I Created directory server instance: 'nisarg2'.
GLPICR031I Adding database instance 'nisarg2' to directory server instance: 'nisarg2'.
GLPCTL002I Creating database instance: 'nisarg2'.
GLPCTL003I Created database instance: 'nisarg2'.
GLPICR133I Setting the DB2 registry for database instance 'nisarg2' to allow DB2 SELECTIVITY.
GLPICR134I The DB2 registry for database instance 'nisarg2' has been set to allow DB2 SELECTIVITY.
GLPCTL017I Cataloging database instance node: 'nisarg2'.
GLPCTL018I Cataloged database instance node: 'nisarg2'.

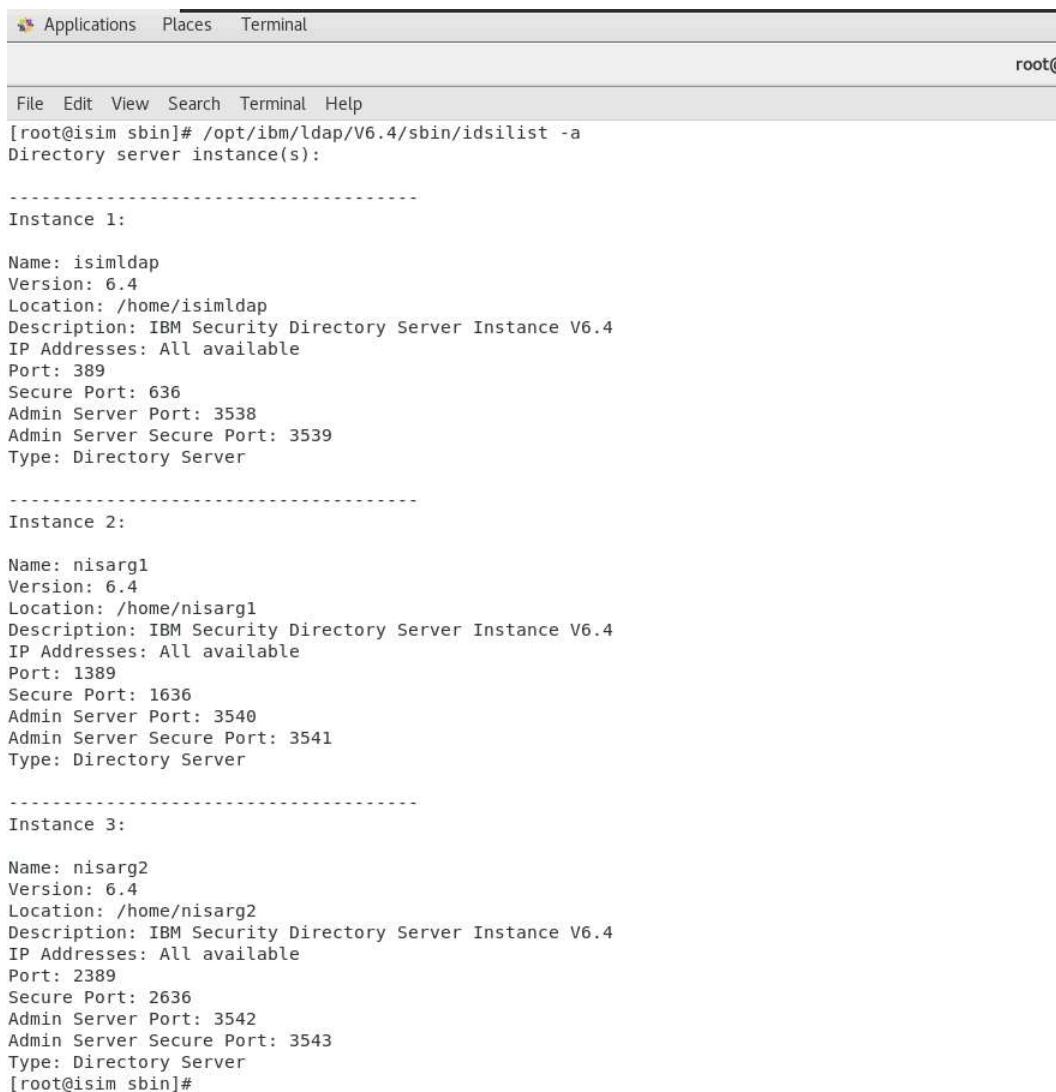
```

Listing Instances:

Command :

- /opt/ibm/ldap/V6.4/sbin/idsilist -a

Explanation : This command lists all configured IBM Security Directory Server (LDAP) instances on a machine. The -a flag ensures it displays all associated details for each instance, such as its version, current status (started/stopped), IP address, and port numbers.



```

Applications Places Terminal
root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/idsilist -a
Directory server instance(s):

-----
Instance 1:
Name: isimldap
Version: 6.4
Location: /home/isimldap
Description: IBM Security Directory Server Instance V6.4
IP Addresses: All available
Port: 389
Secure Port: 636
Admin Server Port: 3538
Admin Server Secure Port: 3539
Type: Directory Server

-----
Instance 2:
Name: nisarg1
Version: 6.4
Location: /home/nisarg1
Description: IBM Security Directory Server Instance V6.4
IP Addresses: All available
Port: 1389
Secure Port: 1636
Admin Server Port: 3540
Admin Server Secure Port: 3541
Type: Directory Server

-----
Instance 3:
Name: nisarg2
Version: 6.4
Location: /home/nisarg2
Description: IBM Security Directory Server Instance V6.4
IP Addresses: All available
Port: 2389
Secure Port: 2636
Admin Server Port: 3542
Admin Server Secure Port: 3543
Type: Directory Server
[root@isim sbin]#

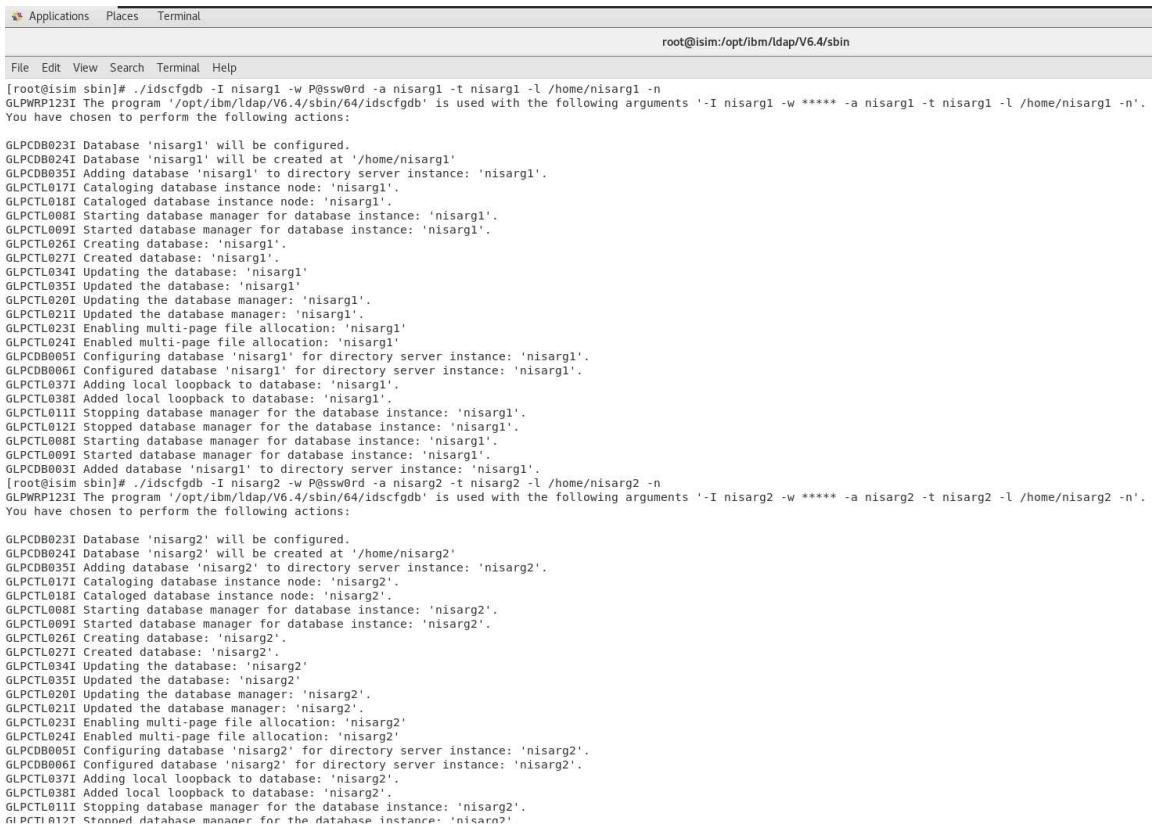
```

Configuring DB2 database for the Instances:

Command :

- ./idscfgdb -I nisarg1 -w P@ssw0rd -a nisarg1 -t nisarg1 -l /home/nisarg1 -n
- ./idscfgdb -I nisarg2 -w P@ssw0rd -a nisarg2 -t nisarg2 -l /home/nisarg2 -n

Explanation : These commands use the idscfgdb utility to configure the backend DB2 database for the LDAP instances nisarg1 and nisarg2. Each command specifies the database administrator ID, password, database name, and the directory where the database will be stored. This step links each LDAP instance to its own dedicated database for storing directory information.



```

root@lisim sbin]# ./idscfgdb -I nisarg1 -w P@ssw0rd -a nisarg1 -t nisarg1 -l /home/nisarg1 -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/idscfgdb' is used with the following arguments '-I nisarg1 -w ***** -a nisarg1 -t nisarg1 -l /home/nisarg1 -n'.
You have chosen to perform the following actions:
GLPCDB023I Database 'nisarg1' will be configured.
GLPCDB024I Database 'nisarg1' will be created at '/home/nisarg1'
GLPCDB035I Adding database 'nisarg1' to directory server instance: 'nisarg1'.
GLPCTL017T Cataloging database instance node: 'nisarg1'.
GLPCTL018T Cataloged database instance node: 'nisarg1'.
GLPCTL008T Starting database manager for database instance: 'nisarg1'.
GLPCTL026T Started database manager for database instance: 'nisarg1'.
GLPCTL027T Creating database: 'nisarg1'.
GLPCTL034T Updated the database: 'nisarg1'.
GLPCTL035T Updated the database: 'nisarg1'.
GLPCTL020T Updating the database manager: 'nisarg1'.
GLPCTL021T Updated the database manager: 'nisarg1'.
GLPCTL023T Enabling multi-page file allocation: 'nisarg1'.
GLPCTL024T Enabled multi-page file allocation: 'nisarg1'.
GLPCDB005T Configuring database 'nisarg1' for directory server instance: 'nisarg1'.
GLPCDB006T Configured database 'nisarg1' for directory server instance: 'nisarg1'.
GLPCTL037T Adding local loopback to database: 'nisarg1'.
GLPCTL038T Added local loopback to database: 'nisarg1'.
GLPCTL011T Stopping database manager for the database instance: 'nisarg1'.
GLPCTL012T Stopped database manager for the database instance: 'nisarg1'.
GLPCTL008T Starting database manager for database instance: 'nisarg1'.
GLPCTL009I Started database manager for database instance: 'nisarg1'.
GLPCDB003I Added database 'nisarg2' to directory server instance: 'nisarg2'.
GLPCTL009I Started database manager for database instance: 'nisarg2'.
GLPCTL027T Adding local loopback to database: 'nisarg2'.
GLPCTL038T Added local loopback to database: 'nisarg2'.
GLPCTL011T Stopping database manager for the database instance: 'nisarg2'.
GLPCTL012T Stopped database manager for the database instance: 'nisarg2'.
GLPCTL008T Starting database manager for database instance: 'nisarg2'.
GLPCTL009I Started database manager for database instance: 'nisarg2'.
GLPCTL026T Creating database: 'nisarg2'.
GLPCTL027T Creating database: 'nisarg2'.
GLPCTL034T Updated the database: 'nisarg2'.
GLPCTL035T Updated the database: 'nisarg2'.
GLPCTL020T Updating the database manager: 'nisarg2'.
GLPCTL021T Updated the database manager: 'nisarg2'.
GLPCTL023T Enabling multi-page file allocation: 'nisarg2'.
GLPCTL024T Enabled multi-page file allocation: 'nisarg2'.
GLPCTL005T Configuring database 'nisarg2' for directory server instance: 'nisarg2'.
GLPCTL006T Configured database 'nisarg2' for directory server instance: 'nisarg2'.
GLPCTL037T Adding local loopback to database: 'nisarg2'.
GLPCTL038T Added local loopback to database: 'nisarg2'.
GLPCTL011T Stopping database manager for the database instance: 'nisarg2'.
GLPCTL012T Stopped database manager for the database instance: 'nisarg2'.

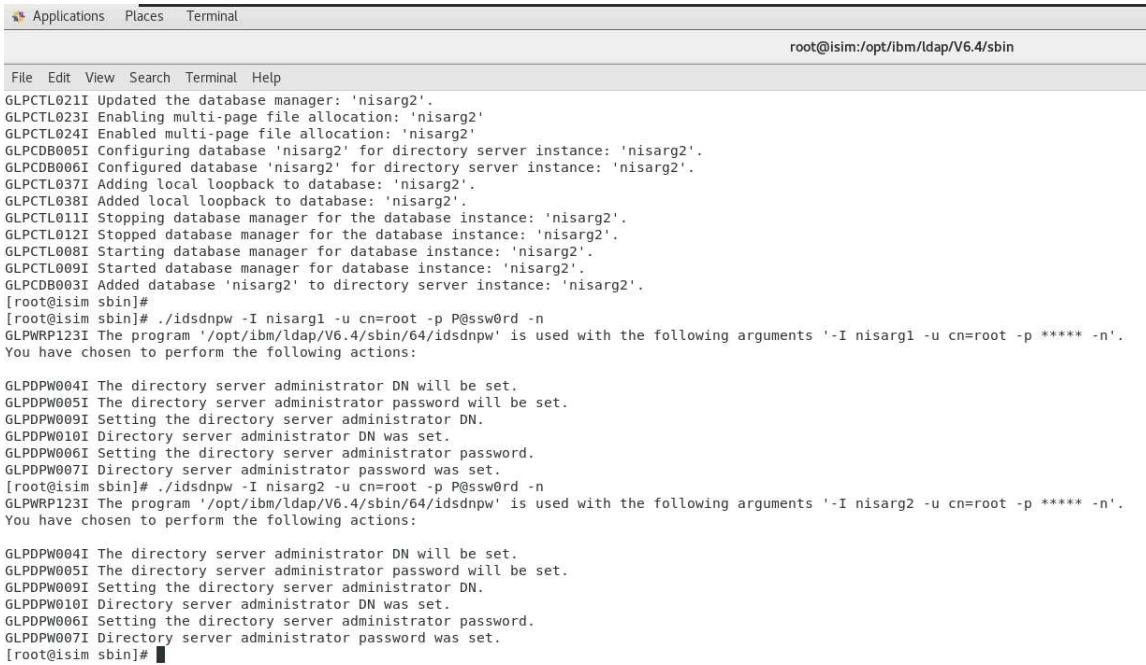
```

Listing Instances:

Command :

- ./idsdnpw -I nisarg1 -u cn=root -p P@ssw0rd -n
- ./idsdnpw -I nisarg2 -u cn=root -p P@ssw0rd -n

Explanation : These commands use the idsdnpw utility to set the administrator password for the LDAP directory instances nisarg1 and nisarg2. Specifically, they assign the password P@ssw0rd to the directory superuser, who is identified by the Distinguished Name (DN) cn=root, for each respective instance.



```

Applications Places Terminal
root@isim:/opt/ibm/ldap/V6.4/sbin

File Edit View Search Terminal Help
GLPCTL021I Updated the database manager: 'nisarg2'.
GLPCTL023I Enabling multi-page file allocation: 'nisarg2'
GLPCTL024I Enabled multi-page file allocation: 'nisarg2'
GLPCDB005I Configuring database 'nisarg2' for directory server instance: 'nisarg2'.
GLPCDB006I Configured database 'nisarg2' for directory server instance: 'nisarg2'.
GLPCTL037I Adding local loopback to database: 'nisarg2'.
GLPCTL038I Added local loopback to database: 'nisarg2'.
GLPCTL011I Stopping database manager for the database instance: 'nisarg2'.
GLPCTL012I Stopped database manager for the database instance: 'nisarg2'.
GLPCTL008I Starting database manager for database instance: 'nisarg2'.
GLPCTL009I Started database manager for database instance: 'nisarg2'.
GLPCDB003I Added database 'nisarg2' to directory server instance: 'nisarg2'.
[root@isim sbin]#
[root@isim sbin]# ./idsdnpw -I nisarg1 -u cn=root -p P@ssw0rd -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/idsdnpw' is used with the following arguments '-I nisarg1 -u cn=root -p ***** -n'.
You have chosen to perform the following actions:
GLPDPW004I The directory server administrator DN will be set.
GLPDPW005I The directory server administrator password will be set.
GLPDPW009I Setting the directory server administrator DN.
GLPDPW010I Directory server administrator DN was set.
GLPDPW006I Setting the directory server administrator password.
GLPDPW007I Directory server administrator password was set.
[root@isim sbin]# ./idsdnpw -I nisarg2 -u cn=root -p P@ssw0rd -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/idsdnpw' is used with the following arguments '-I nisarg2 -u cn=root -p ***** -n'.
You have chosen to perform the following actions:
GLPDPW004I The directory server administrator DN will be set.
GLPDPW005I The directory server administrator password will be set.
GLPDPW009I Setting the directory server administrator DN.
GLPDPW010I Directory server administrator DN was set.
GLPDPW006I Setting the directory server administrator password.
GLPDPW007I Directory server administrator password was set.
[root@isim sbin]#

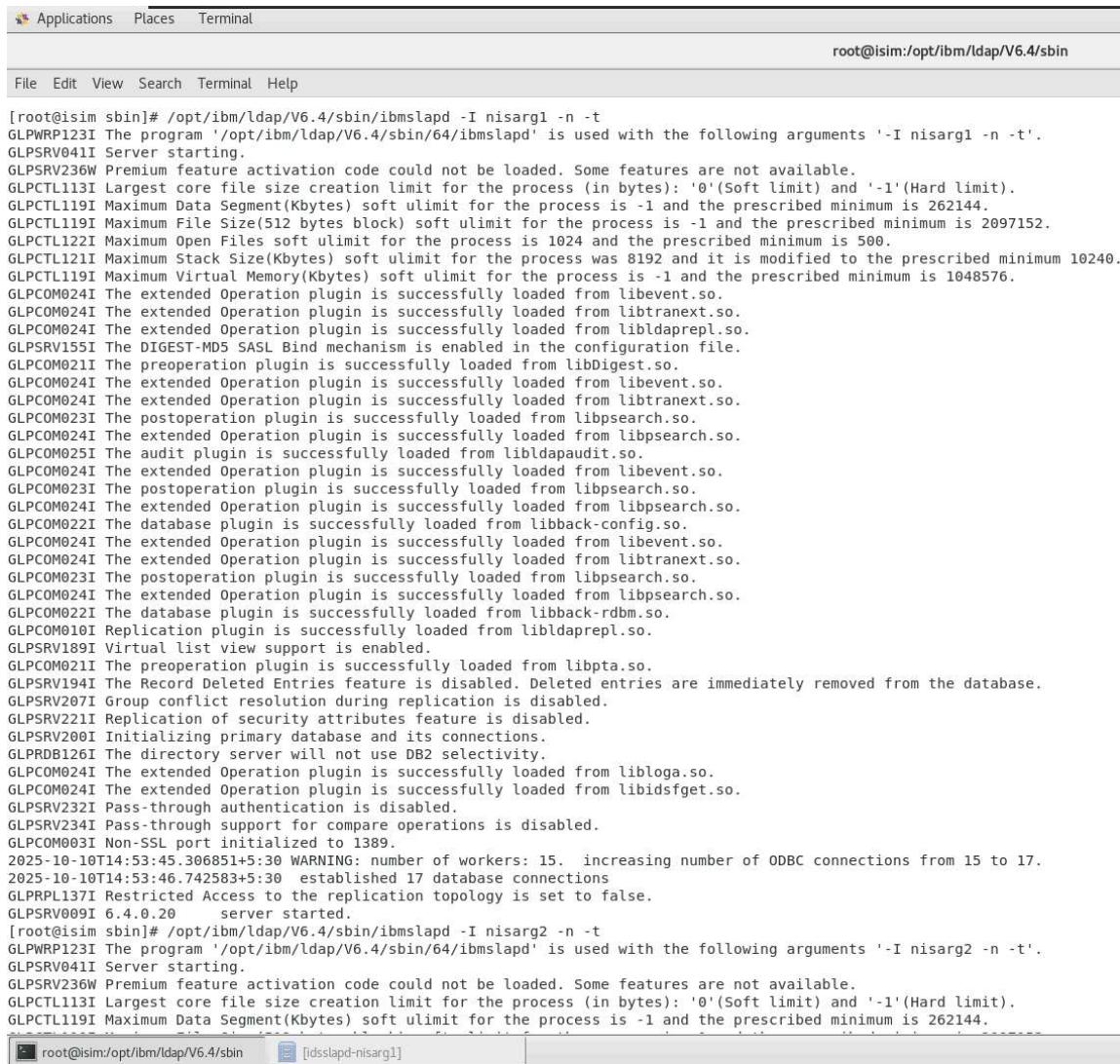
```

Starting IBM SDS Instances:

Command :

- /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg1 -n -t
- /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg2 -n -t

Explanation : These commands run the main LDAP server process, ibmslapd, in a special configuration test mode for the instances nisarg1 and nisarg2. The -t flag instructs the program to parse all configuration files to check for syntax errors and then immediately exit. This is a crucial step to validate the setup before attempting to start the services normally.



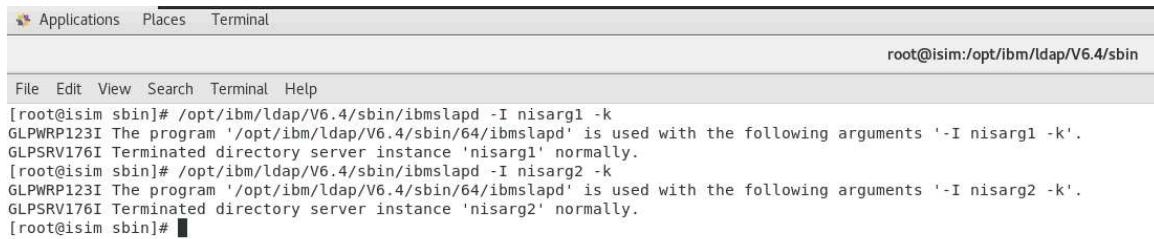
```
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg1 -n -t
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/ibmslapd' is used with the following arguments '-I nisarg1 -n -t'.
GLPSRV041I Server starting.
GLPSRV236W Premium feature activation code could not be loaded. Some features are not available.
GLPCTL113I Largest core file size creation limit for the process (in bytes): '0'(Soft limit) and '-1'(Hard limit).
GLPCTL119I Maximum Data Segment(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 262144.
GLPCTL119I Maximum File Size(512 bytes block) soft ulimit for the process is -1 and the prescribed minimum is 2097152.
GLPCTL122I Maximum Open Files soft ulimit for the process is 1024 and the prescribed minimum is 500.
GLPCTL121I Maximum Stack Size(Kbytes) soft ulimit for the process was 8192 and it is modified to the prescribed minimum 10240.
GLPCTL119I Maximum Virtual Memory(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 1048576.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libtranext.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libldaprepl.so.
GLPSRV155I The DIGEST-MD5 SASL Bind mechanism is enabled in the configuration file.
GLPCOM021I The preoperation plugin is successfully loaded from libDigest.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libtranext.so.
GLPCOM023I The postoperation plugin is successfully loaded from libpsearch.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libpsearch.so.
GLPCOM025I The audit plugin is successfully loaded from libldapaudit.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM023I The postoperation plugin is successfully loaded from libpsearch.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libpsearch.so.
GLPCOM022I The database plugin is successfully loaded from libback-config.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libtranext.so.
GLPCOM023I The postoperation plugin is successfully loaded from libpsearch.so.
GLPCOM022I The extended Operation plugin is successfully loaded from libpsearch.so.
GLPROM022I The database plugin is successfully loaded from libback-rdbm.so.
GLPCOM010I Replication plugin is successfully loaded from libldaprepl.so.
GLPSRV189I Virtual list view support is enabled.
GLPCOM021I The preoperation plugin is successfully loaded from libpta.so.
GLPSRV194I The Record Deleted Entries feature is disabled. Deleted entries are immediately removed from the database.
GLPSRV207I Group conflict resolution during replication is disabled.
GLPSRV221I Replication of security attributes feature is disabled.
GLPSRV200I Initializing primary database and its connections.
GLPRDB126I The directory server will not use DB2 selectivity.
GLPCOM024I The extended Operation plugin is successfully loaded from libloga.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libidsfget.so.
GLPSRV232I Pass-through authentication is disabled.
GLPSRV234I Pass-through support for compare operations is disabled.
GLPCOM003I Non-SSL port initialized to 1389.
2025-10-10T14:53:45.306851+5:30 WARNING: number of workers: 15. increasing number of ODBC connections from 15 to 17.
2025-10-10T14:53:46.742583+5:30 established 17 database connections
GLPRL137I Restricted Access to the replication topology is set to false.
GLPSRV009I 6.4.0.20 server started.
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg2 -n -t
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/ibmslapd' is used with the following arguments '-I nisarg2 -n -t'.
GLPSRV041I Server starting.
GLPSRV236W Premium feature activation code could not be loaded. Some features are not available.
GLPCTL113I Largest core file size creation limit for the process (in bytes): '0'(Soft limit) and '-1'(Hard limit).
GLPCTL119I Maximum Data Segment(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 262144.
```

Stopping IBM SDS Instances:

Command :

- /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg1 -k
- /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg2 -k

Explanation : These commands are used to gracefully stop two different instances of an IBM Security Directory Server (an LDAP server). The ibmslapd executable is the server daemon, the -I flag specifies the instance name to target (here, nisarg1 and nisarg2), and the -k flag sends the stop signal to that specific instance.

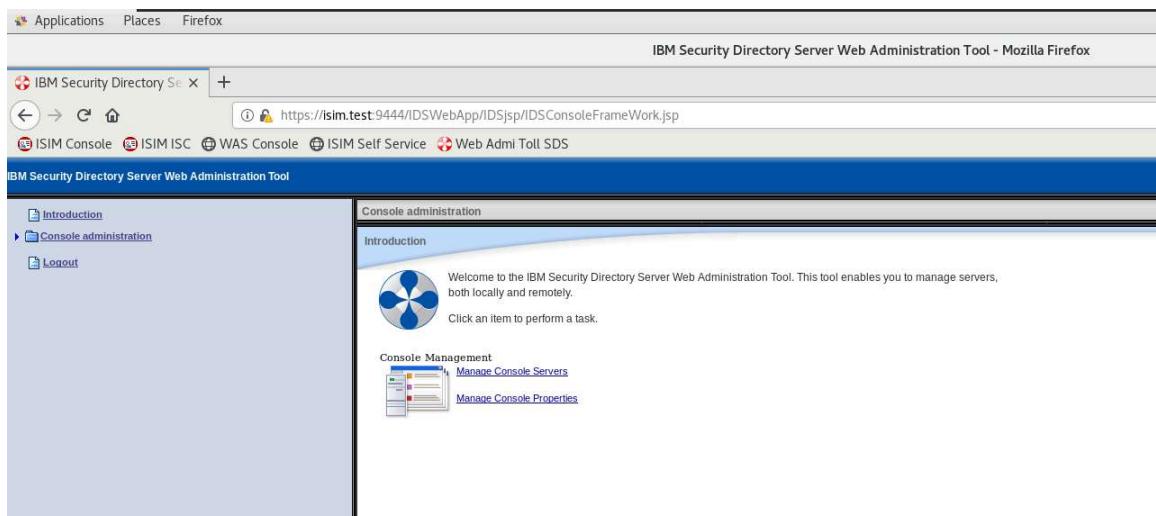
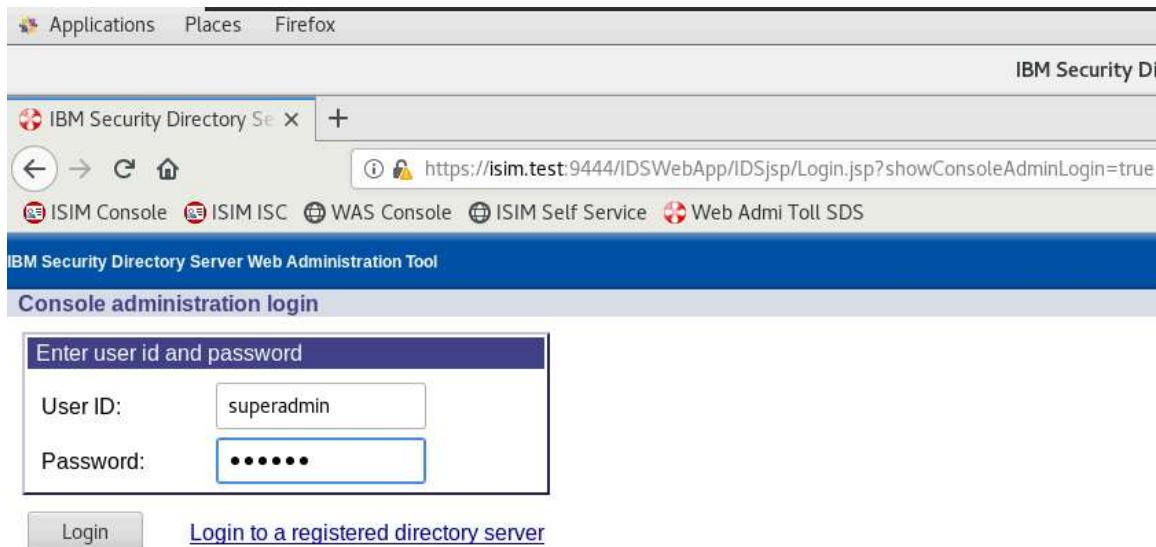


The screenshot shows a terminal window with a standard Gnome-like interface. The title bar says "root@isim:/opt/ibm/ldap/V6.4/sbin". The menu bar includes "Applications", "Places", and "Terminal". Below the menu bar is a toolbar with icons for "File", "Edit", "View", "Search", "Terminal", and "Help". The main terminal area contains the following command and its output:

```
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg1 -k
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64(ibmslapd' is used with the following arguments '-I nisarg1 -k'.
GLPSRV176I Terminated directory server instance 'nisarg1' normally.
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg2 -k
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64(ibmslapd' is used with the following arguments '-I nisarg2 -k'.
GLPSRV176I Terminated directory server instance 'nisarg2' normally.
[root@isim sbin]#
```

SDS Web Admin tool:

- Open the Firefox browser from the task bar and enter the below URL or Click the Web Admin Tool Bookmark in the Bookmark bar.
- Url : <https://isim.test:9444/IDSWebApp/>
- Click on Login to Console admin. Enter the credentials as superadmin using the password secret. This is default password for WAT superadmin.



- Click on Manage Console Servers.

Select	Server name	Hostname	Port	Administration port	SSL enabled
	ISIM LDAP	isim.test	389	3538	No

- Click on Add. Enter the following details -
 - Server name - **nisarg1**
 - Hostname : **localhost**
 - Port : **1389**

Add server

Server name (leave blank to use hostname)
nisarg1

*Hostname: **localhost** *Port: **1389**

Enable SSL encryption

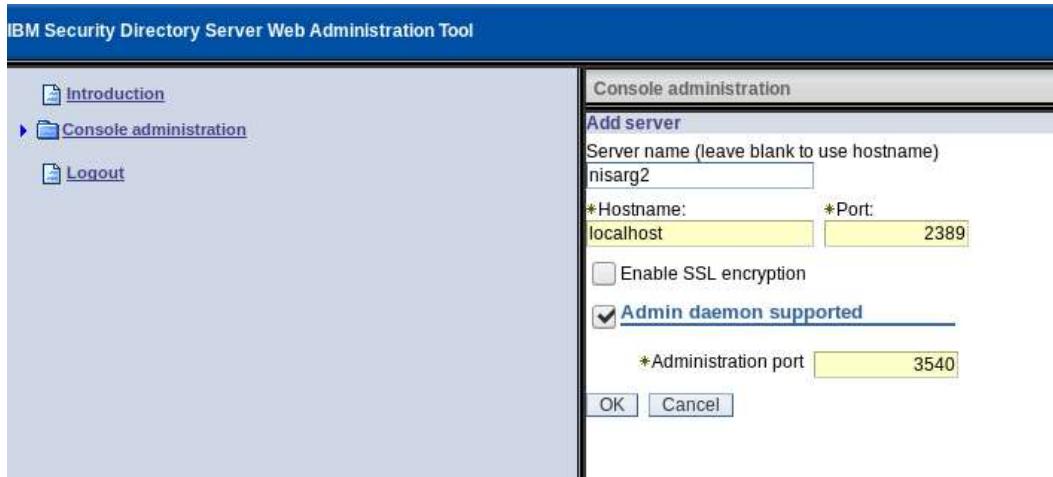
Admin daemon supported

*Administration port **3538**

OK **Cancel**

Click OK and OK on next screen.

- Click on Add. Enter the following details -
 - Server name - nisarg2
 - Hostname : localhost
 - Port : 2389
 - Administration port: 3540

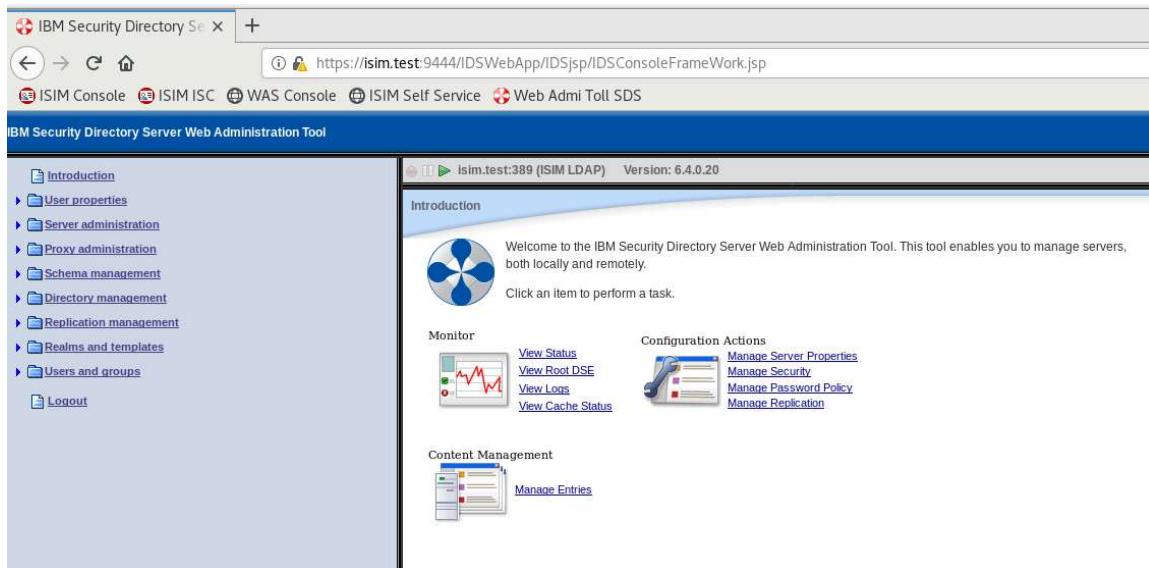


Click OK and OK on next screen.

Manage console servers						
Select	Server name	Hostname	Port	Administration port	SSL enabled	
<input type="radio"/>	ISIM LDAP	isim.test	389	3538	No	
<input type="radio"/>	nisarg1	localhost	1389	3538	No	
<input type="radio"/>	nisarg2	localhost	2389	3540	No	

- Click on Logout in the left pane and then on next screen press on here.
- Now we will get the LDAP Server Name. Select nisarg1 and enter the credential cn=root/P@ssw0rd

Click on Login.

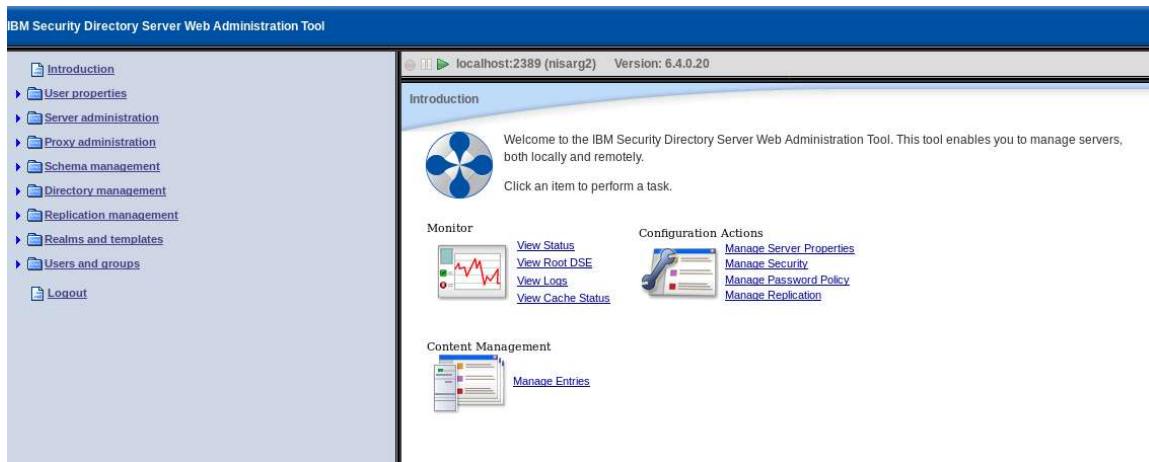


- Click Manage Entries in the Content Management Section . There are few default entries created by SDS when the instance is created.

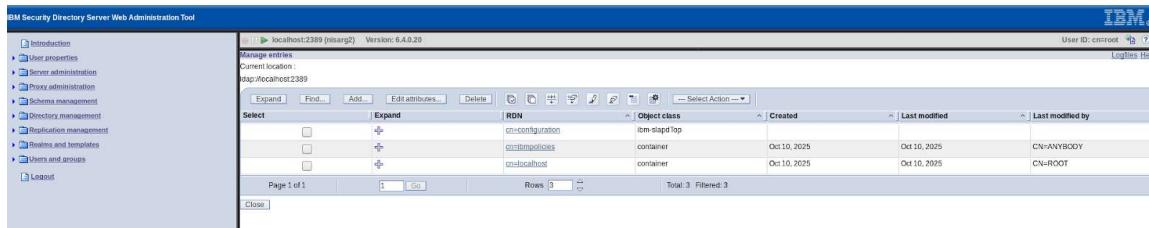
Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>	<input type="checkbox"/>	cn=configuration	container	Apr 22, 2020	Apr 22, 2020	CN=ANYBODY
<input type="checkbox"/>	<input type="checkbox"/>	cn=monitor	container	Apr 22, 2020	Apr 22, 2020	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	cn=localhost	domain	Apr 22, 2020	Apr 22, 2020	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	dc=com	domain	Apr 23, 2020	Apr 23, 2020	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	dc=contractors	organization	Apr 28, 2020	Apr 28, 2020	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	dc=org				

- Press Logout in Left Pane and login with nisarg2 with Userid cn=root/P@ssw0rd

Click on Login.



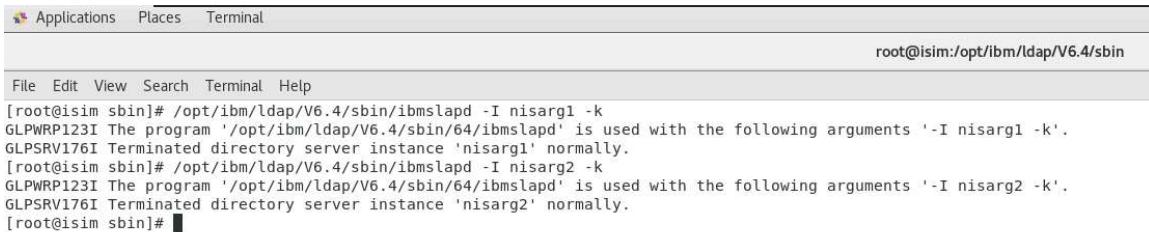
- Click Manage Entries as above steps and similar data will be shown as nisarg1.



Create Suffix and Load Organization data:

- To add the suffix stop both the SDS instances. Open terminal and enter command:
 - /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg1 -k
 - /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg2 -k

Explanation : These commands are used to gracefully stop two different instances of an IBM Security Directory Server (an LDAP server). The ibmslapd executable is the server daemon, the -I flag specifies the instance name to target (here, nisarg1 and nisarg2), and the -k flag sends the stop signal to that specific instance.



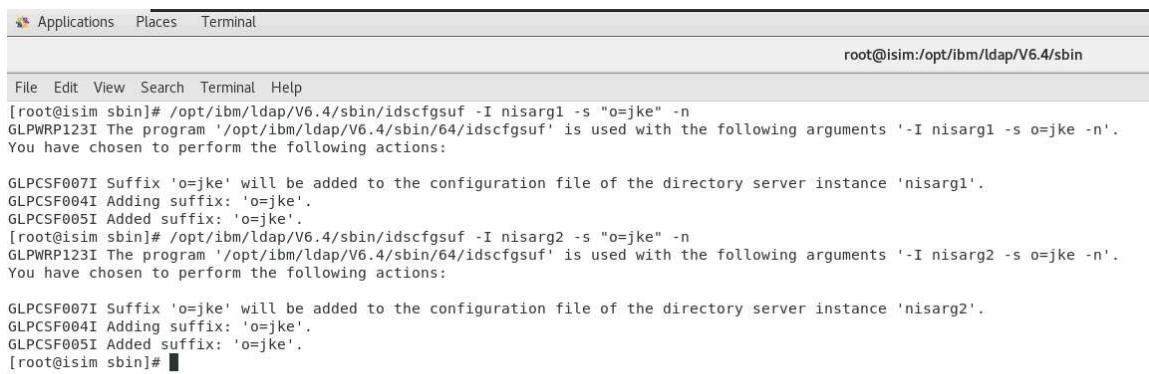
```

Applications Places Terminal
root@isim:/opt/ibm/ldap/V6.4/sbin
File Edit View Search Terminal Help
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg1 -k
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin(ibmslapd' is used with the following arguments '-I nisarg1 -k'.
GLPSRV176I Terminated directory server instance 'nisarg1' normally.
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin(ibmslapd -I nisarg2 -k
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin(ibmslapd' is used with the following arguments '-I nisarg2 -k'.
GLPSRV176I Terminated directory server instance 'nisarg2' normally.
[root@isim sbin]#

```

- Since we will be loading data into the directory servers, it is necessary to add the base suffix into the directory server configuration. We will be using the “o=jke” suffix. In terminal enter the commands:
 - /opt/ibm/ldap/V6.4/sbin(idscfgsuf -I nisarg1 -s "o=jke" -n
 - /opt/ibm/ldap/V6.4/sbin(idscfgsuf -I nisarg2 -s "o=jke" -n

Explanation : These commands configure a new suffix, o=jke, for two separate IBM Security Directory Server instances (nisarg1 and nisarg2). A suffix defines the top-level entry for a new branch of data within the LDAP directory. The idscfgsuf tool performs this action, with -I specifying the instance, -s defining the suffix, and -n running it non-interactively.



The screenshot shows a terminal window with the following content:

```
Applications Places Terminal
root@isim:/opt/ibm/ldap/V6.4/sbin
File Edit View Search Terminal Help
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/idscfgsuf -I nisarg1 -s "o=jke" -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/idscfgsuf' is used with the following arguments '-I nisarg1 -s o=jke -n'.
You have chosen to perform the following actions:
GLPCSF007I Suffix 'o=jke' will be added to the configuration file of the directory server instance 'nisarg1'.
GLPCSF004I Adding suffix: 'o=jke'.
GLPCSF005I Added suffix: 'o=jke'.
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/idscfgsuf -I nisarg2 -s "o=jke" -n
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/idscfgsuf' is used with the following arguments '-I nisarg2 -s o=jke -n'.
You have chosen to perform the following actions:
GLPCSF007I Suffix 'o=jke' will be added to the configuration file of the directory server instance 'nisarg2'.
GLPCSF004I Adding suffix: 'o=jke'.
GLPCSF005I Added suffix: 'o=jke'.
[root@isim sbin]#
```

The suffixes are added.

- Start the IBM SDS instances using below commands:
- /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg1 -n -t
 - /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg2 -n -t

Explanation : These commands run the main LDAP server process, ibmslapd, in a special configuration test mode for the instances nisarg1 and nisarg2. The -t flag instructs the program to parse all configuration files to check for syntax errors and then immediately exit. This is a crucial step to validate the setup before attempting to start the services normally.

```

Applications Places Terminal
root@isim:/opt/ibm/ldap/V6.4/sbin

File Edit View Search Terminal Help

[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg1 -n -t
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/ibmslapd' is used with the following arguments '-I nisarg1 -n -t'.
GLPSRV041I Server starting.
GLPSRV236W Premium feature activation code could not be loaded. Some features are not available.
GLPCTL113I Largest core file size creation limit for the process (in bytes): '0'(Soft limit) and '-1'(Hard limit).
GLPCTL119I Maximum Data Segment(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 262144.
GLPCTL119I Maximum File Size(512 bytes block) soft ulimit for the process is -1 and the prescribed minimum is 2097152.
GLPCTL122I Maximum Open Files soft ulimit for the process is 1024 and the prescribed minimum is 500.
GLPCTL121I Maximum Stack Size(Kbytes) soft ulimit for the process was 8192 and it is modified to the prescribed minimum 10240.
GLPCTL119I Maximum Virtual Memory(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 1048576.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libtranext.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libldaprepl.so.
GLPSRV155I The DIGEST-MD5 SASL Bind mechanism is enabled in the configuration file.
GLPCOM021I The preoperation plugin is successfully loaded from libDigest.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libtranext.so.
GLPCOM023I The postoperation plugin is successfully loaded from libpsearch.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libpsearch.so.
GLPCOM024I The database plugin is successfully loaded from libback-config.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libevent.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libtranext.so.
GLPSRV231I The postoperation plugin is successfully loaded from libpsearch.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libpsearch.so.
GLPCOM022I The database plugin is successfully loaded from libback-rdbm.so.
GLPCOM010I Replication plugin is successfully loaded from libldaprepl.so.
GLPSRV189I Virtual list view support is enabled.
GLPCOM021I The preoperation plugin is successfully loaded from libta.so.
GLPSRV194I The Record Deleted Entries feature is disabled. Deleted entries are immediately removed from the database.
GLPSRV207I Group conflict resolution during replication is disabled.
GLPSRV221I Replication of security attributes feature is disabled.
GLPSRV200I Initializing primary database and its connections.
GLPRDB126I The directory server will not use DB2 selectivity.
GLPCOM024I The extended Operation plugin is successfully loaded from libloga.so.
GLPCOM024I The extended Operation plugin is successfully loaded from libidsfget.so.
GLPSRV232I Pass-through authentication is disabled.
GLPSRV234I Pass-through support for compare operations is disabled.
GLPCOM003I Non-SSL port initialized to 1389.
2025-10-11T12:30:39.079371+5:30 WARNING: number of workers: 15. increasing number of ODBC connections from 15 to 17.
2025-10-11T12:30:46.362487+5:30 established 17 database connections
GLPRPL137I Restricted Access to the replication topology is set to false.
GLPSRV009I 6.4.0.20 server started.
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg2 -k
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/ibmslapd' is used with the following arguments '-I nisarg2 -k'.
GLPSRV124I The directory server instance 'nisarg2' is already stopped.
[root@isim sbin]# /opt/ibm/ldap/V6.4/sbin/ibmslapd -I nisarg1 -k
GLPWRP123I The program '/opt/ibm/ldap/V6.4/sbin/64/ibmslapd' is used with the following arguments '-I nisarg1 -k'.
GLPSRV176I Terminated directory server instance 'nisarg1' normally.

```

root@isim:/opt/ibm/ldap/V6.4/sbin idsslapd-nisarg1 IBM Security Directory Server Web ...

- Now that the suffix information has been added, and the directory server instances have been started – it is necessary to add the “o=jke” organization information to the directory tree.
- In the terminal enter below command for nisarg1,

```
/opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 1389
```

Explanation : This command uses the idsldapadd utility to add new entries to an IBM Security Directory Server. It authenticates (binds) to the server as the administrator (-D cn=root) using the password P@ssw0rd (-w). The command targets the LDAP instance listening on the non-standard port 1389 (-p) and expects the entry data (in LDIF format) to be piped or typed into the terminal.

<press enter, and then enter the following data, enter each line one by one>

```
dn: o=jke
objectclass: organization
objectclass: top
o: jke
```

<press enter twice, a message saying the entry has been added>

hit <control C> to quit the ldapmodify command.

```
[root@isim sbin]# /opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 1389
dn: o=jke
objectclass: organization
objectclass: top
o: jke

Operation 0 adding new entry o=jke

^C
[root@isim sbin]#
```

- Similarly, for idsldap2 add the o=jke entry as organization, we use 2389 port to imply the idsldap2 instance in the command

```
/opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 2389
```

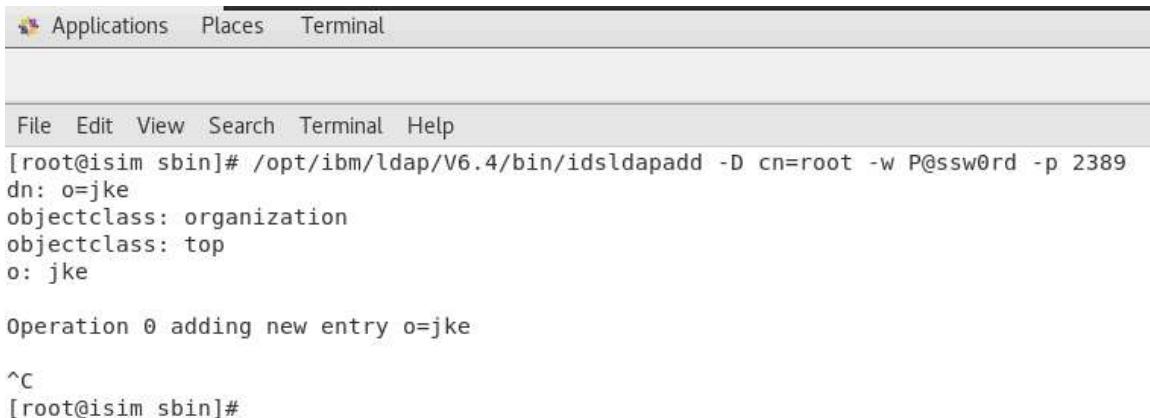
Explanation : This command uses the idsldapadd utility to add new entries to an IBM Security Directory Server. It authenticates (binds) to the server as the administrator (-D cn=root) using the password P@ssw0rd (-w). The command targets the LDAP instance listening on the non-standard port 2389 (-p) and expects the entry data (in LDIF format) to be piped or typed into the terminal.

<press enter, and then enter the following data, enter each line one by one>

- dn: o=jke
- objectclass: organization
- objectclass: top
- o: jke

<press enter twice, a message saying the entry has been added>

hit <control C> to quit the ldapmodify command.



The screenshot shows a terminal window with a menu bar at the top containing 'Applications', 'Places', and 'Terminal'. Below the menu bar is a toolbar with icons for file operations. The main terminal area displays the following command and its output:

```
[root@isim sbin]# /opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 2389
dn: o=jke
objectclass: organization
objectclass: top
o: jke

Operation 0 adding new entry o=jke
^C
[root@isim sbin]#
```

- Minimize Terminal. Open Firefox and click Web Admin Tool Bookmark.
- Login to idslldap using cn=root/P@ssw0rd.
- Click Manage Entries from the Content Management section on the Homepage. You can see the organization information o=jke is added. Logout from nisarg1.

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>	<input type="checkbox"/>	cn=configuration	ibm-slapdTop	Oct 10, 2025	Oct 10, 2025	CN=ANYBODY
<input type="checkbox"/>	<input type="checkbox"/>	cn=rbmpolicies	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	cn=host	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	o=jke	organization	Oct 11, 2025	Oct 11, 2025	CN=ROOT

- Login to nisarg2 using cn=root/P@ssw0rd and you can see similar entries in nisarg2 instance.

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>	<input type="checkbox"/>	cn=configuration	ibm-slapdTop	Oct 10, 2025	Oct 10, 2025	CN=ANYBODY
<input type="checkbox"/>	<input type="checkbox"/>	cn=rbmpolicies	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	cn=host	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	<input type="checkbox"/>	o=jke	organization	Oct 11, 2025	Oct 11, 2025	CN=ROOT

- Logout. Close Firefox.

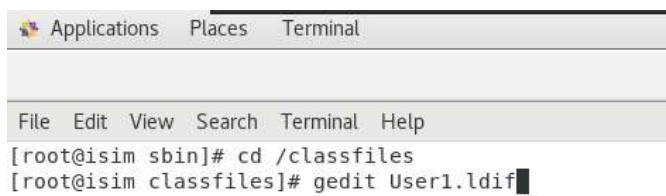
Import LDIF:

- We will import user data into the organization “o=jke” using LDIF file. Open Terminal. Navigate to /classfiles

```
cd /classfiles
```

- Create the file User1.ldif in this folder. Use gedit to open

```
gedit User1.ldif
```



A screenshot of a terminal window. The title bar says "Applications Places Terminal". The menu bar includes "File Edit View Search Terminal Help". The command line shows the root user navigating to the "/classfiles" directory and opening the "User1.ldif" file with gedit.

```
[root@isim sbin]# cd /classfiles
[root@isim classfiles]# gedit User1.ldif
```

- Copy or type the below ldif entries into the file:

```
dn: cn=joe, o=jke
```

```
objectclass: person
```

```
objectclass: top
```

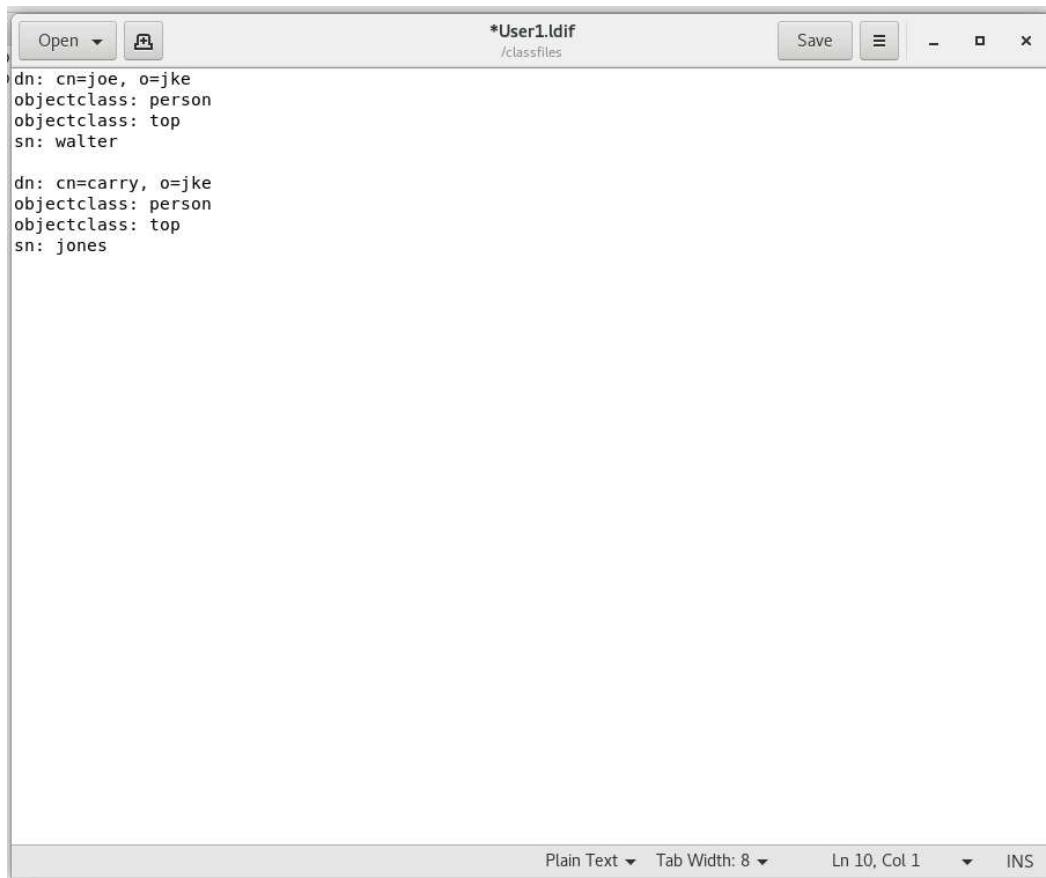
```
sn: walter
```

```
dn: cn=carry, o=jke
```

```
objectclass: person
```

```
objectclass: top
```

```
sn: jones
```



The screenshot shows a text editor window titled "User1.ldif" located at "/classfiles". The content of the file is as follows:

```

dn: cn=joe, o=jke
objectclass: person
objectclass: top
sn: walter

dn: cn=carry, o=jke
objectclass: person
objectclass: top
sn: jones

```

The bottom of the window displays standard text editor controls: Plain Text, Tab Width: 8, Ln 10, Col 1, and INS.

- Save the file and Close.
- In the terminal enter the `idsldapadd` command as below for nisarg1 :

```
/opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 1389
-i /classfiles/User1.ldif
```

Explanation : This command uses the `idsldapadd` utility to add directory entries contained within a file to an LDAP server. It connects to the server on port 1389 (-p) and authenticates as the administrator `cn=root` (-D) using the password `P@ssw0rd` (-w). The -i flag specifies that the entry data, formatted in LDIF, will be read from the input file `/classfiles/User1.ldif`.

You can see the output as below:



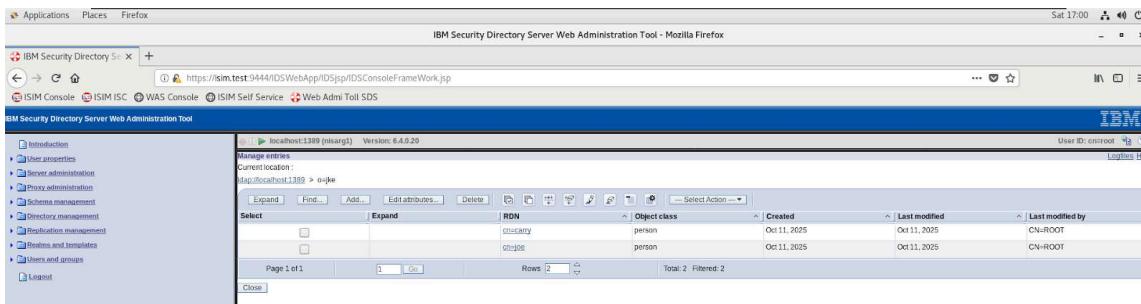
```
[root@isim sbin]# cd /classfiles
[root@isim classfiles]# gedit User1.ldif
[root@isim classfiles]# /opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 1389 -i /classfiles/User1.ldif
Operation 0 adding new entry cn=joe, o=jke

Operation 1 adding new entry cn=carry, o=jke

[root@isim classfiles]#
```

Two users are added successfully.

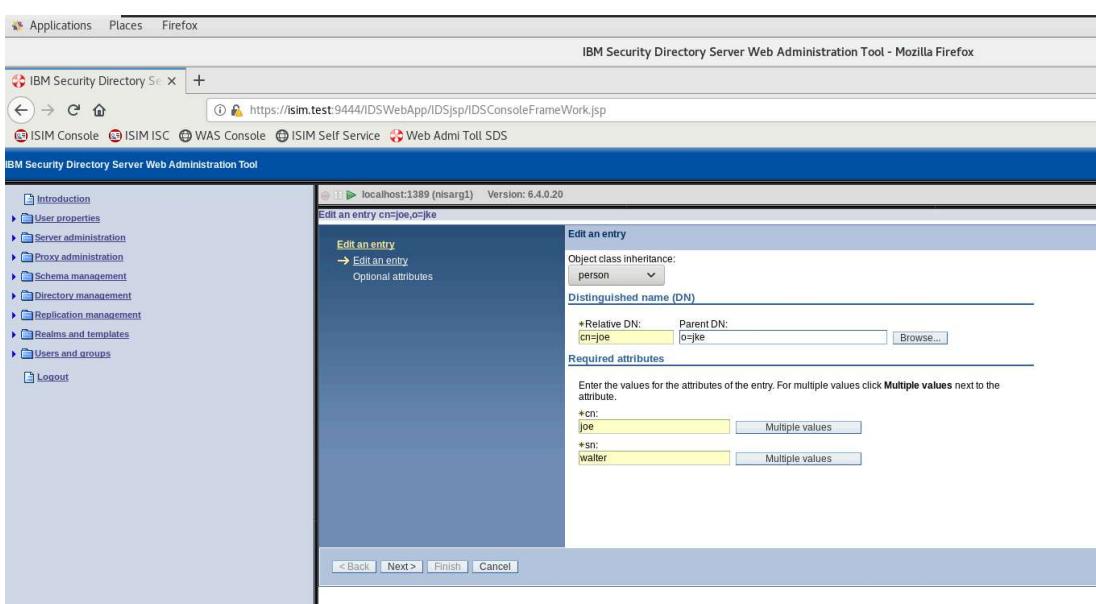
- Verify if the users are added into the nisarg1 instance of SDS using WAT. Open Firefox. Click Web Admin Tool bookmark.
- Login to nisarg1 using cn=root/P@ssw0rd.
- Click Manage Entries in the Content Management section. Click the plus (+) sign near o=jke and you can see two users joe and carry are displayed.



The screenshot shows the 'Manage entries' page of the Web Administration Tool. The left sidebar has 'User properties' selected. The main pane displays a table of users:

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>		o=jke	person	Oct 11, 2025	Oct 11, 2025	CN-ROOT
<input type="checkbox"/>		o=carry	person	Oct 11, 2025	Oct 11, 2025	CN-ROOT

- You can click cn=joe and see some extra details. Click Cancel and then Close. Click Logout in the left pane.



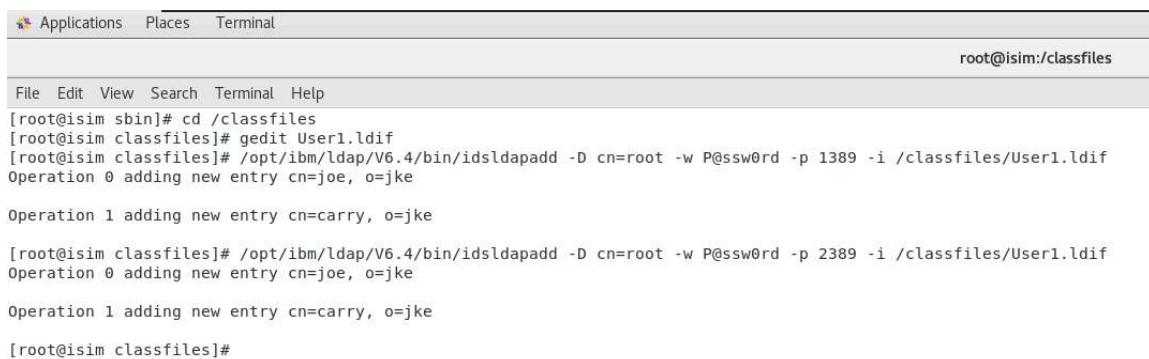
The screenshot shows the 'Edit an entry' page for the user 'cn=joe, o=jke'. The left sidebar has 'User properties' selected. The right pane shows the 'Edit an entry' form:

Edit an entry
 Object class inheritance: person
Distinguished name (DN)
 Relative DN: cn=joe Parent DN: o=jke
Required attributes
 +cn: joe
 +sn: Waller

- Open the Terminal window and repeat the above step of nisarg2 using the port 2389. Enter the command as below

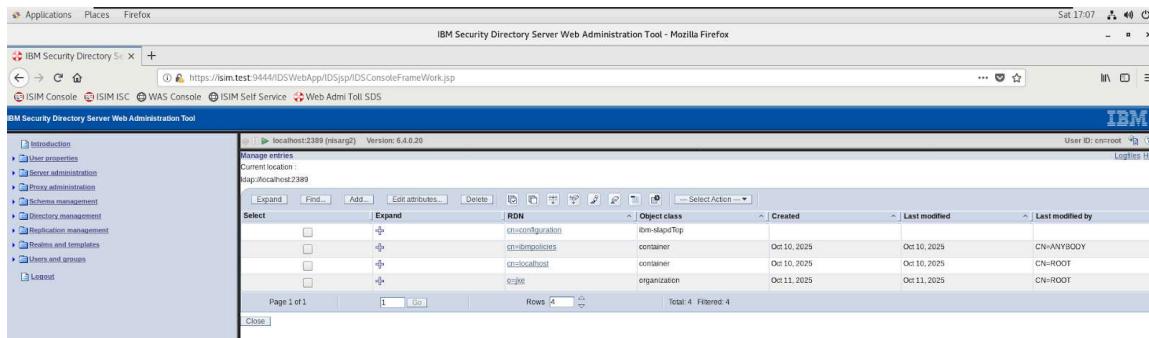
```
/opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 2389
-i /classfiles/User1.ldif
```

Explanation : This command uses the idsldapadd utility to add directory entries contained within a file to an LDAP server. It connects to the server on port 2389 (-p) and authenticates as the administrator cn=root (-D) using the password P@ssw0rd (-w). The -i flag specifies that the entry data, formatted in LDIF, will be read from the input file /classfiles/User1.ldif.



```
root@isim:/classfiles
File Edit View Search Terminal Help
[root@isim sbin]# cd /classfiles
[root@isim classfiles]# gedit User1.ldif
[root@isim classfiles]# /opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 1389 -i /classfiles/User1.ldif
Operation 0 adding new entry cn=joe, o=jke
Operation 1 adding new entry cn=carry, o=jke
[root@isim classfiles]# /opt/ibm/ldap/V6.4/bin/idsldapadd -D cn=root -w P@ssw0rd -p 2389 -i /classfiles/User1.ldif
Operation 0 adding new entry cn=joe, o=jke
Operation 1 adding new entry cn=carry, o=jke
[root@isim classfiles]#
```

- Similar output window will be shown, now open Firefox and login to nisarg2 into (Web Admin Tool) WAT in Firefox. Verify the same data on nisarg2 on the same lines we check for nisarg1.



The screenshot shows the 'IBM Security Directory Server Web Administration Tool - Mozilla Firefox' window. The URL is <https://isim.test:9444/DSWebApp/DSjsp/DSConsoleFrameWork.jsp>. The left sidebar menu includes 'Introduction', 'User management', 'Server administration', 'Proxy administration', 'Schema management', 'Directory management', 'Replication management', 'Results and templates', 'Users and groups', and 'Logout'. The main content area displays a table titled 'Manage entries' with the following data:

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>	cn=configuration	cn=configuration	ibm-MapTop	Oct 10, 2025	Oct 10, 2025	CN/Nobody
<input type="checkbox"/>	cn=ibmPolicies	cn=ibmPolicies	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	cn=localhost	cn=localhost	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	o=jke	o=jke	organization	Oct 11, 2025	Oct 11, 2025	CN=ROOT

Page 1 of 1 1 Go Rows 4 Total: 4 Filtered: 4

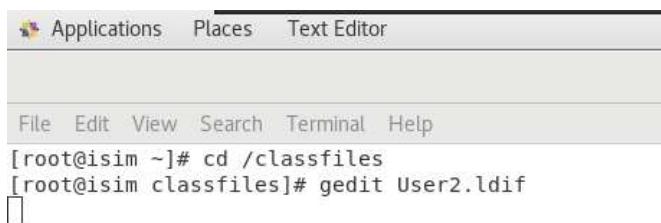
Import LDIF using LDAP Browser:

- We will import user data into the organization “o=jke” using LDIF file. Open Terminal. Navigate to /classfiles

```
cd /classfiles
```

- Create the file User2.ldif in this folder. Use gedit to open

```
gedit User2.ldif
```



A screenshot of a terminal window. The title bar says "Applications" and "Places" are visible. The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The command line shows the root user navigating to the "/classfiles" directory and opening a new LDIF file named "User2.ldif" with the gedit text editor.

```
[root@isim ~]# cd /classfiles
[root@isim classfiles]# gedit User2.ldif
```

- Copy or type the below ldif entries into the file:

```
dn: cn=dan, o=jke
```

```
objectclass: top
```

```
objectclass: person
```

```
sn: smith
```

```
cn: dan
```

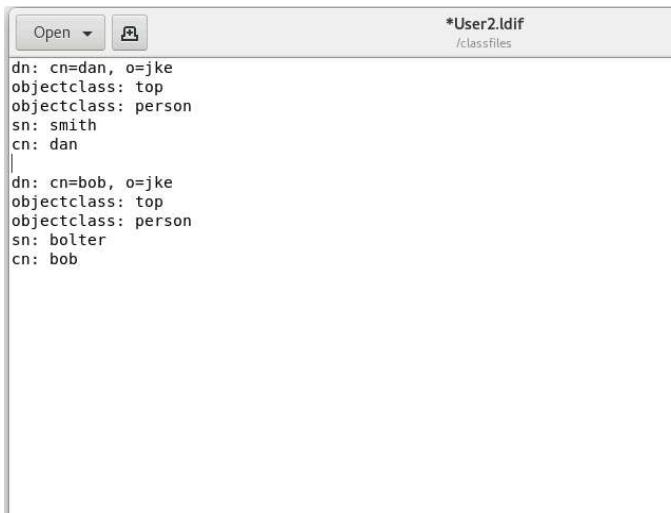
```
dn: cn=bob, o=jke
```

```
objectclass: top
```

```
objectclass: person
```

```
sn: bolter
```

```
cn: bob
```

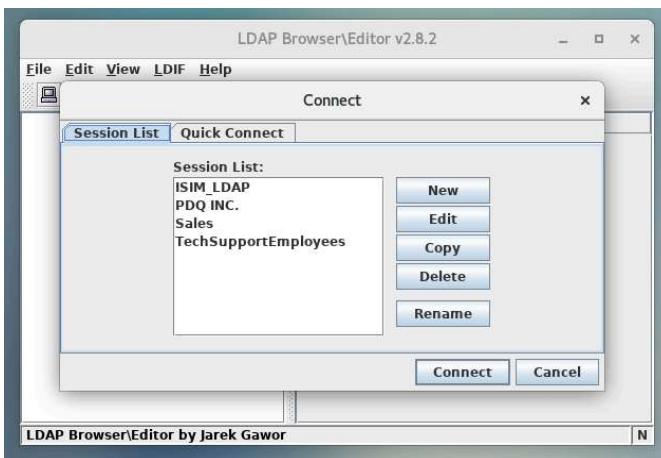


```
*User2.ldif
/classfiles

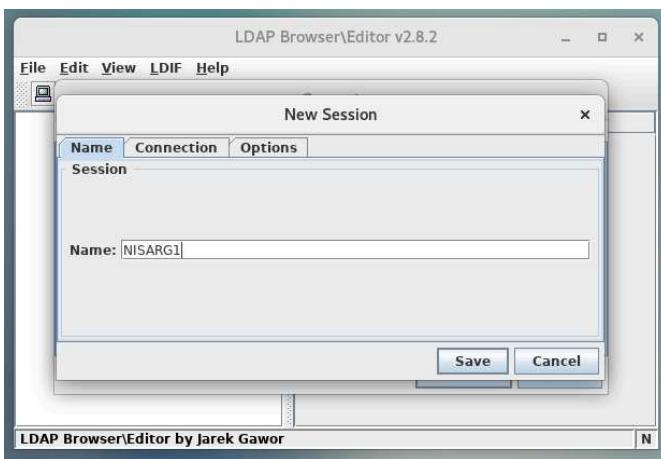
dn: cn=dan, o=jke
objectclass: top
objectclass: person
sn: smith
cn: dan

dn: cn=bob, o=jke
objectclass: top
objectclass: person
sn: bolter
cn: bob
```

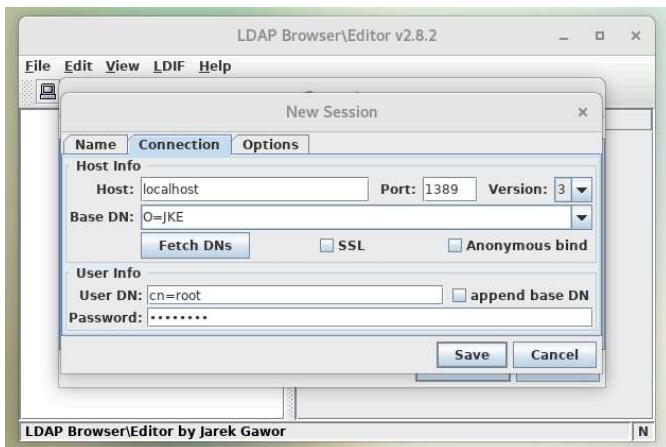
- Open LDAP Browser by double-click on LDAP Browser of Desktop.



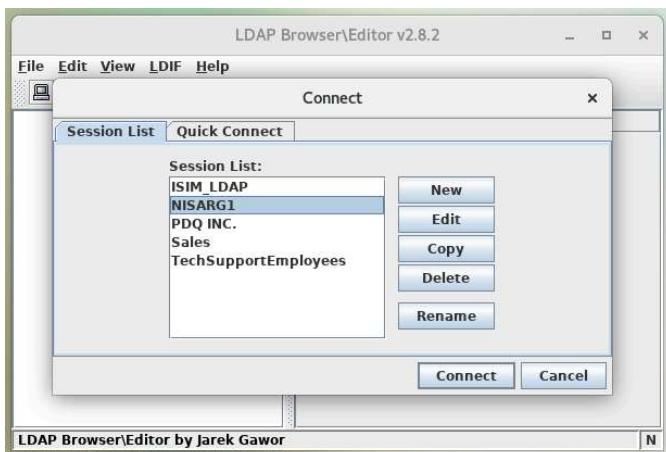
- To add new connection of nisarg1 instance Click New.
- Enter name : NISARG1. Click the Connection tab.



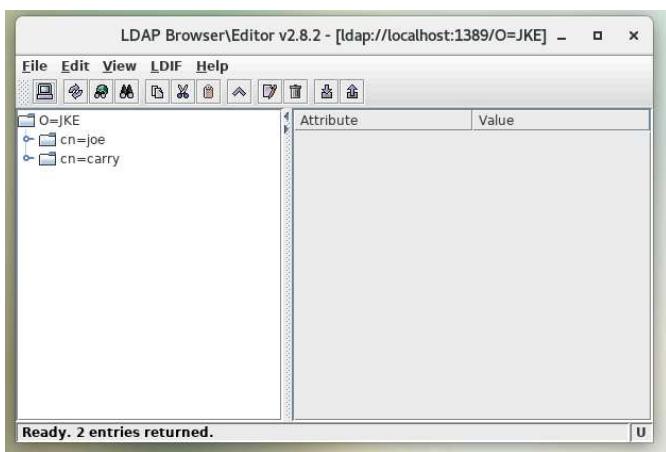
- Enter the details as below



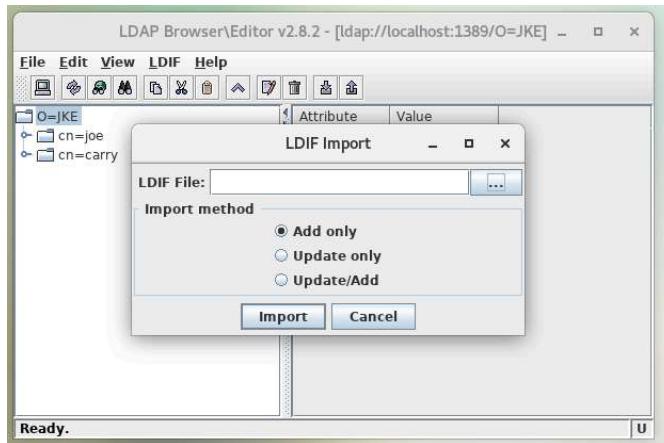
- Click Save. Select NISARG1 and Click Connect.



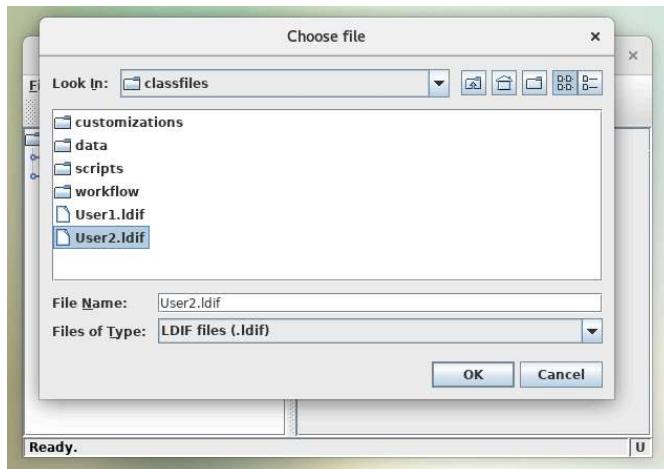
You will be able to see the entries in the NISARG1.



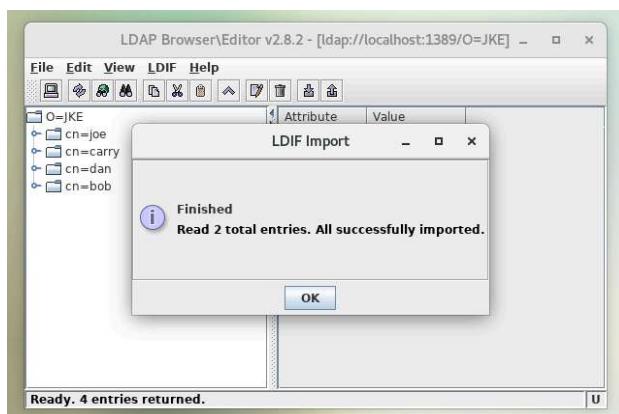
- Click on JKE and in Menu Bar Click LDIF. Click Import.



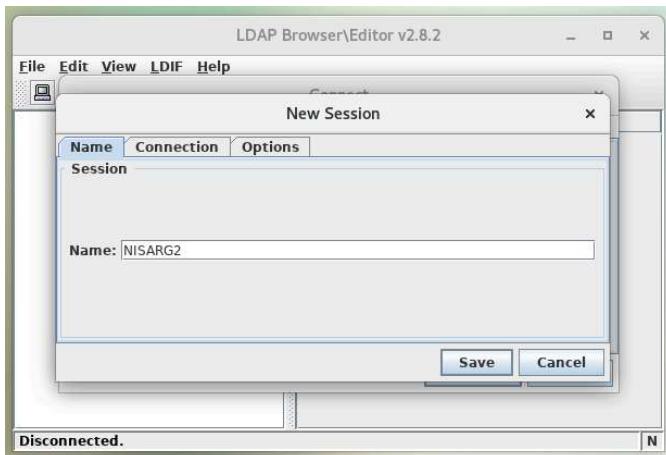
- Browse to /classfiles, click User2.ldif. Click OK. Select Add Only.



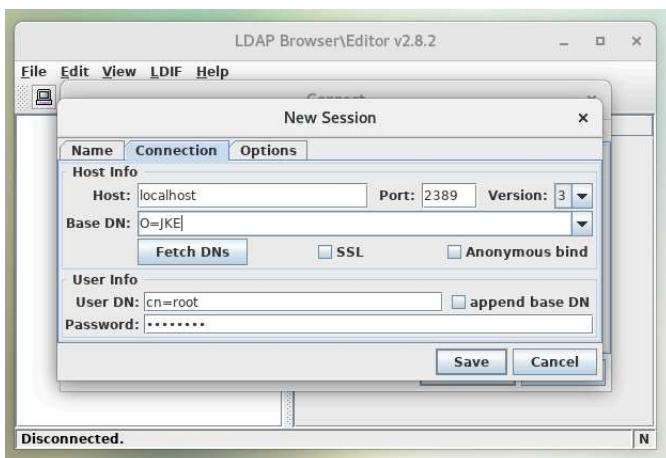
- Click Import. Click Ok on the success message.
- You can see users bob and dan are imported in LDAP. Click on o=JKE and Click the refresh icon



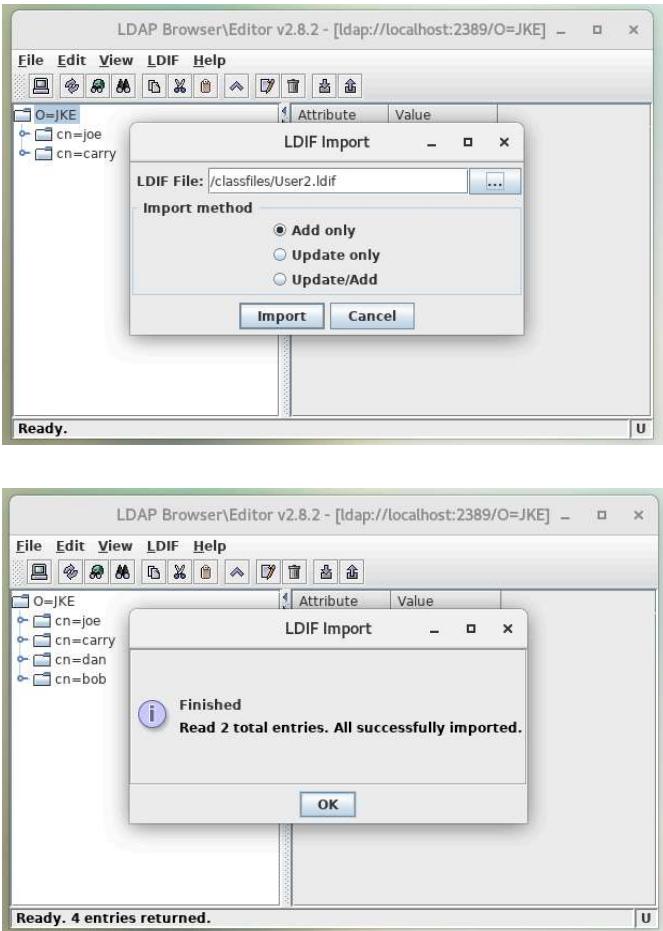
- Repeat similar steps for NISARG2. From Menu bar → File → Disconnect
- Menu bar → File → Connect
- Create connection for NISARG2. Click New.
- Enter name : NISARG2. Click the Connection tab.



- Enter the details as below:



- Click Save. Select NISARG2 and Click Connect.
- You will be able to see the entries in the NISARG2. We will import the User2.ldif in the similar fashion. Repeat above steps to import the ldif and verify.



- Close the LDAP Browser.

Replication:

Create Replication Credentials on IDSLDAP1

- Open Firefox. Click on the Web Admin Tool SDS bookmark on bookmark toolbar.
- Login to LDAPServer nisarg1 using cn=root/P@ssw0rd.
- Select Replication Management on left pane. Click Manage Topology.

- Click the Add subtree button
 - Select o=jke in the Subtree DN box from Browse.
 - Check to ensure ldap://localhost:1389 is in the Master server referral URL box

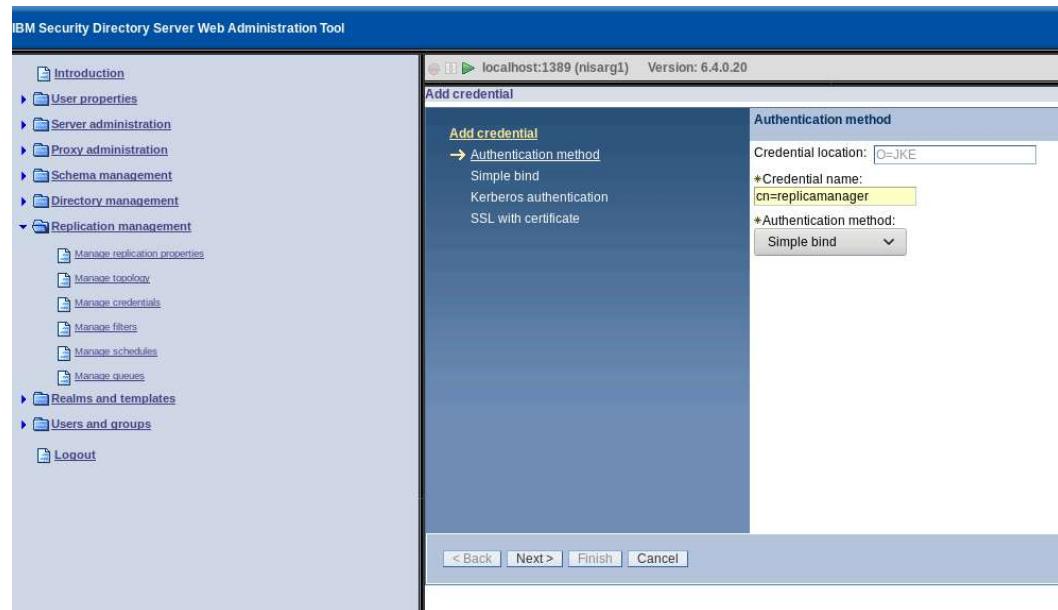
Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="radio"/>	<input type="checkbox"/>	cn=configuration	ibm-shapeTop	Oct 10, 2025	Oct 10, 2025	CN=ANYBODY
<input type="radio"/>	<input type="checkbox"/>	cn=ibmpolicies	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="radio"/>	<input type="checkbox"/>	cn=ocahost	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input checked="" type="radio"/>	<input type="checkbox"/>	o=jke	organization	Oct 11, 2025	Oct 11, 2025	CN=ROOT



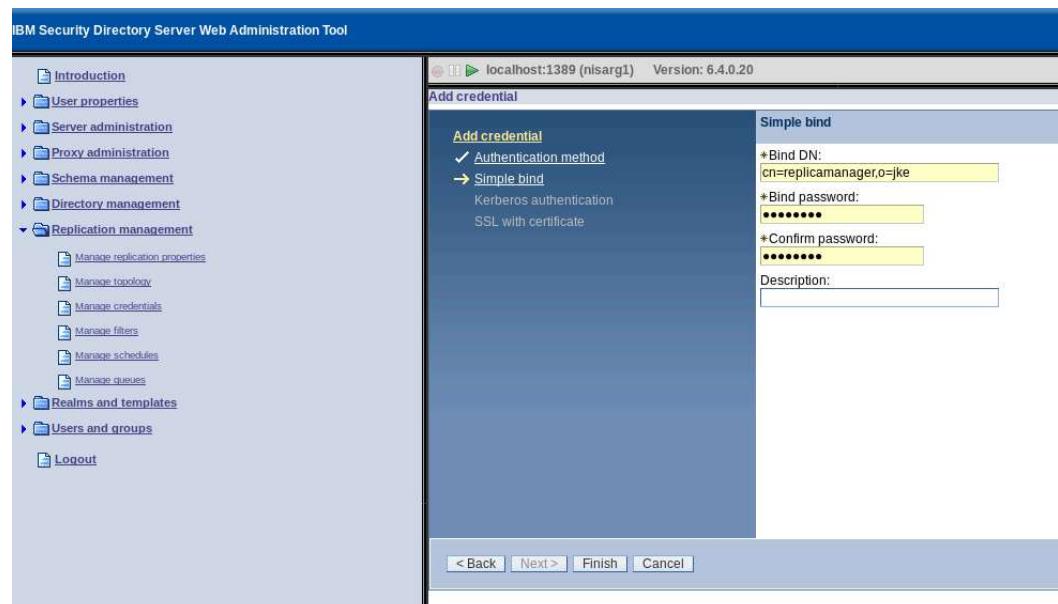
- Click the OK button to save the changes

- In Replication Management, click Manage credentials.
 - Select O=JKE from the subtree list
 - Click the Show Credentials button – there should be no credentials listed for the O=JKE tree
 - The following screen capture shows what these steps should look like:

- Click the Add button - to add the credentials for the replicated subtree
- Add the credential information
 - Credential Name – cn=replicamanager
 - Authentication method – Simple bind



- Click the Next button.
- Enter the Simple Bind information
 - Bind DN – cn=replicamanager,o=jke
 - Bind password – P@ssw0rd
 - Confirm password – P@ssw0rd
 - Description – leave blank



- Click the Finish button to save the changes

The screenshot shows the 'Manage credentials' dialog box from the IBM Security Directory Server Web Administration Tool. The URL in the address bar is 'localhost:1389 (nisarg1) Version: 6.4.0.20'. The dialog lists a subtree path: cn=replication,cn=localhost, cn=replication,cn=IBMpolicies, CN=IBMPOLICIES, O=JKE. The 'O=JKE' entry is highlighted. To the right of the tree view are four buttons: 'Show credentials', 'Add...', 'Edit...', and 'Delete'. Below these is another set of buttons: 'Edit ACL...' and 'Close'. The left side of the screen shows the main navigation menu with 'Replication management' expanded, showing options like 'Manage replication properties', 'Manage topology', 'Manage credentials', etc.

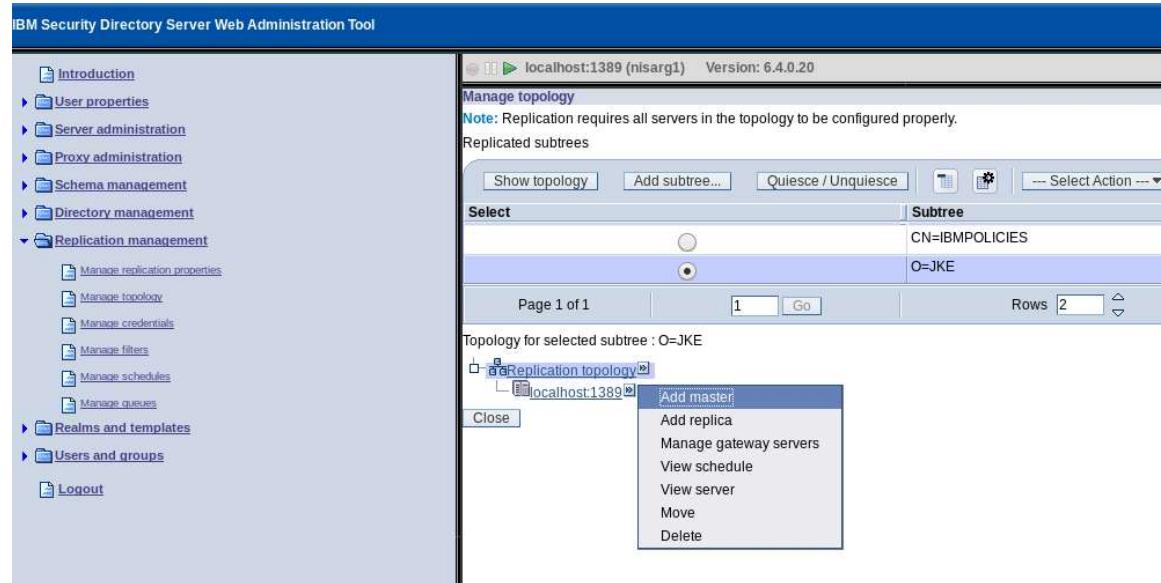
- On next screen click the Close to complete this step.

Define Replica Server

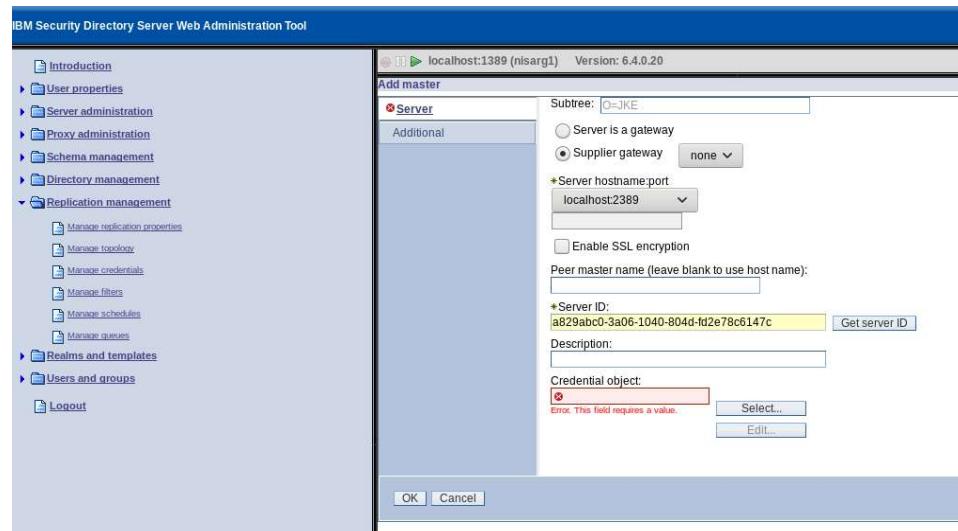
- Now that the credentials are configured for the O=JKE subtree, it is time to configure the replication topology. This section defines the server that will be the replica of the Master server – i.e, localhost:2389 server.
- Under Replication management select Manage topology.

The screenshot shows the 'Manage topology' page in the IBM Security Directory Server Web Administration Tool. The URL in the address bar is 'localhost:1389 (nisarg1) Version: 6.4.0.20'. The page displays a table of replicated subtrees. There are two entries: 'CN=IBMPOLICIES' and 'O=JKE', both listed as 'Master' servers under the 'Role' column. The 'Status' column shows 'Normal' for both. At the bottom of the page, there are three buttons: 'Topology for selected subtree: CN=IBMPOLICIES', 'Close', and 'Replication topology'.

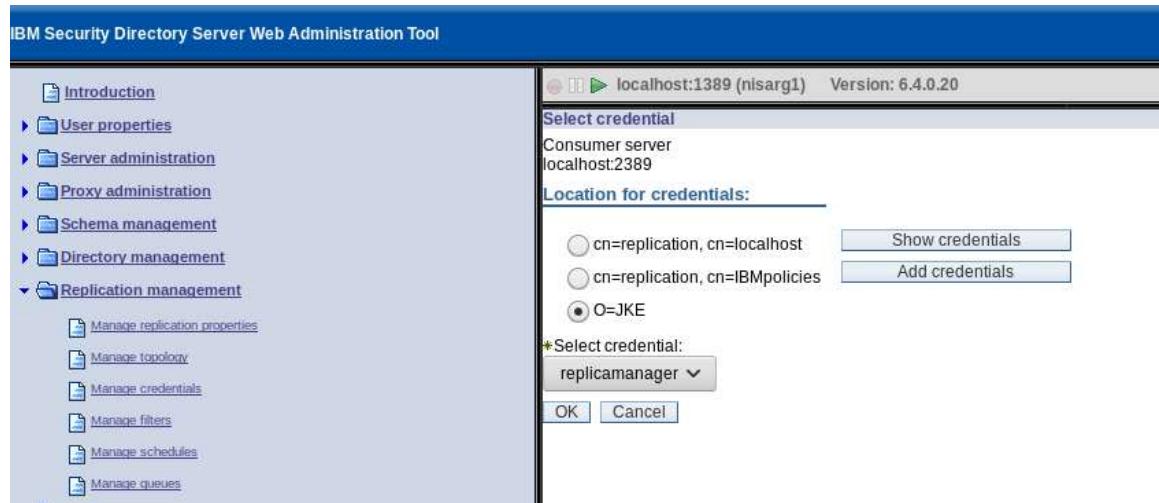
- With the O=JKE subtree selected, click the Show topology button.
- From the “Topology for the selected subtree” section, click on localhost:1389



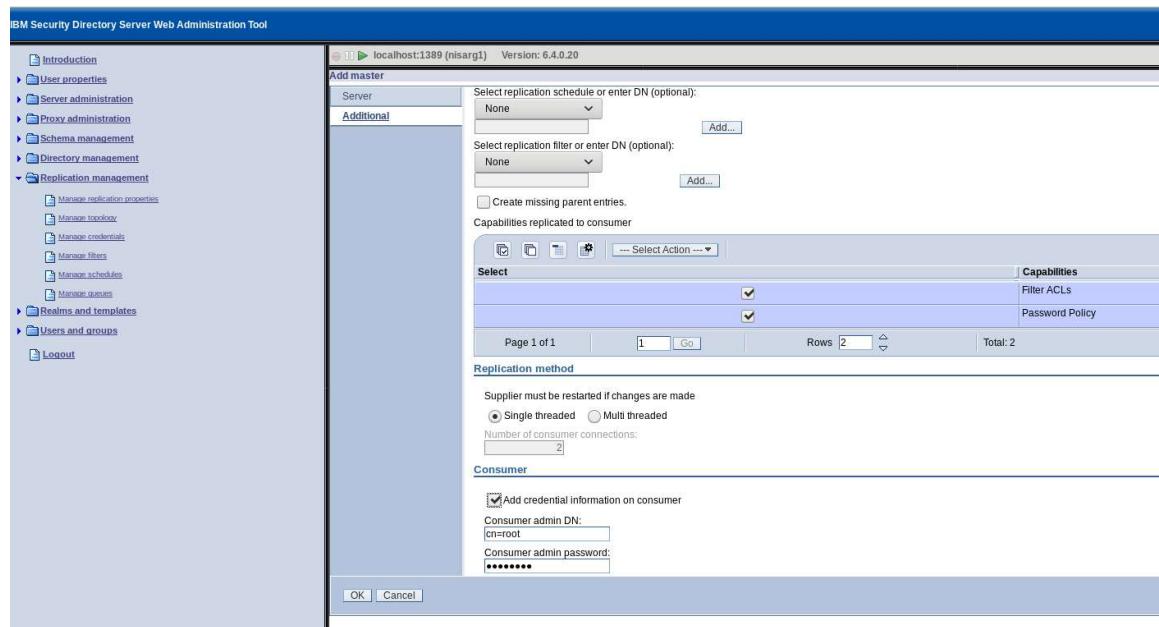
- Click the Add master.
- On the Add master screen enter the following information:
 - Server Hostname:port – Select localhost:2389 as below
 - Enable SSL – leave unchecked
 - Peer Master – leave blank
 - Server ID – click the Get server ID button
 - (This would fetch ID for server localhost:2389)
 - Description – leave blank



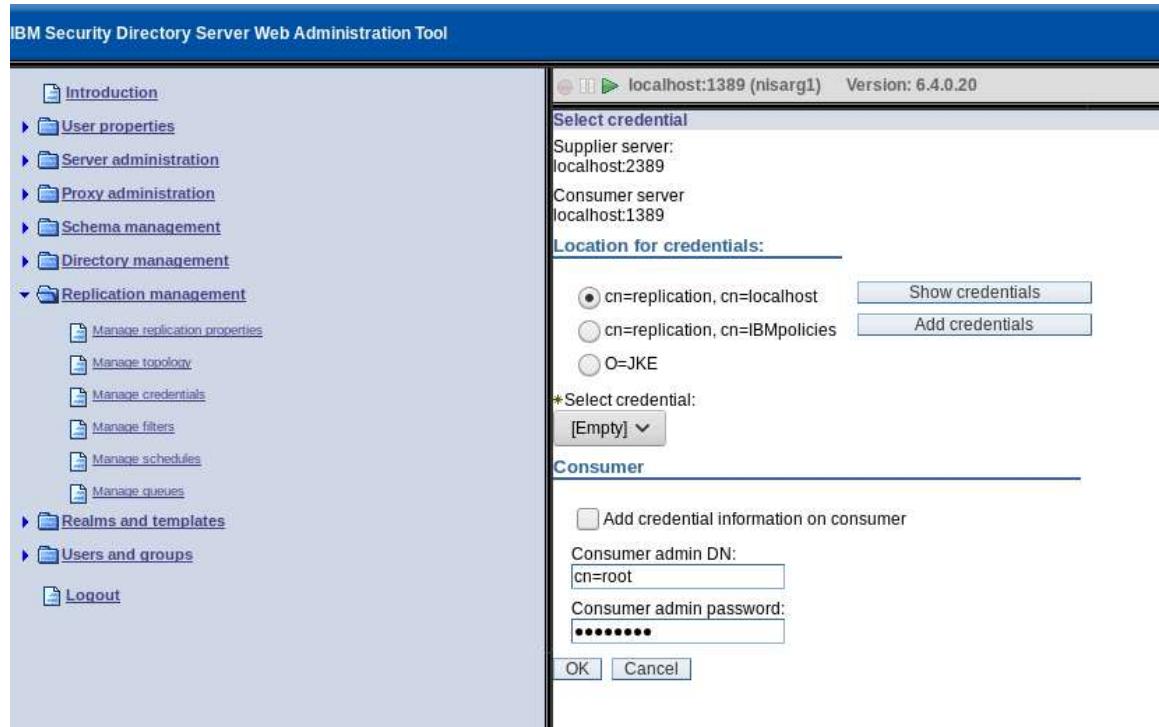
- Credential Object – click the Select button, which will then open up a new window.
- In the Select Credential screen, select the radio button next to the O=JKE entry. Click the Show Credentials button, to show the previously configured credential information. With the replicamanager credential displayed, click the OK button.



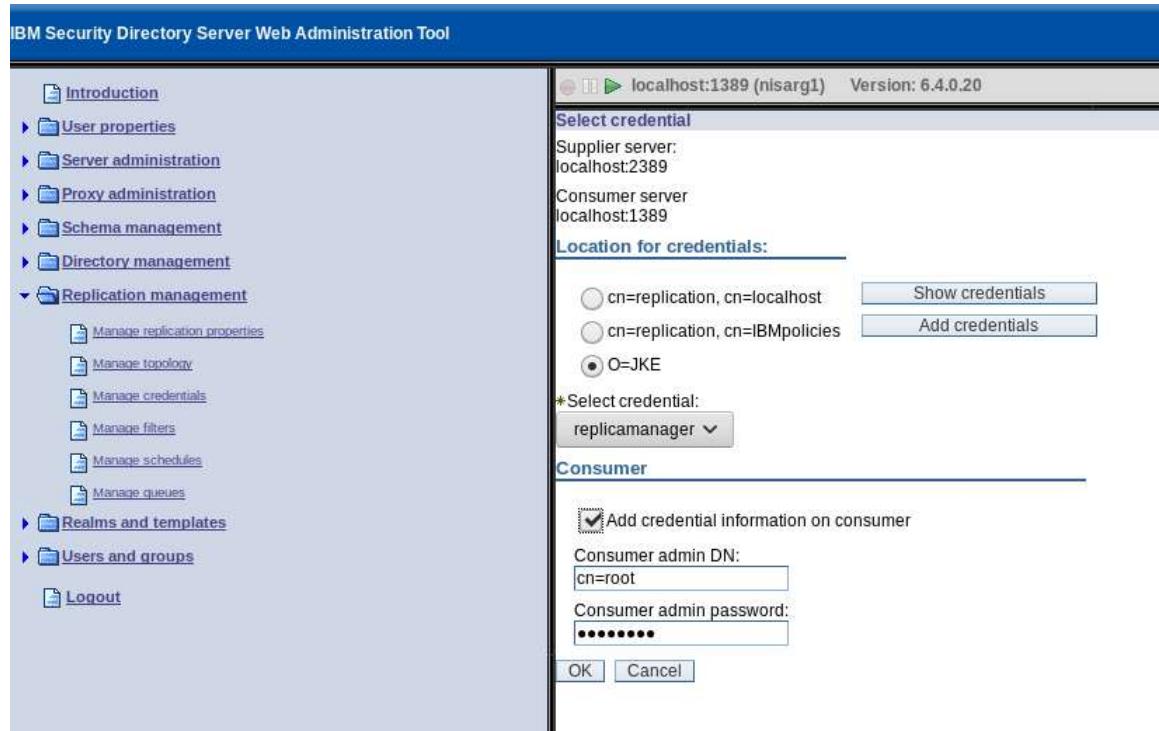
- Click the Additional menu tab to continue to the next step.
- The Add Replica – Additional screen allows the administrator to add further details about the replica - including the new feature of allowing for multi-threaded replication, to help with replication performance. On this screen, the only change that will be made for this lab is to add the credentials to the consumer machine.
- Select the checkbox next to “Add credential information on consumer”
 - Consumer admin DN – cn=root
 - Consumer admin password – P@ssw0rd
 - The following screen capture shows the filled in values:



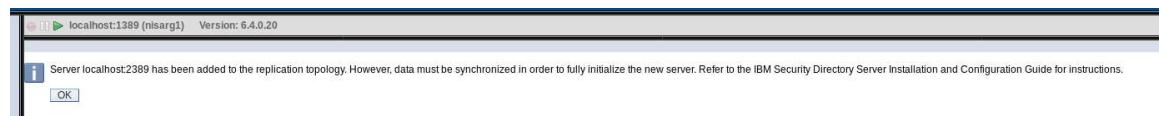
- Click the OK button to continue. Click OK again and you will get the credential screen again.



- Select O=JKE radio button and press Show Credentials, in the select credential section replicamanger will be shown.
- Select the checkbox next to “Add credential information on consumer”
 - Consumer admin DN – cn=root
 - Consumer admin password – P@ssw0rd
- Following image shows the operation :



- Click OK
- You will get the following message:



- Click OK

- In Replication Management go to Manage Queues .The queue is in suspended state, select the Radio button and Click Suspend/Resume.
- Click Refresh. The queue will be in Ready state.

Select	Replica	Subtree	Last result:	State	Queue size
	localhost:2389	o=jke	OK	Ready	0

- The replication is now started from NISARG1 to NISARG2
- Click Logout from left pane.

Start the queue on NISARG2

- Login to nisarg2 in WAT using the user cn=root/P@ssw0rd

- In Replication Management go to Manage Queues.

Select	Replica	Subtree	Last result:	State	Queue size
<input checked="" type="radio"/>	localhost:1389	o=jke	OK	Suspended	0

- The queue is in suspended state, select the Radio button and Click Suspend/Resume.
- Click Refresh. The queue will be in Ready state.

Select	Replica	Subtree	Last result:	State	Queue size
<input checked="" type="radio"/>	localhost:1389	o=jke	OK	Ready	0

- Replication from NISARG2 to NISARG1 is started.
- Logout from WAT..

Verifying Replication

- In this we will check if replication works fine for modifications. In the SDS Web Administration Tool, Login to nisarg1 server and Click Directory management in the left pane.

The screenshot shows the IBM Security Directory Server Web Administration Tool interface. The left sidebar has a tree view with nodes like Introduction, User properties, Server administration, Proxy administration, Schema management, and Directory management (which is expanded). Under Directory management, there are sub-options: Add an entry, Manage entities, Find entries, Deleted entries, Replication management, Realms and templates, Users and groups, and Logout. The right panel has sections for Introduction, Monitor, Configuration Actions, and Content Management. The Configuration Actions section includes links for Manage Server Properties, Manage Security, Manage Password Policy, and Manage Replication.

- Select Manage entries. Select the radio button next to the o=jke branch. Click the Expand button.

The screenshot shows the 'Manage entries' page. The left sidebar shows the navigation path: localhost:1389 (nisarg1) > o=jke. The main area displays a table of entries with columns: Select, Expand, RDN, Object class, Created, Last modified, and Last modified by. The table shows five entries: cn=rbob (person), cn=micky (person), cn=stan (person), cn=tom (person), and ibm-replicagroup (ibm-replicagroup). All entries were created on Oct 12, 2025, and last modified on Oct 12, 2025, by CN=ROOT. There are buttons for Select, Find, Add, Edit attributes, Delete, and a dropdown for Select Action.

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>		cn=rbob	person	Oct 12, 2025	Oct 12, 2025	CN=ROOT
<input type="checkbox"/>		cn=micky	person	Oct 11, 2025	Oct 11, 2025	CN=ROOT
<input type="checkbox"/>		cn=stan	person	Oct 11, 2025	Oct 12, 2025	CN=ROOT
<input type="checkbox"/>		cn=tom	person	Oct 11, 2025	Oct 11, 2025	CN=ROOT
<input type="checkbox"/>	<input type="radio"/>	ibm-replicagroup	ibm-replicagroup	Oct 12, 2025	Oct 12, 2025	CN=ROOT

- Select user cn=joe from the list, and click the Edit attributes button.

localhost:1389 (nisarg1) Version: 6.4.0.20

Edit an entry cn=joe,o=jke

Edit an entry

Object class inheritance: person

Distinguished name (DN)

*Relative DN: cn=joe Parent DN: o=jke

Required attributes

Enter the values for the attributes of the entry. For multiple values click **Multiple values** next to the attribute.

*cn: joe

*sn: walter

< Back | Next > | Finish | Cancel |

- Modify the sn attribute to some new value , say “walter” to “Hayden”.Click Next and then Finish.

localhost:1389 (nisarg1) Version: 6.4.0.20

Edit an entry cn=joe,o=jke

Edit an entry

Object class inheritance: person

Distinguished name (DN)

*Relative DN: cn=joe Parent DN: o=jke

Required attributes

Enter the values for the attributes of the entry. For multiple values click **Multiple values** next to the attribute.

*cn: joe

*sn: hayden

< Back | Next > | Finish | Cancel |

- Logout from leftpane.

- Login using nisarg2. Verify from the top bar its localhost:2389

- Select Manage entries. Select the radio button next to the o=jke branch. Click the Expand button.

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>	+ +	cn=configuration	ibm-slapdTop	Oct 10, 2025	Oct 10, 2025	CN=ANYBODY
<input type="checkbox"/>	+ +	cn=ibmpolicies	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input type="checkbox"/>	+ +	cn=localhost	container	Oct 10, 2025	Oct 10, 2025	CN=ROOT
<input checked="" type="checkbox"/>	+ +	o=jke	organization	Oct 11, 2025	Oct 12, 2025	CN=ROOT

- Select user cn=joe from the list, and click the Edit attributes button
- Now you can see sn as Hayden which we changed on IDSLDAPI1. The changes got replicated.

Select	Expand	RDN	Object class	Created	Last modified	Last modified by
<input type="checkbox"/>	+ +	cn=bob	person	Oct 12, 2025	Oct 12, 2025	CN=ROOT
<input type="checkbox"/>	+ +	cn=cary	person	Oct 11, 2025	Oct 11, 2025	CN=ROOT
<input type="checkbox"/>	+ +	cn=dan	person	Oct 12, 2025	Oct 12, 2025	CN=ROOT
<input checked="" type="checkbox"/>	+ +	cn=joe	person	Oct 11, 2025	Oct 12, 2025	CN=ROOT
<input type="checkbox"/>	+ +	ibm-replicaGroup=default	ibm-replicagroup	Oct 12, 2025	Oct 12, 2025	CN=ROOT

The screenshot shows a web-based LDAP entry editor. At the top, it displays the URL "localhost:2389 (nisarg2)" and "Version: 6.4.0.20". The main title is "Edit an entry" with a sub-section "Edit an entry" and a link "→ Edit an entry". Below this, there's a section for "Optional attributes". On the right, under "Edit an entry", the "Object class inheritance" dropdown is set to "person". The "Distinguished name (DN)" section contains fields for "Relative DN" (set to "cn=joe") and "Parent DN" (set to "o=jke"). The "Required attributes" section contains fields for "cn" (value "joe") and "sn" (value "hayden"), each with a "Multiple values" button. At the bottom, there are navigation buttons: "< Back", "Next >", "Finish", and "Cancel".

- Press Cancel and Logout from leftpane.