



HCL Nomad

HCL Nomad Web 1.0.5 with SafeLinx :
Install and config on Linux

Meet the Team



Vinayak Tavargeri
Organizer / Senior Manager



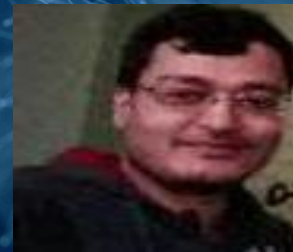
Hemant Naik
Speaker / Lead Software Engr.



Nilesh Desai
Speaker / Senior Software Engr.



Rajendran Jayavel
Panelist / Senior Technical Architect



Rajib Manna
Panelist / ND, Sametime



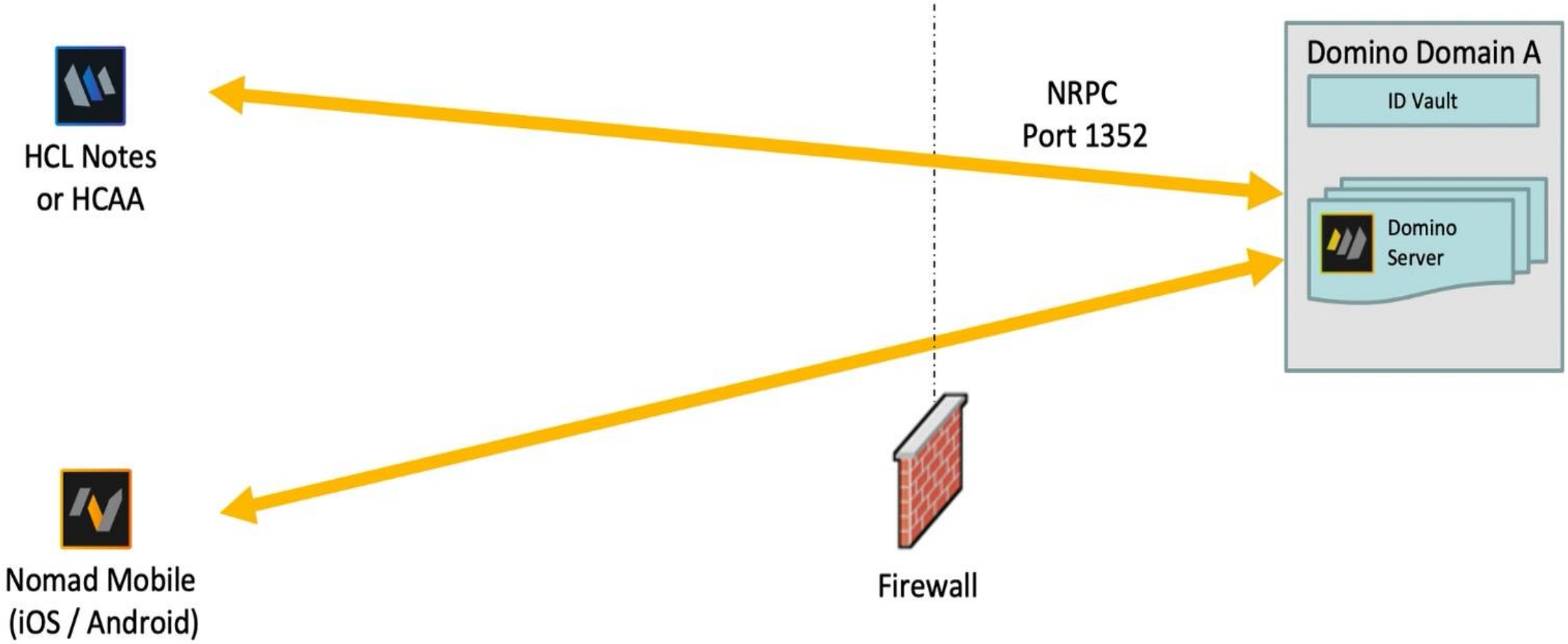
Shrikant Jamkhandi
Panelist / Group Technical Specialist

Agenda

- Overview of HCL Nomad for web browsers
- What's New in HCL Nomad for web browsers 1.0.5
- System Architecture
- System Requirements
- Supported Relational Databases
- SafeLinx Server Installation
- SafeLinx Administrator Client Installation
- Configuring Administrator Client
- Configuring Nomad Server
- Configuring HCL Nomad for web browsers (User End)
- Troubleshooting browser and HCL Nomad for web browsers Issues
- References
- Q & A

Overview of HCL Nomad for web browsers

Typical Client Deployment directly connecting to Domino Server – Current network Flow



Overview of HCL Nomad for web browsers

HCL Nomad is a client that allows users to work with Domino applications from their mobile devices and browsers.

HCL Nomad for web browsers is a Progressive Web Application (PWA), which enables native application features, such as being independent of connectivity and providing an OS icon/link.

The image displays two overlapping screenshots of the HCL Nomad web browser interface. The top screenshot shows the main dashboard with a dark header containing the HCL Nomad logo, 'Open', 'File', and user information 'Notes Admin'. Below the header is a 'Recent Applications' section with a blue bar containing 'Launch Workspace' and 'Open Application' buttons. Underneath, four application tiles are visible: 'Notes Admin on Nomad', 'acme's Directory on Nomad', 'Admin's Contacts Local', and 'Notes Admin Local'. A message states 'Applications opened recently are displayed here.' with an 'Open Application' button below it. The bottom screenshot shows the same interface with an 'About Nomad' dialog box open. The dialog box contains the following text: 'HCL Nomad version: 1.0.5.3553-2003', 'Copyright HCL Technologies Limited 2013, 2022', 'All rights reserved', the 'panagenda' logo, 'panagenda MarvelClient', and a link to 'https://www.panagenda.com/marvelclient-for-nomad'. A 'Close' button is at the bottom right of the dialog.

➤ Release 1.0.5

▪ **Domino Restyle**

Note: Restyle is available initially only in English; therefore, the browser language must be set to English for Restyle to appear.

▪ **Nomad server on Domino**

HCL Nomad server on Domino is an alternative for HCL Nomad clients to communicate with the HCL Domino servers.

▪ **Redesigned Group Tabs**

Tabs associated with databases and documents in those databases have been redesigned.

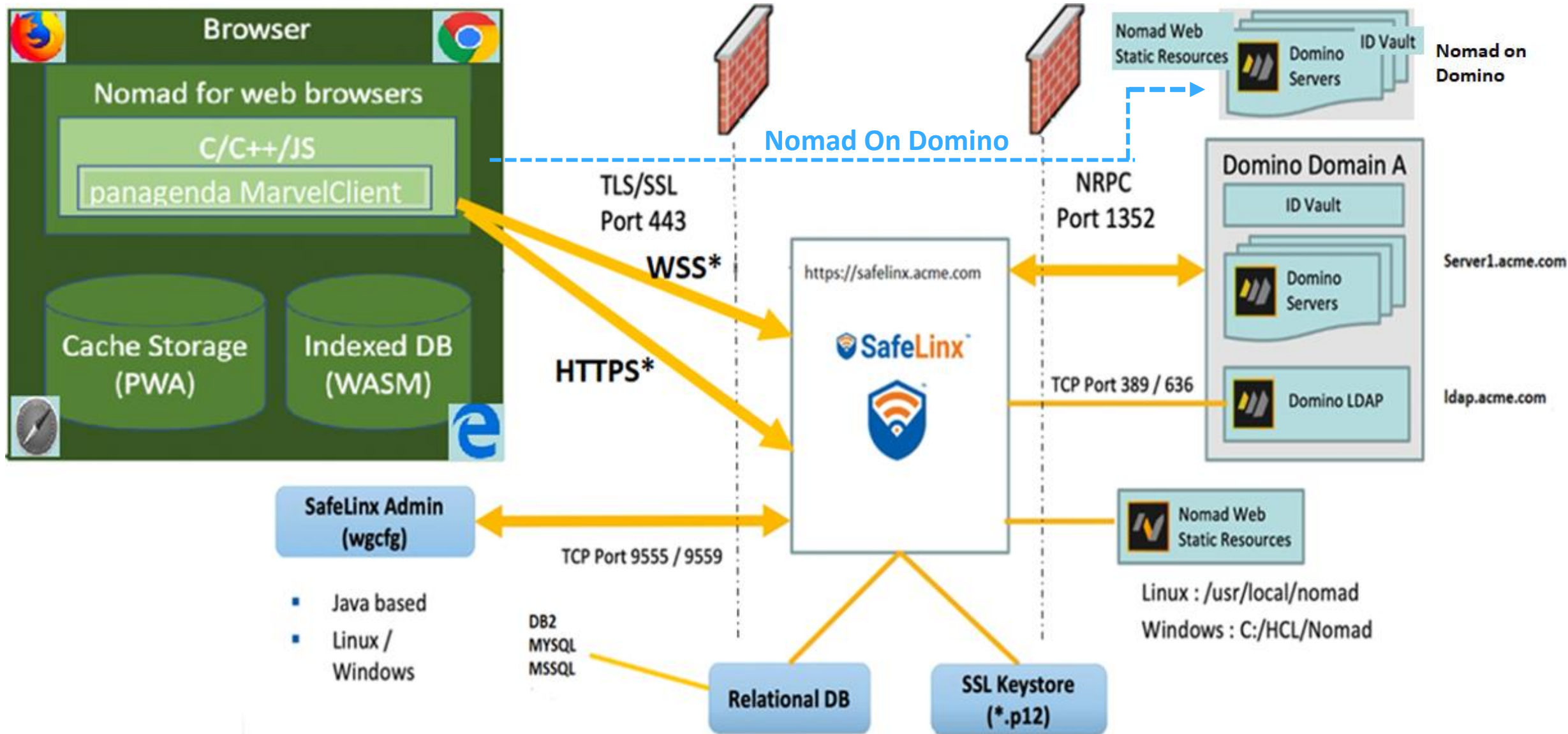
▪ **panagenda MarvelClient Nomad Roaming**

Nomad Roaming allows users to maintain a consistent workspace across your HCL Nomad clients.

▪ **Nomad handling of notes:// links**

Notes links (links using the notes:// protocol) can now be handled by Nomad if you register Nomad to be the protocol handler in the operating system.

Architecture



SafeLinx Admin (wgcfg)

- Java based
- Linux / Windows

DB2
MYSQL
MSSQL

Relational DB

SSL Keystore (*.p12)

Nomad Web Static Resources

Linux : /usr/local/nomad
Windows : C:/HCL/Nomad

System Requirements

- Obtain and maintain an active subscription.
Note : only HCL Domino Complete Collaboration (CCB) customers are entitled to use HCL Nomad for web browsers.
- An endpoint supporting WebSockets Secure traffic from the HCL Nomad clients. This endpoint can either be Nomad server on Domino or HCL SafeLinx
 - ✓ **Nomad server on Domino (Supports Domino 12.0.1FP1 or higher), there are no additional requirements.**
 - ✓ **Nomad Server with HCL SafeLinx**
 - ✓ HCL SafeLinx 1.2.0 FP1 or higher with access to all the previously mentioned Domino servers via port 1352 TCP.
 - ✓ If you want to enable Nomad Federated Login, HCL SafeLinx 1.2.1 or higher is required.
 - ✓ HCL SafeLinx 1.3.0 or higher is recommended due to numerous fixes (including fixes to file caching issues in older versions).
- An HCL Domino® 12.x with ID vault containing at least the ID files of those users that need to work via HCL Nomad for web browsers.
- A properly configured HCL Domino **LDAP server** and corresponding bind-user (Admin ID)
- **Trusted TLS certificates** for SafeLinx or Nomad on Domino.
- Domino® 9.0.1, 10.x, 11.x, or 12.x servers containing your applications.
- A supported desktop web browser → [Firefox 83 or higher](#) / [Google Chrome 80 or higher](#) / [Microsoft Edge 85 or higher](#)

Refer : https://help.hcltechsw.com/nomad/1.0_web/nomadweb_requirements.html

System Requirements

✓ Download necessary software from HCL License & Download Portal

https://hclsoftware.flexnetoperations.com/flexnet/operationsportal/entitledDownloadFile.action?downloadPkgId=HCL_SafeLinx_1.3&orgId=HCL

HCL_SafeLinx_1.3 Installers

- HCL SafeLinx Server 1.3
- HCL SafeLinx Administrator 1.3

HCL Nomad for web browsers

- HCL Nomad for web browsers 1.0.5

Downloads

HCL_SafeLinx_1.3

| Files | | Download Log | Notification Log | | |
|--|---|--------------|------------------|--|--|
| <div style="display: flex; justify-content: space-between;"> Download Selected Files <div> — For Linux Environment — For Windows Environment </div> </div> | | | | | |
| <input type="checkbox"/> | File Description | File Size | File Added | File Name | |
| <input type="checkbox"/> | HCL SafeLinx 1.3 Release Notes English | 156.88KB | May 05, 2022 | HCL-SafeLinx1.3.0.0-ReleaseNotes-English.zip | |
| <input type="checkbox"/> | HCL SafeLinx Administrator 1.3 for Linux | 11.5MB | May 10, 2022 | HCL-SafeLinx-wgctg-1.3-0.0.x86_64.rpm | |
| <input type="checkbox"/> | HCL SafeLinx Administrator 1.3 for MacOSX | 11.25MB | May 05, 2022 | HCL-SafeLinx-Administrator-1300.dmg | |
| <input type="checkbox"/> | HCL SafeLinx Administrator 1.3 for Windows | 11.7MB | May 10, 2022 | HCL-SafeLinx-Administrator-1300-x64.exe | |
| <input type="checkbox"/> | HCL SafeLinx Client 1.3 for Android | 2.14MB | May 05, 2022 | HCL-SafeLinx.apk | |
| <input type="checkbox"/> | HCL SafeLinx Client 1.3 for Linux | 25.36MB | May 05, 2022 | HCL-SafeLinx-Client-1300-x86_64.tar.gz | |
| <input type="checkbox"/> | HCL SafeLinx Client 1.3 for MacOSX | 12.31MB | May 05, 2022 | HCL-SafeLinx-Client-1300.dmg | |
| <input type="checkbox"/> | HCL SafeLinx Client 1.3 for Windows | 10.08MB | May 05, 2022 | HCL-SafeLinx-Client-1300.exe | |
| <input type="checkbox"/> | HCL SafeLinx Client Toolkit 1.3 for Linux | 590.31KB | May 05, 2022 | HCL-SafeLinx-Client-toolkit-1300.tar.gz | |
| <input type="checkbox"/> | HCL SafeLinx Client Toolkit 1.3 for Windows | 635.61KB | May 05, 2022 | HCL-SafeLinx-Client-toolkit-1300.zip | |
| <input type="checkbox"/> | HCL SafeLinx Server 1.3.0.0 for Linux | 28.43MB | May 11, 2022 | HCL-SafeLinx-1300-x86_64.tar.gz | |
| <input type="checkbox"/> | HCL SafeLinx Server 1.3.0.0 for Windows- | 101.02MB | May 11, 2022 | HCL-SafeLinx-1300-X64.exe | |

Downloads

HCL_Nomad_Web_1.0x

| Files | | Download Log | Notification Log | | |
|--|--|--------------|------------------|--|--|
| <div style="display: flex; justify-content: space-between;"> Download Selected Files </div> | | | | | |
| <input type="checkbox"/> | File Description | File Size | File Added | File Name | |
| <input type="checkbox"/> | HCL Nomad for web browsers 1.0.4 | 133.6MB | Jul 13, 2022 | HCL_Nomad_web_1.0.4_20220708-3269.zip | |
| <input type="checkbox"/> | HCL Nomad for web browsers 1.0.5 | 134.51MB | Sep 22, 2022 | HCL_Nomad_web_1.0.5_20220921-3553.zip | |
| <input type="checkbox"/> | HCL Nomad for web browsers 1.x release notes | 177.34KB | May 21, 2021 | HCL_Domino_Nomad_web_1.0.x_Release_Notes.pdf | |
| <input type="checkbox"/> | HCL Nomad Server 1.0.5 for Domino 12.0.1 Linux | 172.13MB | Sep 22, 2022 | nomad-server-1.0.5-for-domino-1201-linux.tgz | |
| <input type="checkbox"/> | HCL Nomad Server 1.0.5 for Domino 12.0.1 Windows | 157.94MB | Sep 22, 2022 | nomad-server-1.0.5-for-domino-1201-win64.zip | |

System Requirements

✓ OpenJDK 8

OpenJDK 8 is required to run SafeLinx Administrator. Verify that you have Open JDK8 installed on the same machine that you plan to install the SafeLinx Admin Client

Based on the environment, OpenJDK can be download from the following URL, select OpenJDK 8 (LTS): <https://adoptopenjdk.net/>

Latest release

[Build archive](#)

1. Choose a Version

- OpenJDK 8 (LTS)
- OpenJDK 9
- OpenJDK 10
- OpenJDK 11 (LTS)
- OpenJDK 12
- OpenJDK 13
- OpenJDK 14
- OpenJDK 15
- OpenJDK 16 (Latest)

[All Release Notes](#)

Operating System: Architecture:

Any
Linux
Alpine
Windows
macOS

```
[root@appserver ~]# dnf install java-1.8.0-openjdk
Last metadata expiration check: 3:08:16 ago on Tue 04 Oct 2022 07:03:49 PM +0530
.
Dependencies resolved.
=====
Package                Arch  Version                               Repo                Size
=====
Installing:
  java-1.8.0-openjdk    x86_64 1:1.8.0.312.b07-2.el8_5              AppStream           341 k
```

```
Installed:
  copy-jdk-configs-4.0-2.el8.noarch
  java-1.8.0-openjdk-1:1.8.0.312.b07-2.el8_5.x86_64
  java-1.8.0-openjdk-headless-1:1.8.0.312.b07-2.el8_5.x86_64
  javapackages-filesystem-5.3.0-1.module_el8.0.0+11+5b8c10bd.noarch
  lksctp-tools-1.0.18-3.el8.x86_64
  ttmkfdir-3.0.9-54.el8.x86_64
  tzdata-java-2021e-1.el8.noarch
  xorg-x11-fonts-Type1-7.5-19.el8.noarch

Complete!
```

System Requirements

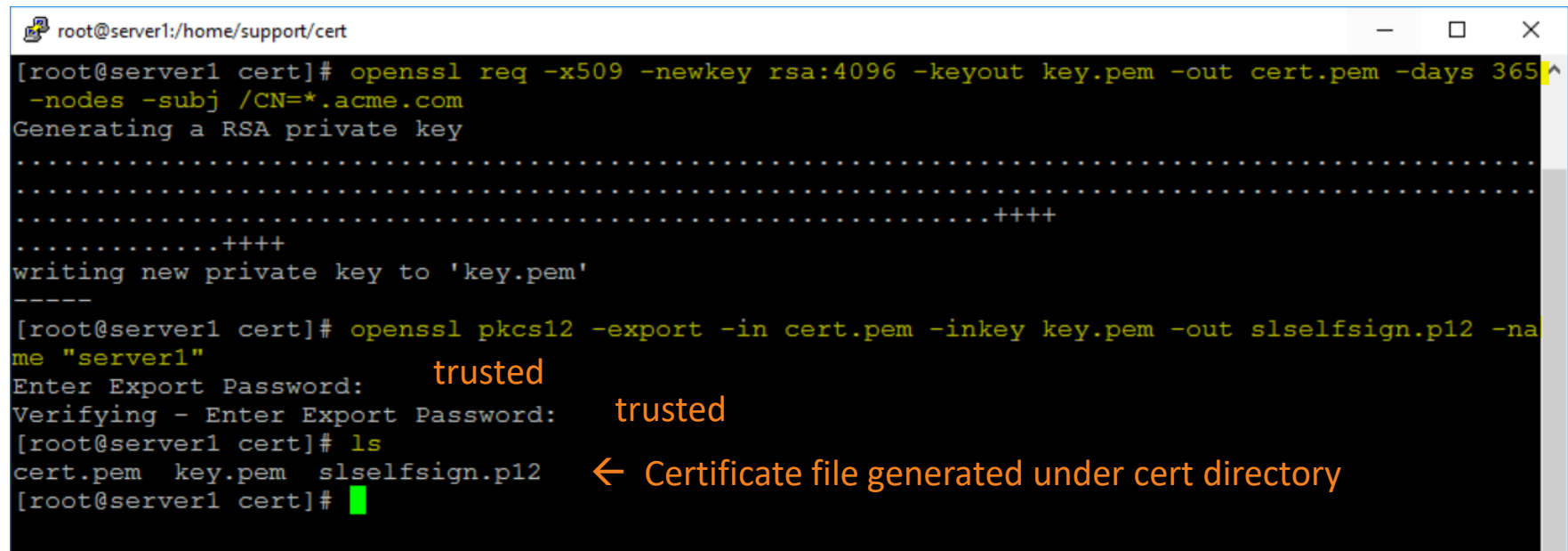
- ✓ Create a self-signed SSL certificate or get a third-party SSL server certificate in the pkcs12 format (Linux)

Example to generate a self-signed SSL certificate in .p12 (pkcs12) format using OpenSSL.

Use the below Openssl commands to generate self-signed wild card certificate.

```
#openssl req -x509 -newkey rsa:4096 -keyout key.pem -out cert.pem -days 365 -nodes -subj /CN=*.acme.com
#openssl pkcs12 -export -in cert.pem -inkey key.pem -out slselfsign.p12 -name "server1"
```

Note: The above self-signed certificate command is used to generate a wildcard certificate for *.acme.com. Be sure to update the command to use your domain. In the certificate password prompt, this example uses "trusted" but be sure to specify one that complies with your requirements.



```
root@server1:/home/support/cert
[root@server1 cert]# openssl req -x509 -newkey rsa:4096 -keyout key.pem -out cert.pem -days 365
-nodes -subj /CN=*.acme.com
Generating a RSA private key
.....+++++
.....+++++
writing new private key to 'key.pem'
-----
[root@server1 cert]# openssl pkcs12 -export -in cert.pem -inkey key.pem -out slselfsign.p12 -name "server1"
Enter Export Password: trusted
Verifying - Enter Export Password: trusted
[root@server1 cert]# ls
cert.pem key.pem slselfsign.p12 ← Certificate file generated under cert directory
[root@server1 cert]#
```

System Requirements

- ✓ Make sure the **Domino Server is running**.
- ✓ HCL Nomad for web browsers requires a **Domino V12 ID vault server**, but the mail/application server can run on Domino versions 9.0.x/10.0.x/11.0.x/12.0.x.

```
> show id vault
[005168:000007-00007F91BC9A5700] ID Vault /Acme_IDVault (IBM_ID_VAULT/Acme_IDVault.nsf)
[005168:000007-00007F91BC9A5700] Control Vault Name: /Acme_IDVault
[005168:000007-00007F91BC9A5700] Control Vault Servers: server1/Srv/Acme
[005168:000007-00007F91BC9A5700] Vault Operations Key: VO-xggq-hegr/server1/Acme_IDVault
[005168:000007-00007F91BC9A5700] Servers: server1/Srv/Acme
[005168:000007-00007F91BC9A5700] Vault Name: /Acme_IDVault
[005168:000007-00007F91BC9A5700] Description: Acme_IDVault
[005168:000007-00007F91BC9A5700] Administrators: Notes Admin/Acme
[005168:000007-00007F91BC9A5700] Servers: server1/Srv/Acme
[005168:000007-00007F91BC9A5700] Administration Server: server1/Srv/Acme
[005168:000007-00007F91BC9A5700] /Acme trusts this vault
[005168:000007-00007F91BC9A5700] /Srv/Acme trusts this vault
[005168:000007-00007F91BC9A5700] /Асмедоверяет Notes Admin/Acme сбрасывать пароли
[005168:000007-00007F91BC9A5700] /Srv/Асмедоверяет Notes Admin/Acme сбрасывать пароли
[005168:000007-00007F91BC9A5700] Setting Acme_IDVaultVaultSetting uses this vault
```

Note: In a production environment, the Domino ID vault and mail server may be different.

- ✓ **Connect to LDAP**

Configure Domino Server with LDAP service enabled

```
sh task on
[005168:000007-00007F91BC9A5700] Task Description
[005168:000007-00007F91BC9A5700] LDAP Server Listen for connect requests on TCP Port:389
[005168:000007-00007F91BC9A5700] LDAP Server Utility task
[005168:000007-00007F91BC9A5700] LDAP Server Control task
[005168:000007-00007F91BC9A5700] Admin Process Idle
[005168:000007-00007F91BC9A5700] Agent Manager Executive '1': Idle
[005168:000007-00007F91BC9A5700] Router Utility: Idle
[005168:000007-00007F91BC9A5700] Router MailEvent: Idle
[005168:000007-00007F91BC9A5700] Router Dispatch: Idle
[005168:000007-00007F91BC9A5700] Router Dispatch: Idle
[005168:000007-00007F91BC9A5700] Router Sweep: Idle
[005168:000007-00007F91BC9A5700] Router Sweep: Idle
[005168:000007-00007F91BC9A5700] Router Mailbox: Idle
```

System Requirements

- ✓ Create a directory for Nomad web static files
`sudo mkdir /usr/local/nomad`
- ✓ Should extract Nomad web static files content of “20210521-1532-nomad_web_deploy.zip” to created directory, use the below command.

`sudo unzip HCL_Nomad_web_1.0.5_20220921-3553.zip -d /usr/local/nomad`

```
[support@server1 installer]$ ls
HCL-SafeLinx-1300-x86_64.tar.gz  HCL-SafeLinx-Client-1300-x86_64.tar.gz  HCL-SafeLinx-wgcfg-1.3-0.0.x86_64.rpm
[support@server1 installer]$ sudo unzip HCL_Nomad_web_1.0.5_20220921-3553.zip -d /usr/local/nomad
Archive:  HCL_Nomad_web_1.0.5_20220921-3553.zip
  inflating: /usr/local/nomad/0-0-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/1-1-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/11710bf653dc4814989038e56ef81360.svg
  inflating: /usr/local/nomad/2-2-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/3-3-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/34125dac0b2419d5a49a69b48d87a35f.svg
  inflating: /usr/local/nomad/4-4-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/5-5-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/57aafe9871900da94a253a4e281a68eb.svg
  inflating: /usr/local/nomad/5a22834063cf5577220f2b8370ac51cb.svg
  inflating: /usr/local/nomad/6-6-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/6b11aa3b1b2ef94ee9e36d72285c8cc625b2554c.wasm
  inflating: /usr/local/nomad/74c58aa490ba6f922cfb24e2c9aabaceb889bb0a.js
  inflating: /usr/local/nomad/8-8-d473dbacf8bb98e0ebb3.js
  inflating: /usr/local/nomad/aac3a25e77809c8332bd2153168978f7.svg
  inflating: /usr/local/nomad/b321748044602c8a5409f008040eceb88f6cf702.js
```

Supported Relational Databases

✓ Install Relational Database

Choose IBM DB2, MS SQL or MYSQL for the relational database to be used. Below are documentation links to assist with installing the respective relational database. The database server should be installed and running before installing SafeLinux.

How to install DB2

Linux : <https://www.ibm.com/docs/en/db2/11.5?topic=idds-installing-db2-servers-using-db2-setup-wizard-linux-unix>

https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0092087

How to install MySQL

Linux: https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0092068

How to install MS SQL

Linux: <https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-setup?view=sql-server-ver15>

SafeLinx Server Installation (Linux)

- Be in the installer directory where SafeLinx Server Installer is stored.
- Extract Installer using command
> tar -xvf HCL-SafeLinx-1300-x86_64.tar.gz
- Switch to directory <inst.images>
cd inst.images
- Run command **#./install_wg**
- Type y to install a Nomad Server
- Open Nomad Server Guide to review the requirement and pre-requisite as checklist.

<https://help.hcltechsw.com/nomad/docwizard/1.0/index.html>

Type **'Y'** to continue with Nomad Server Installation

root@server1:/home/support/installer/inst.images

```
[root@server1 installer]# ls
CNB75ML.tar                HCL-SafeLinx-Client-1300-x86_64.tar.gz
HCL_Nomad_web_1.0.5_20220921-3553.zip  HCL-SafeLinx-wgcfg-1.3-0.0.x86_64.rpm
HCL-SafeLinx-1300-x86_64.tar.gz        inst.images
[root@server1 installer]# cd inst.images/
[root@server1 inst.images]# ls
db2checkDB.sh  HCL-SafeLinx-1.3-0.0.x86_64.rpm  install_wg  wg-releaseNotes.tar
db2updateDB.sh HCL-SafeLinx-saml-1.3-0.0.x86_64.rpm  uninst_wg
[root@server1 inst.images]# ./install_wg

Nomad Server is a feature of SafeLinx that provides the Nomad Web application
and Nomad Proxy service.

Would you like to install a Nomad Server?[y]
y

Open the Nomad Server Document Guide to review the requirements and prerequisite
steps needed before starting the Nomad Server installation.
https://help.hcltechsw.com/nomad/docwizard/1.0/index.html

After completing the Nomad Server Document Guide and completing all the tasks,
you can proceed to install the Nomad Server.

Continue with Nomad Server installation?[y]
y
```

SafeLinx Server Installation (Linux)

- DB2 Server

DB2 Client is already installed on the SafeLinx machine and detected during the installation of SafeLinx Server to connect to Remote DB2 Server.

- Type 'y' to install SAML Service Provider Support, else 'N'.

```

root@server1:/home/installer/inst.images
SafeLinx requires DB2 client version 9.0.0.0 (or newer), DataDirect Connect for ODBC 7.1.1 with the Oracle Wire Protocol driver, unixODBC with MySQL cl
ient and driver versions 8.0.20 (or newer), or unixODBC with Microsoft ODBC Driver for SQL Server.
Checking for DB2 client
DB2 client package CLIENT /opt/ibm/db2/V11.1 was found on this machine and will be used by the SafeLinx
Installing the SafeLinx server package...
verifying... ##### [100%]
Preparing... ##### [100%]
Updating / installing...
 1:HCL-SafeLinx-1.3-0.0 ##### [100%]
creating UTF-8 locale for fr_FR.utf8
creating UTF-8 locale for es_ES.utf8
creating UTF-8 locale for it_IT.utf8
creating UTF-8 locale for pt_BR.utf8
creating UTF-8 locale for de_DE.utf8
creating UTF-8 locale for ko_KR.utf8
creating UTF-8 locale for zh_TW.utf8
creating UTF-8 locale for zh_CN.utf8
creating UTF-8 locale for ja_JP.utf8

Linking systemd service files
Created symlink /etc/systemd/system/sockets.target.wants/wgmgd.socket -> /etc/systemd/system/wgmgd.socket.
Created symlink /etc/systemd/system/sockets.target.wants/wgmgd.socket -> /etc/systemd/system/wgmgd.socket.
cp /opt/hcl/SafeLinx/systemd/safelinx.service /etc/systemd/system/safelinx.service
systemctl enable safelinx
/var/tmp/rpm-tmp.UlribJ: line 436: [: en_US.utf8: binary operator expected

Install SAML Service Provider support? [y]
N

Start SafeLinx when the system boots? [y]
Y

/opt/hcl/SafeLinx/bin/mkwy -Z
[root@server1 inst.images]#

```

- Type 'Y' to Start SafeLinx when System reboots.

✓ This completes HCL SafeLinx Server Installation for DB2 for Linux Environment.

SafeLinx Server Installation (Linux)

• MYSQL

MySQL Client is already installed on the SafeLinx machine and detected during the installation of SafeLinx Server to connect to Remote MYSQL Server.

- Type **'Y'** to install SAML Service Provider Support, else **'N'**.

- Type **'Y'** to Start SafeLinx when System reboots.

```

root@server1:/home/installer
SafeLinx requires DB2 client version 9.0.0.0 (or newer), DataDirect Connect for ODBC 7.1.1 with the Oracle Wire Protocol driver, unixODBC with MySQL client an
versions 8.0.20 (or newer), or unixODBC with Microsoft ODBC Driver for SQL Server.
Checking for DB2 client
DB2 client was not found on this machine or an older version is installed.
Now checking for libodbc.so file for MySQL or Oracle installations
Now checking for MySQL ODBC unicode driver and client
MySQL ODBC drivers were found on this machine and will be used by the Connection Manager. MySQL Client was found with version: 8.0.31
Installing the SafeLinx server package...
Verifying... ##### [100%]
Preparing... ##### [100%]
Updating / installing...
 1:HCL-SafeLinx-1.3-0.0 ##### [100%]
creating UTF-8 locale for fr_FR.utf8
creating UTF-8 locale for es_ES.utf8
creating UTF-8 locale for it_IT.utf8
creating UTF-8 locale for pt_BR.utf8
creating UTF-8 locale for de_DE.utf8
creating UTF-8 locale for ko_KR.utf8
creating UTF-8 locale for zh_TW.utf8
creating UTF-8 locale for zh_CN.utf8
creating UTF-8 locale for ja_JP.utf8

Linking systemctl service files
Created symlink /etc/systemd/system/sockets.target.wants/wgmgd.socket → /etc/systemd/system/wgmgd.socket.
Created symlink /etc/systemd/system/sockets.target.wants/wgmgd.socket → /etc/systemd/system/wgmgd.socket.
cp /opt/hcl/SafeLinx/systemd/safelinx.service /etc/systemd/system/safelinx.service
systemctl enable safelinx
/var/tmp/rpm-tmp.KkShyy: line 436: [: en_US.utf8: binary operator expected

Install SAML Service Provider support? [y]
N

Start SafeLinx when the system boots? [y]
Y
/opt/hcl/SafeLinx/bin/mkkg -Z

```

✓ This completes HCL SafeLinx Server Installation for MYSQL for Linux Environment.

SafeLinx Server Installation (Linux)

• MSSQL

MSSQL Client is already installed on the SafeLinx machine and detected during the installation of SafeLinx Server to connect to Remote MSSQL Server.

- Type **'Y'** to install SAML Service Provider Support, else **'N'**.

- Type **'Y'** to Start SafeLinx when System reboots.

```

root@server1:/home/installer/inst.images
SafeLinx requires DB2 client version 9.0.0.0 (or newer), DataDirect Connect for ODBC 7.1.1 with the Oracle Wire Protocol driver, unixODBC with
d driver versions 8.0.20 (or newer), or unixODBC with Microsoft ODBC Driver for SQL Server.
Checking for DB2 client
DB2 client was not found on this machine or an older version is installed.
Now checking for libodbc.so file for MySQL or Oracle installations
Now checking for MySQL ODBC unicode driver and client
The MySQL client or driver was not found or an older version is installed.
Checking for MSSQL ODBC for connect.
Microsoft ODBC Driver for SQL Server and mssql-tools were found on this machine. SQL Server Command Line Tool version: 18.1.0001.1
Installing the SafeLinx server package...
Verifying... ##### [100%]
Preparing... ##### [100%]
Updating / installing...
 1:HCL-SafeLinx-1.3-0.0 ##### [100%]
creating UTF-8 locale for fr_FR.utf8
creating UTF-8 locale for es_ES.utf8
creating UTF-8 locale for it_IT.utf8
creating UTF-8 locale for pt_BR.utf8
creating UTF-8 locale for de_DE.utf8
creating UTF-8 locale for ko_KR.utf8
creating UTF-8 locale for zh_TW.utf8
creating UTF-8 locale for zh_CN.utf8
creating UTF-8 locale for ja_JP.utf8

Linking systemd service files
Created symlink /etc/systemd/system/sockets.target.wants/wgmgrd.socket → /etc/systemd/system/wgmgrd.socket.
Created symlink /etc/systemd/system/sockets.target.wants/wgmgrsd.socket → /etc/systemd/system/wgmgrsd.socket.
cp /opt/hcl/SafeLinx/systemd/safelinx.service /etc/systemd/system/safelinx.service
systemctl enable safelinx

Install SAML Service Provider support? [y]
N

Start SafeLinx when the system boots? [y]
Y
/opt/hcl/SafeLinx/bin/mkkg -Z
[root@server1 inst.images]#

```

✓ This completes HCL SafeLinx Server Installation for MSSQL for Linux Environment.

SafeLinx Administrator Client Installation (Linux)

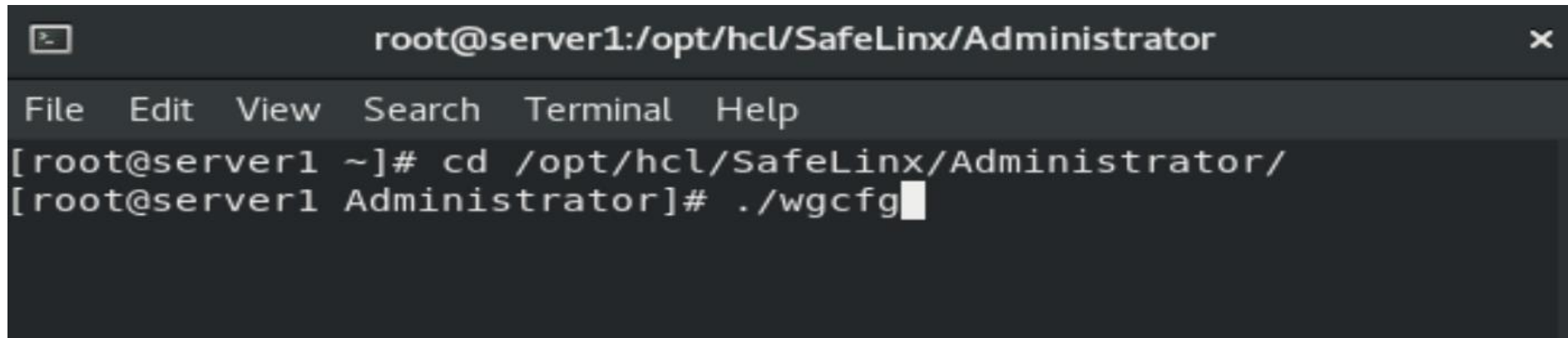
- You can manage the SafeLinx Server on Linux using the Administrator Client installed on a Windows Machine.
- To manage the SafeLinx server from Linux OS, you can either install the SafeLinx Administrator client on the same machine as the SafeLinx server or on a separate Linux machine.
- If a compatible Java version is not found, the installation fails.
- Run **command** > **rpm -ivh HCL-SafeLinx-wgcfg-1.3-0.0.x86_64.rpm**

```
[root@server1 installer]#  
[root@server1 installer]# ls  
CNB75ML.tar                HCL-SafeLinx-1300-x86_64.tar.gz      HCL-SafeLinx-wgcfg-1.3-0.0.x86_64.rpm  
HCL_Nomad_web_1.0.5_20220921-3553.zip  HCL-SafeLinx-Client-1300-x86_64.tar.gz  inst.images  
[root@server1 installer]#  
[root@server1 installer]#  
[root@server1 installer]# rpm -ivh HCL-SafeLinx-wgcfg-1.3-0.0.x86_64.rpm  
Verifying...                ##### [100%]  
Preparing...                ##### [100%]  
Updating / installing...  
  1:HCL-SafeLinx-wgcfg-1.3-0.0  ##### [100%]  
[root@server1 installer]#
```

✓ **This completes HCL SafeLinx Administrator Client Installation for Linux Environment.**

SafeLinx Administrator Configuration (Linux)

- **Note:** Before we move to the next step, we need to copy the **self-signed SSL certificate file** which was created in an earlier step.
- Copy the certificate `slselfsign.p12` to the SafeLinx installed directory `/opt/hcl/SafeLinx`.
- SafeLinx Administrator is installed to the directory of `/opt/hcl/SafeLinx/Administrator`.
- Launch SafeLinx Administrator using `>./wgcfg` or `>./wgcfg &`

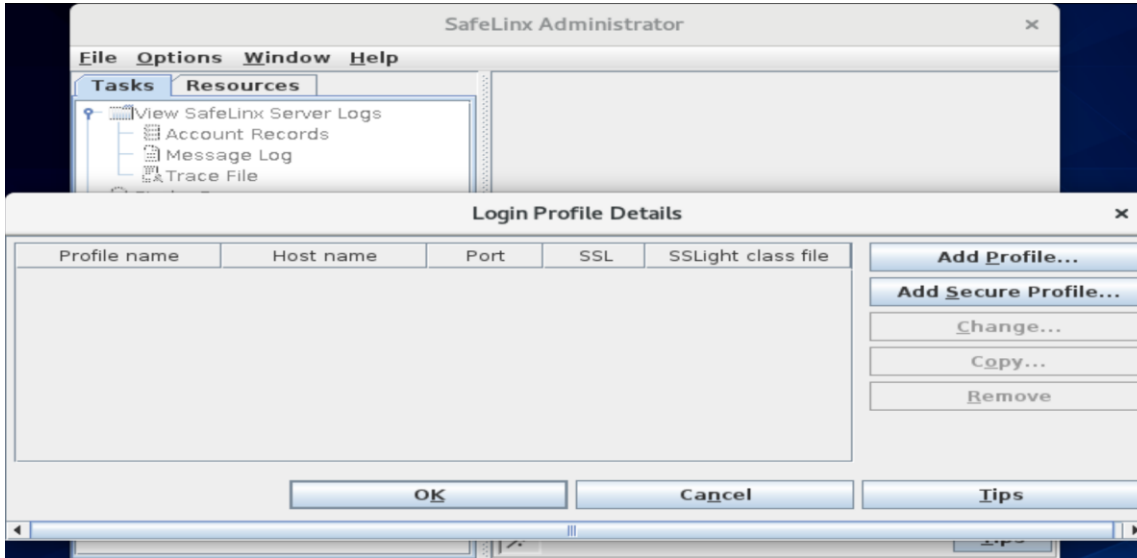


```
root@server1:/opt/hcl/SafeLinx/Administrator
File Edit View Search Terminal Help
[root@server1 ~]# cd /opt/hcl/SafeLinx/Administrator/
[root@server1 Administrator]# ./wgcfg
```

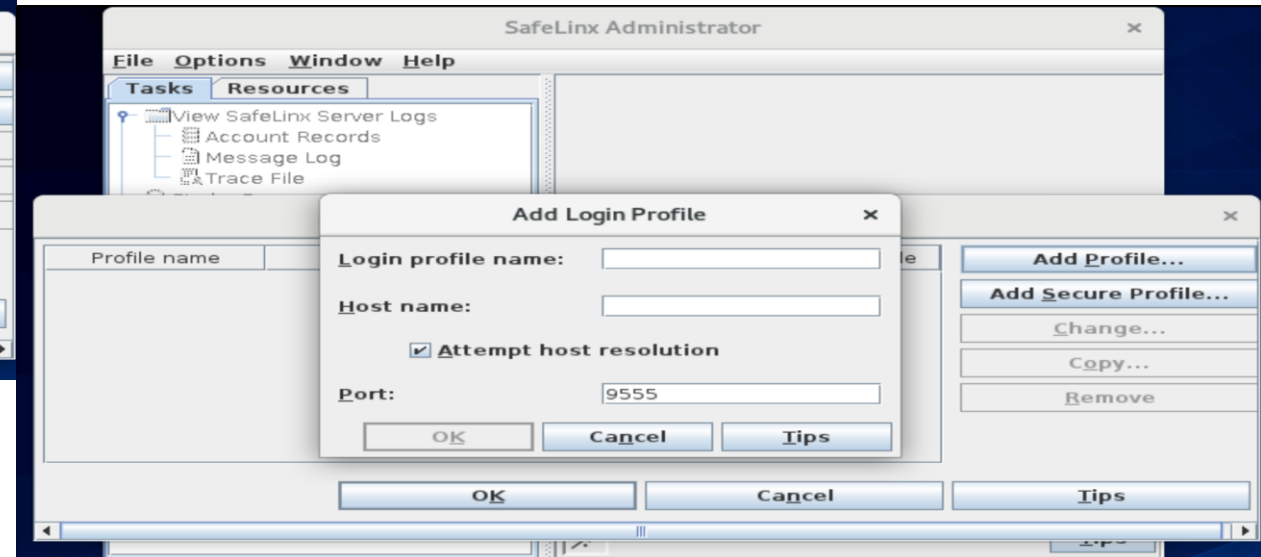
This will launch the SafeLinx Administrator client to configure the SafeLinx server and Nomad Web proxy.

SafeLinx Administrator Configuration (Linux)

- Once launched the SafeLinx Administrator client, opens as shown below.
- Add Profile to create a profile to connect to SafeLinx



- Enter the values for Login and Host name.



Example :

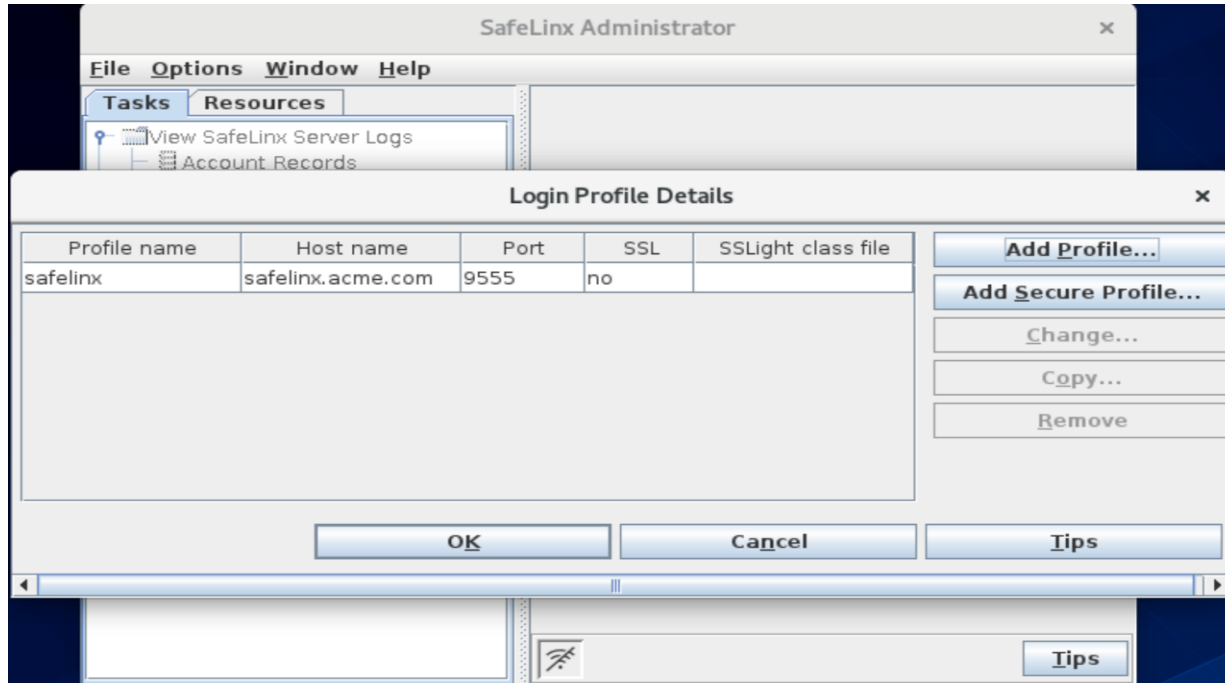
Login Profile Name: safelinx

Host Name: safelinx.acme.com

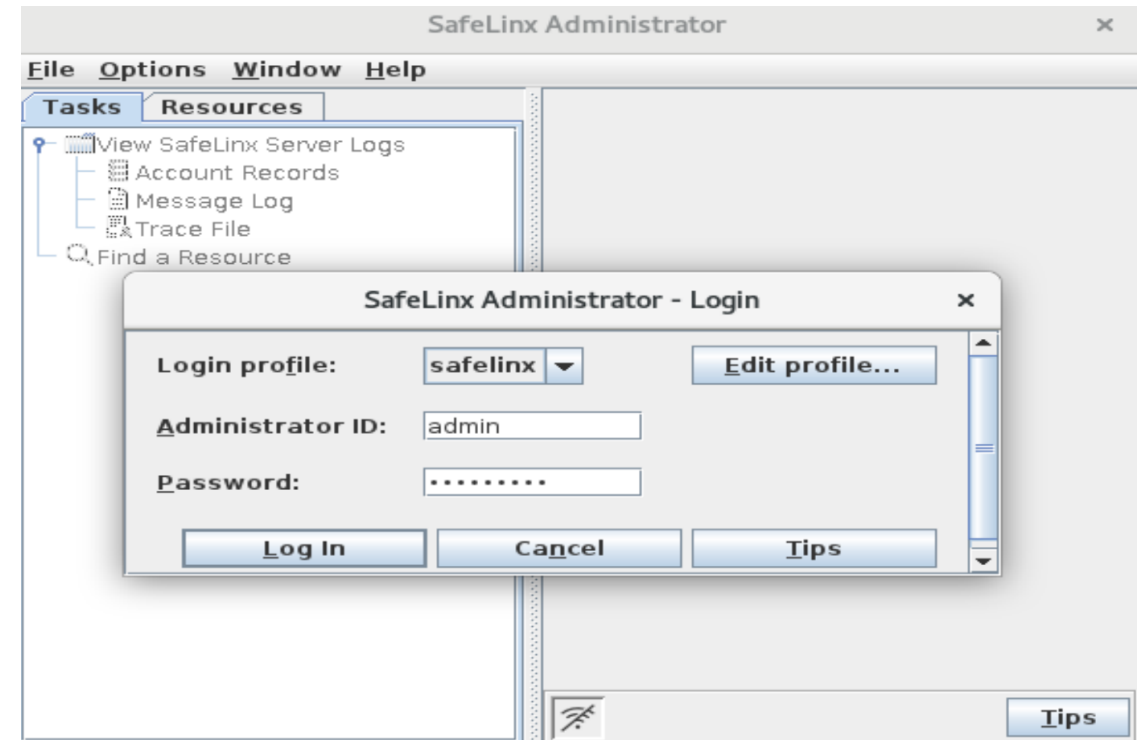
- Click OK

SafeLinx Administrator Configuration (Linux)

- Now Select the new profile and click OK to login.

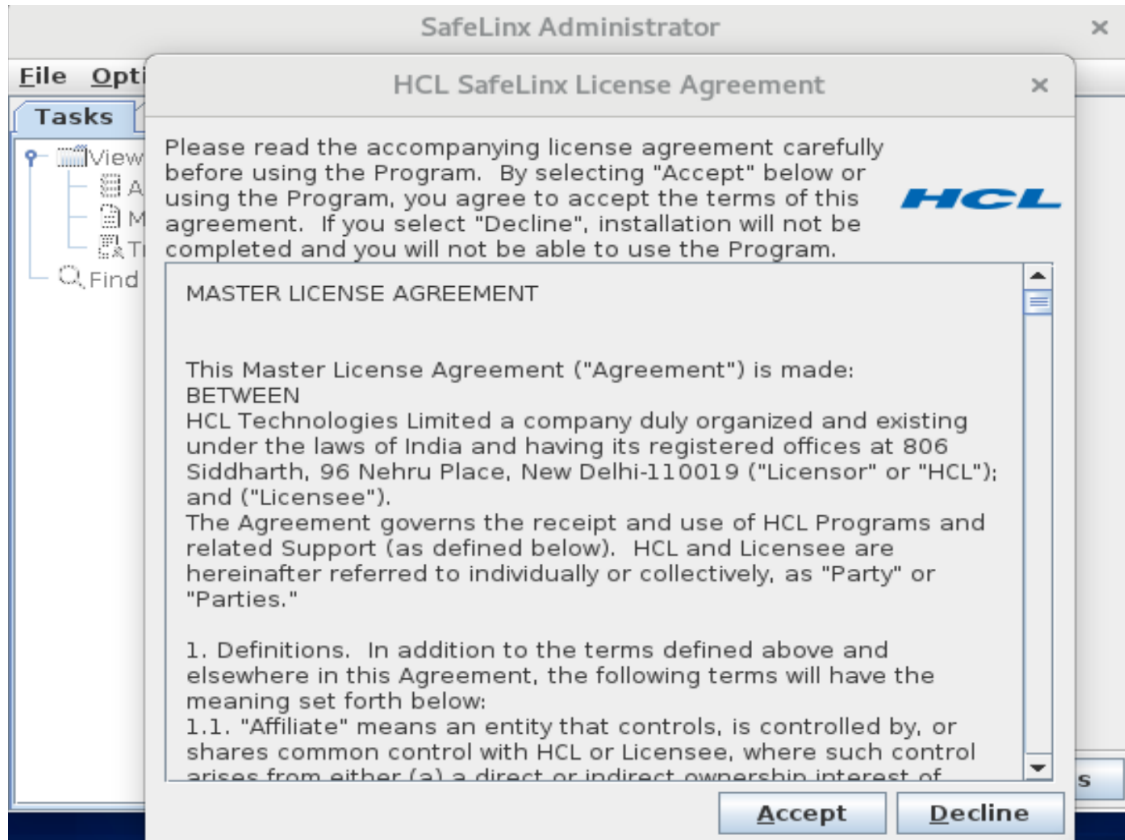


- Connect to the host by entering the default Administrative ID and password values. Click Login.
 Administrator ID: **admin**
 Password: **sl4!admin**

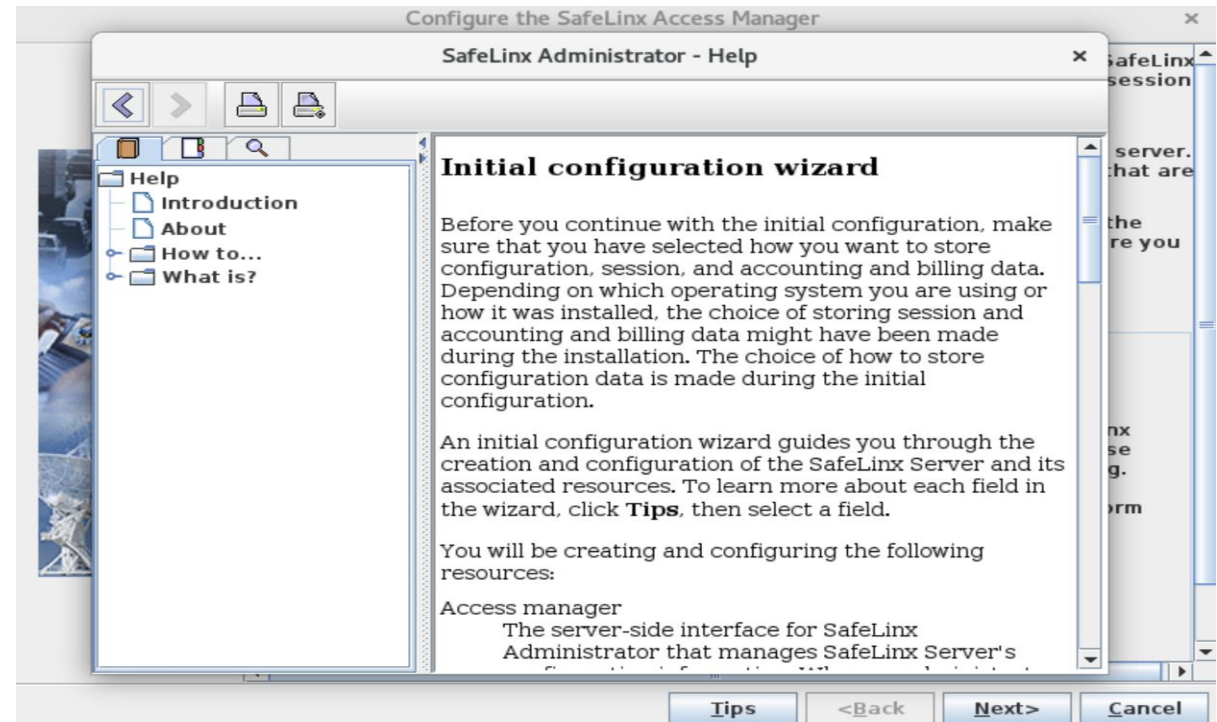


Configuring SafeLinX as Nomad Server

- There will be prompt to accept the License Agreement. Click on Accept to continue.

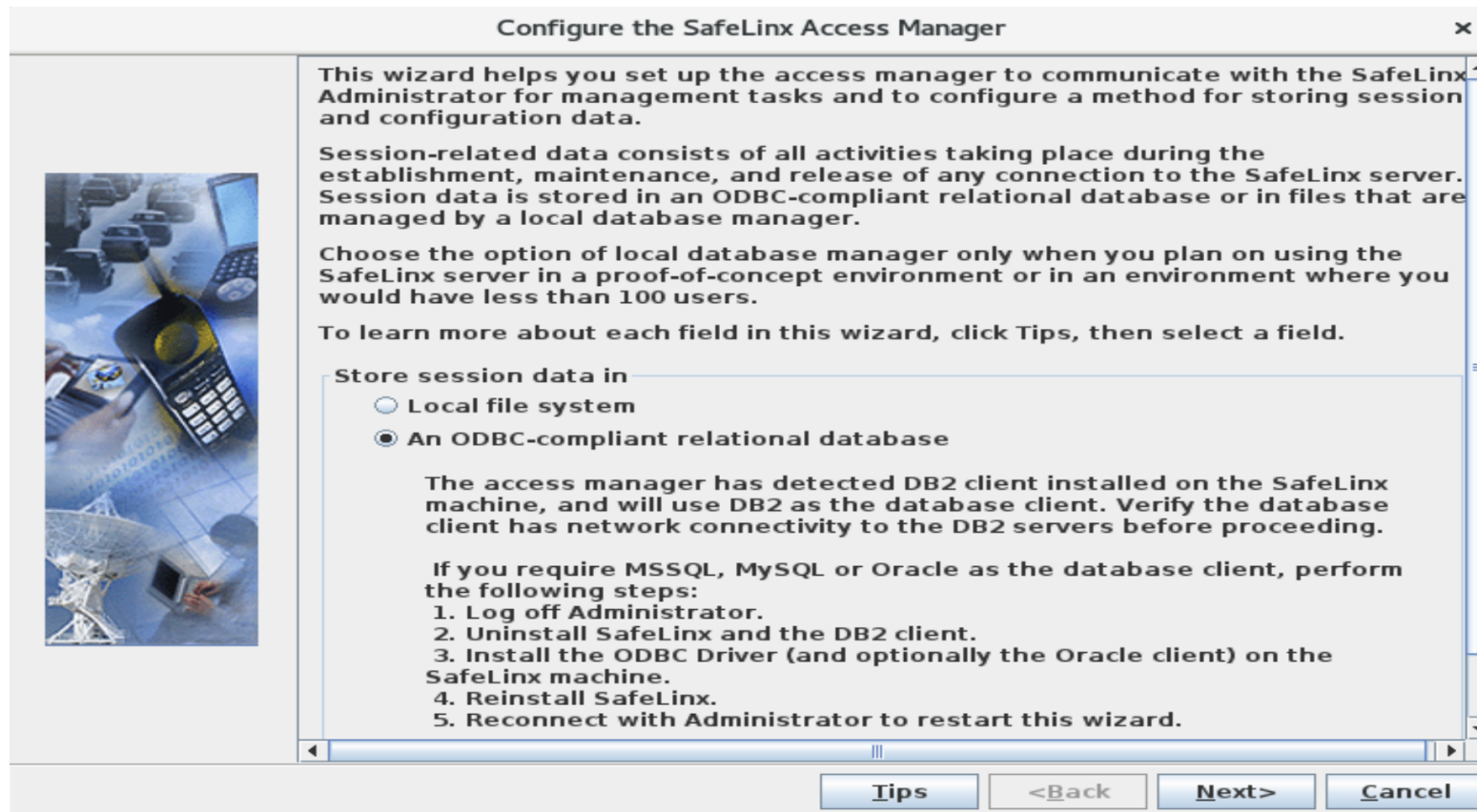


- The "**SafeLinX Administrator - Help**" window appears.
- After reviewing the initial configuration help, you can close this window and continue.



Configuring SafeLinx as Nomad Server

- First, it will display the “**Configure the SafeLinx Access Manager**” window.
- Leave the default “**An ODBC -compliant relational database**”.



Click **Next** to continue.

Configuring SafeLinx as Nomad Server

- **DB2 Server**
- When the SafeLinx server has been installed with DB2 Client, specify the DB2 client instance ID and path to connect to the remote DB2 server.

SafeLinx DB2 client instance ID:
wgdb

Home directory for DB2 client instance ID: **/home/wgdb**

- Click Next to continue.



Configure the SafeLinx Access Manager

Specify the DB2 instance ID used by the DB2 client on the SafeLinx machine to define the SafeLinx's DB2 databases. After you configure the instance ID and its location here, it cannot be modified until you delete this SafeLinx resource and create a new one.

SafeLinx DB2 client instance ID:

Home directory for DB2 client instance ID:

Note that SafeLinx will use this instance ID for both the session database and the accounting and billing database (if configured).

[Tips](#) [<Back](#) [Next>](#) [Cancel](#)

Configuring SafeLinx as Nomad Server

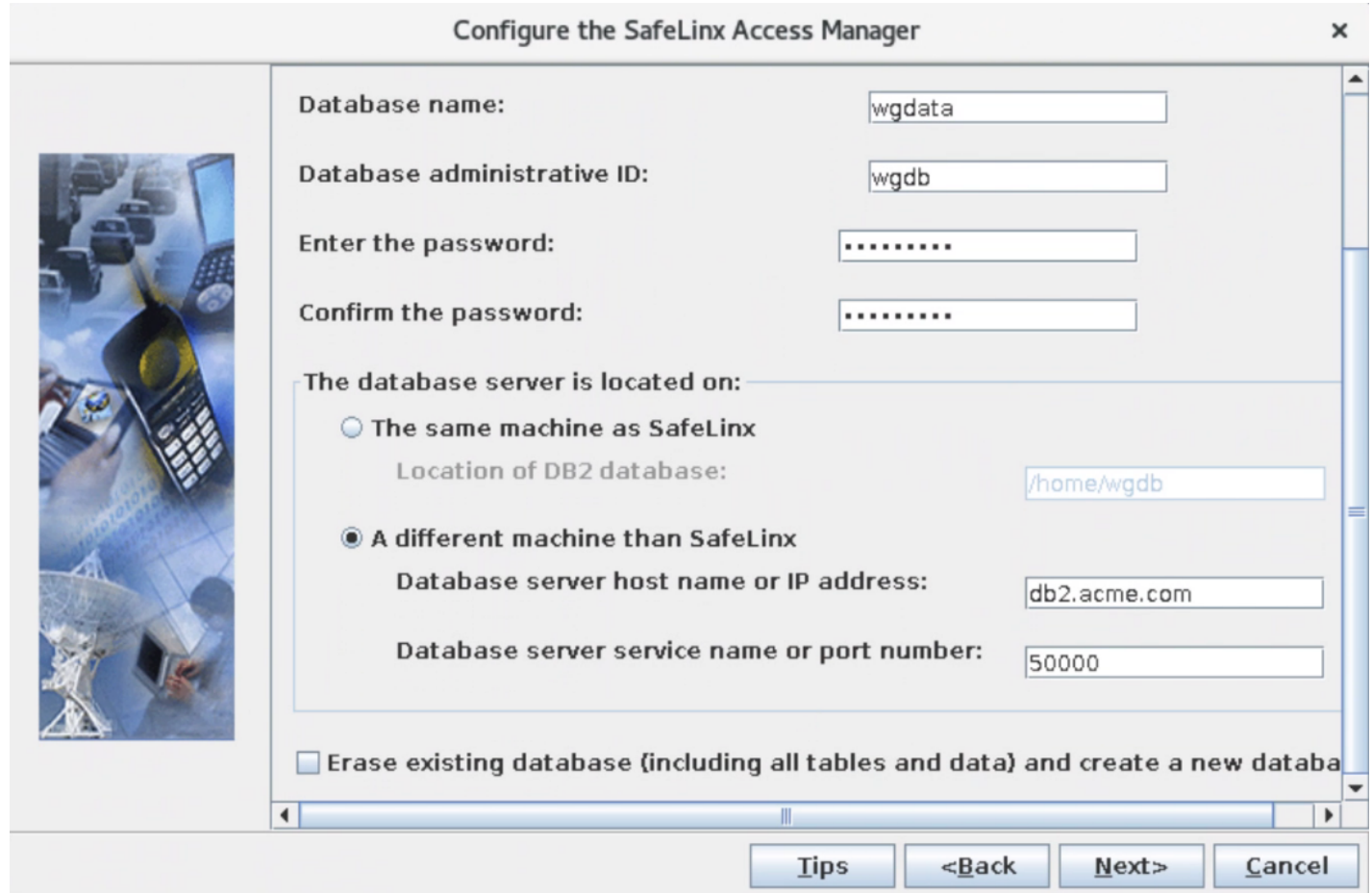
- SafeLinx server has its own script for DB2 server to create a DB2 database and a user for database administration operation.
- Enter the following field values
 Database Name: **wgdata**
 Database administrative ID: **wgdb**
 Enter Password: **Safelinx@55**
 Confirm Password: **Safelinx@55**

Note: You can have your own password as per your requirement.

- The database server is located on:
 Host name : **db2.acme.com**
 Port Number : **50000**

Note: If listening port is other than 50000, change the port number accordingly.

- Location of DB2 database: **/home/wgdb**



Configure the SafeLinx Access Manager

Database name: wgdata

Database administrative ID: wgdb

Enter the password:

Confirm the password:

The database server is located on:

The same machine as SafeLinx

Location of DB2 database: /home/wgdb

A different machine than SafeLinx

Database server host name or IP address: db2.acme.com

Database server service name or port number: 50000

Erase existing database (including all tables and data) and create a new database

Tips <Back Next> Cancel

- Click Next to continue.

Configuring SafeLinx as Nomad Server

- **MySQL Server**

When the SafeLinx Server has been installed with MySQL Server, specify the details below to access the database.

- Enter the following field values.

Database name: **wgdata**

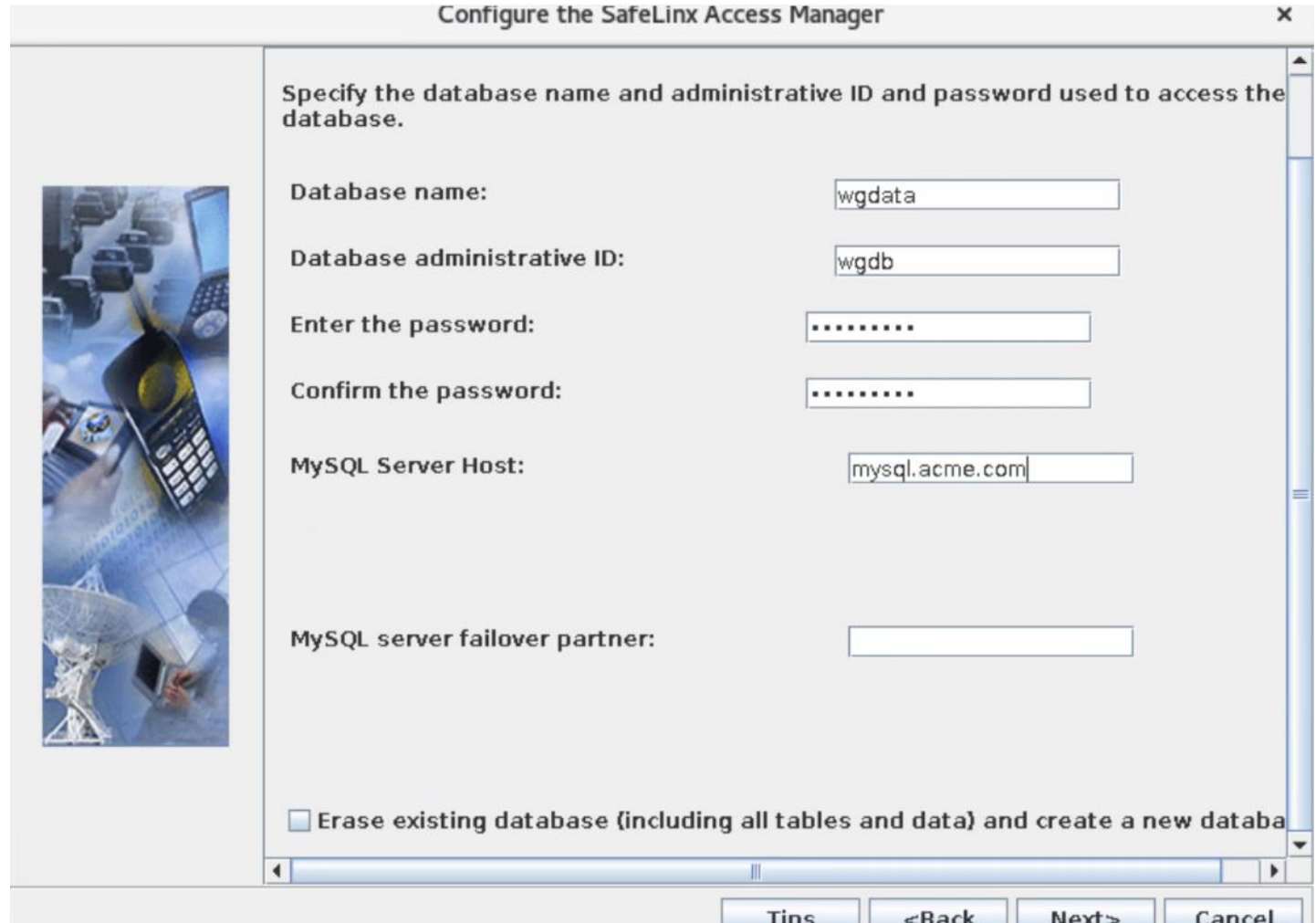
Database administrative ID: **wgdb**

Enter the password: **Safelinx@55**

Confirm the password: **Safelinx@55**

Note: You can have your own password as per your requirement.

- Provide MySQL Server Host information where MySQL RDBMS installed
- Click Next to continue.



Configure the SafeLinx Access Manager

Specify the database name and administrative ID and password used to access the database.

Database name:

Database administrative ID:

Enter the password:

Confirm the password:

MySQL Server Host:

MySQL server failover partner:

Erase existing database (including all tables and data) and create a new database

Tips <Back Next> Cancel

Configuring SafeLinx as Nomad Server

- **MSSQL Server**

When the SafeLinx Server has been installed with MSSQL Server, specify the details below to access the database.

- Enter the following field values.

Database name: **wgdata**

Database administrative ID: **wgdb**

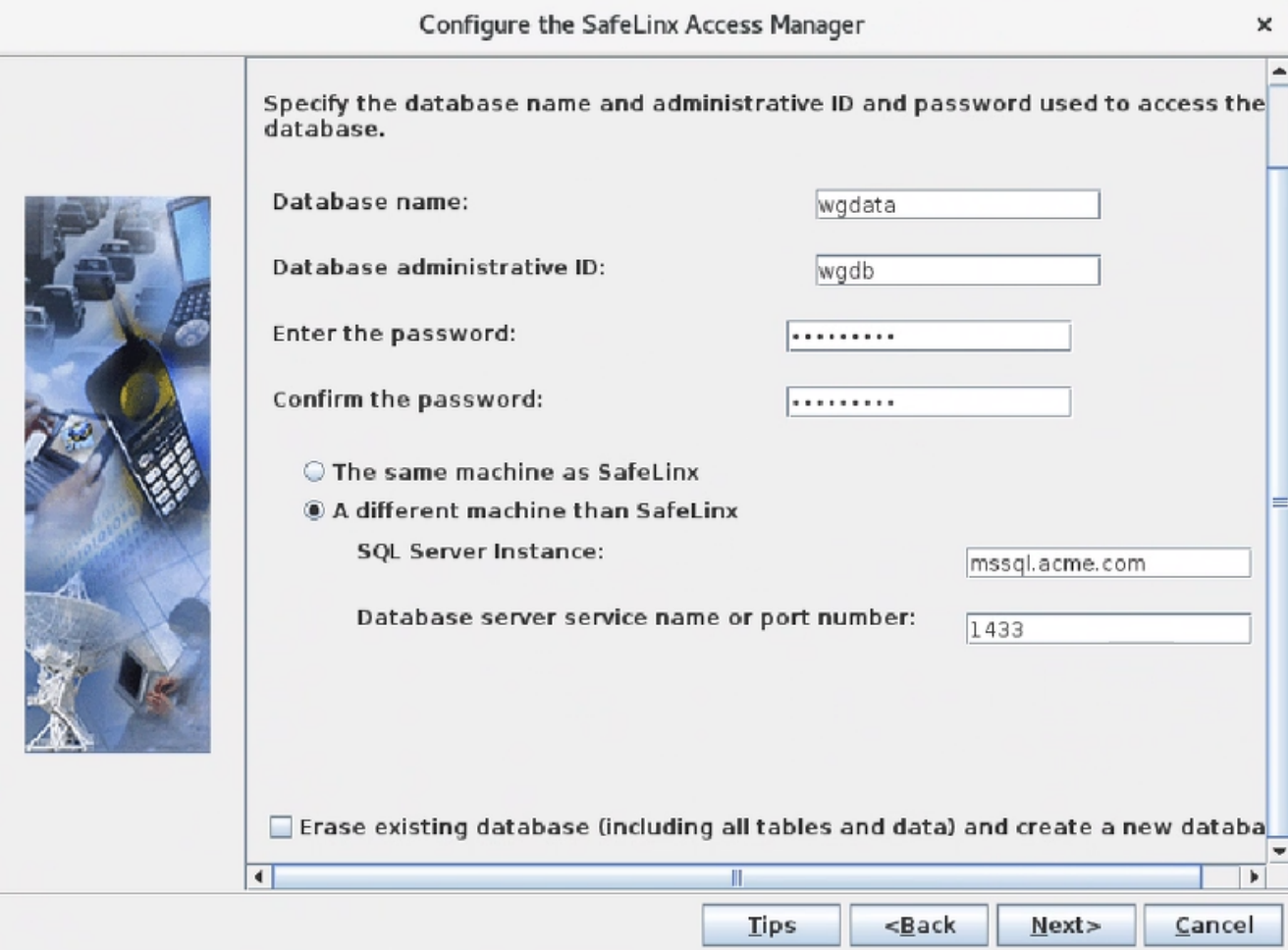
Enter the password: **Safelinx@55**

Confirm the password: **Safelinx@55**

Note: You can have your own password as per your requirement.

- The database server is located on:
SQL Server Instance: **mysql.acme.com**
Port Number : **1433**

- Click Next to continue.



Configure the SafeLinx Access Manager

Specify the database name and administrative ID and password used to access the database.

Database name:

Database administrative ID:

Enter the password:

Confirm the password:

The same machine as SafeLinx

A different machine than SafeLinx

SQL Server Instance:

Database server service name or port number:

Erase existing database (including all tables and data) and create a new database

Tips <Back Next> Cancel

Configuring SafeLinX as Nomad Server

- Set as default **“o=local”** to save the configuration under **“local”**. Optionally change the **“local”** name to your company or organization name. Click Next to continue.

- Click All to enable all logging

- Click Next to continue

Configuring SafeLinx as Nomad Server

- Click "Finish" for SafeLinx Access Manager to configure database on MS SQL, IBM DB2 or MySQL based on your configuration. It may take a few moments to complete.

Configure the SafeLinx Access Manager

This wizard has gathered all the information needed to set up SafeLinx for communication with Administrator and the method for storing session and configuration data.

Click Finish to complete this task. Wait while SafeLinx establishes a connection to the data storage. It might take a few minutes to setup or migrate the configuration data storage.

Tips <Back Finish Cancel

SafeLinx Administrator - safelinx.acme.com - 9555 - admin

File Options Window Help

Tasks Resources

- View SafeLinx Server Logs
 - Account Records
 - Message Log
 - Trace File
- Find a Resource
- Add Resource
- Broadcast a Message

SafeLinx Administrator

SafeLinx installs a super-user account, admin, with a default password. Would you like to modify this account?

Yes No

Reset Password

Enter the new password for the selected user ID.

Enter the password:

Confirm the password:

OK Cancel

Tips

- Click Yes to change the SafeLinx super-user account's password.

- After entering the new password, Click OK.

Note: You can have your own password as per your requirement

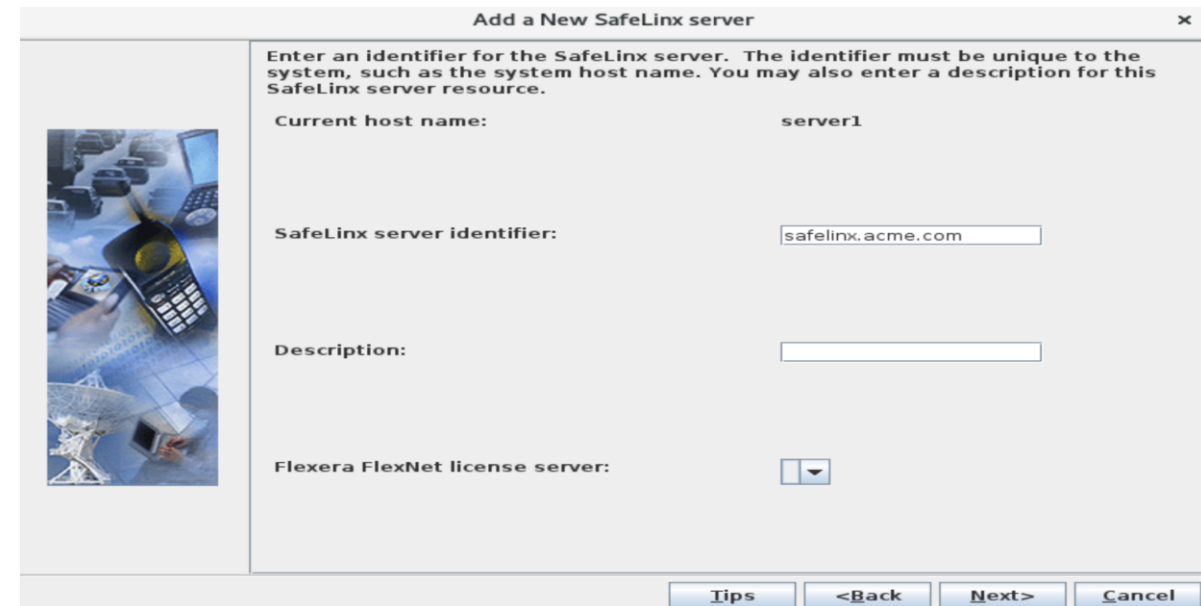
Configuring SafeLinX as Nomad Server

- In the “Add a New SafeLinX server” dialog, click Next to continue.



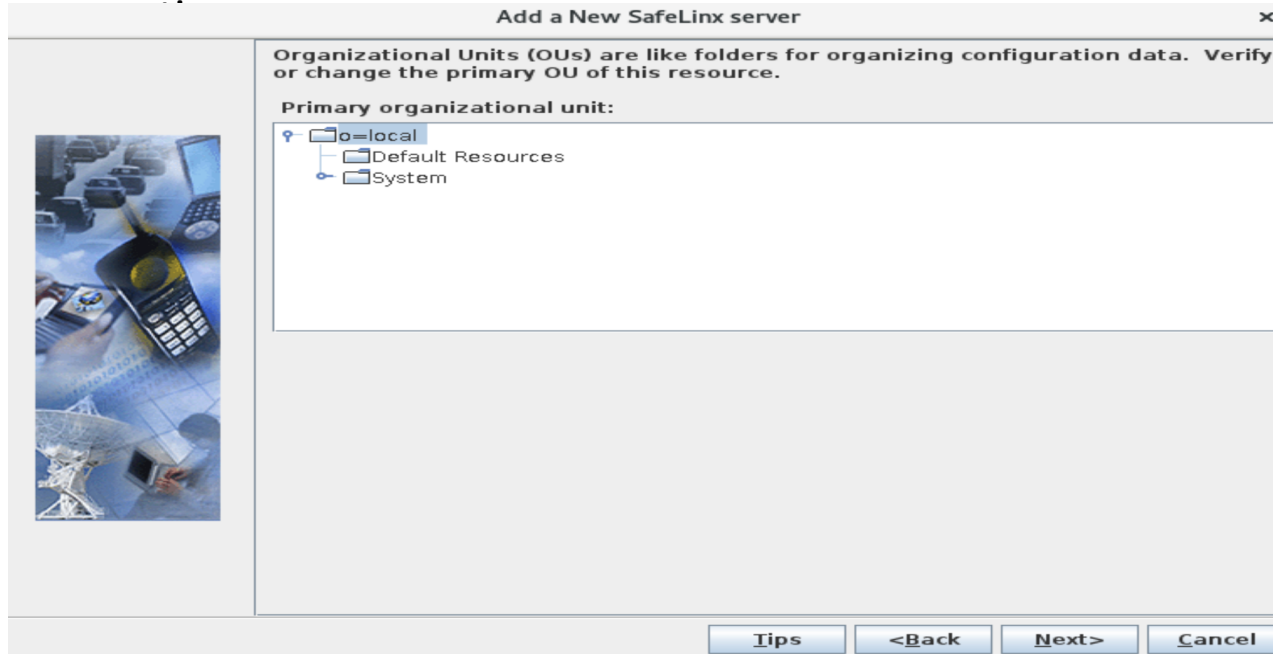
Server identifier name is just a free-form name for recognizing this server and it is only used by the administration client.

- Enter the current Linux machine host name as the SafeLinX server.
Current host name: **server1**
SafeLinX server identifier: **safelinx.acme.com**
- Click Next to continue.



Configuring SafeLinx as Nomad Server

- Keep the default in the below screen “O=local” and click Next to

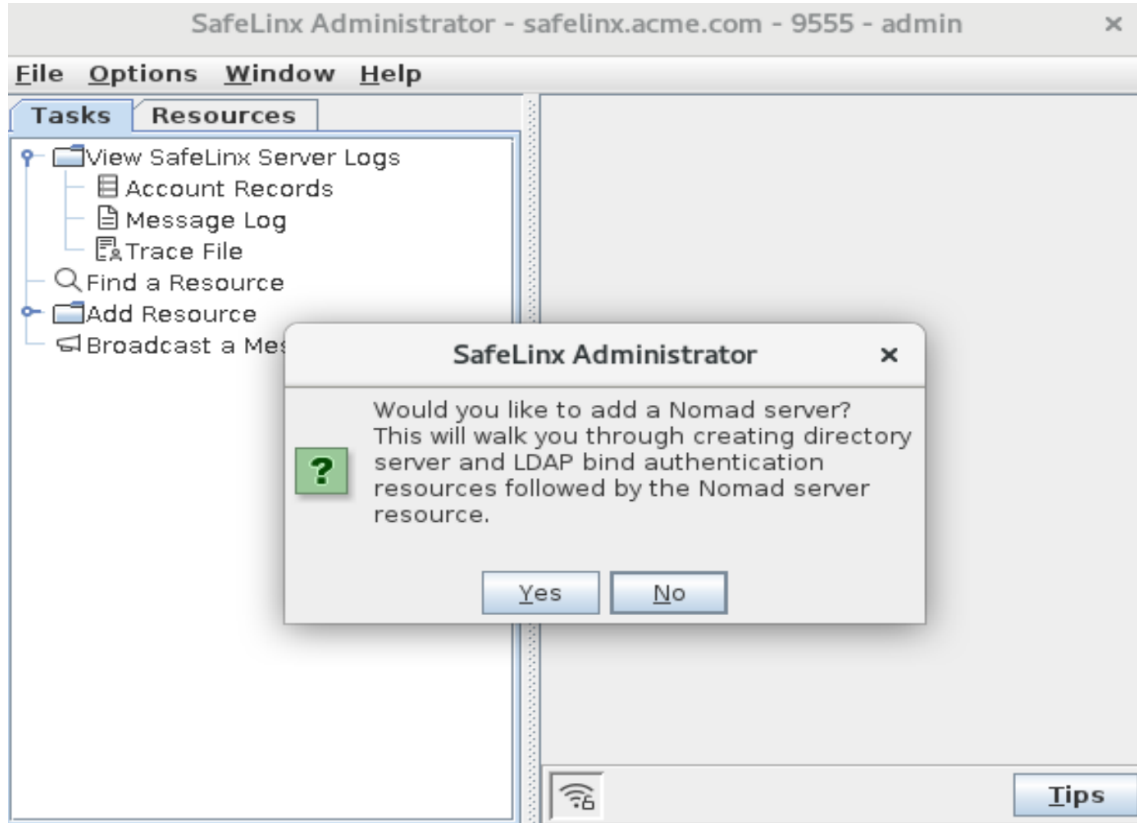


- Click Finish to complete the SafeLinx server configuration.

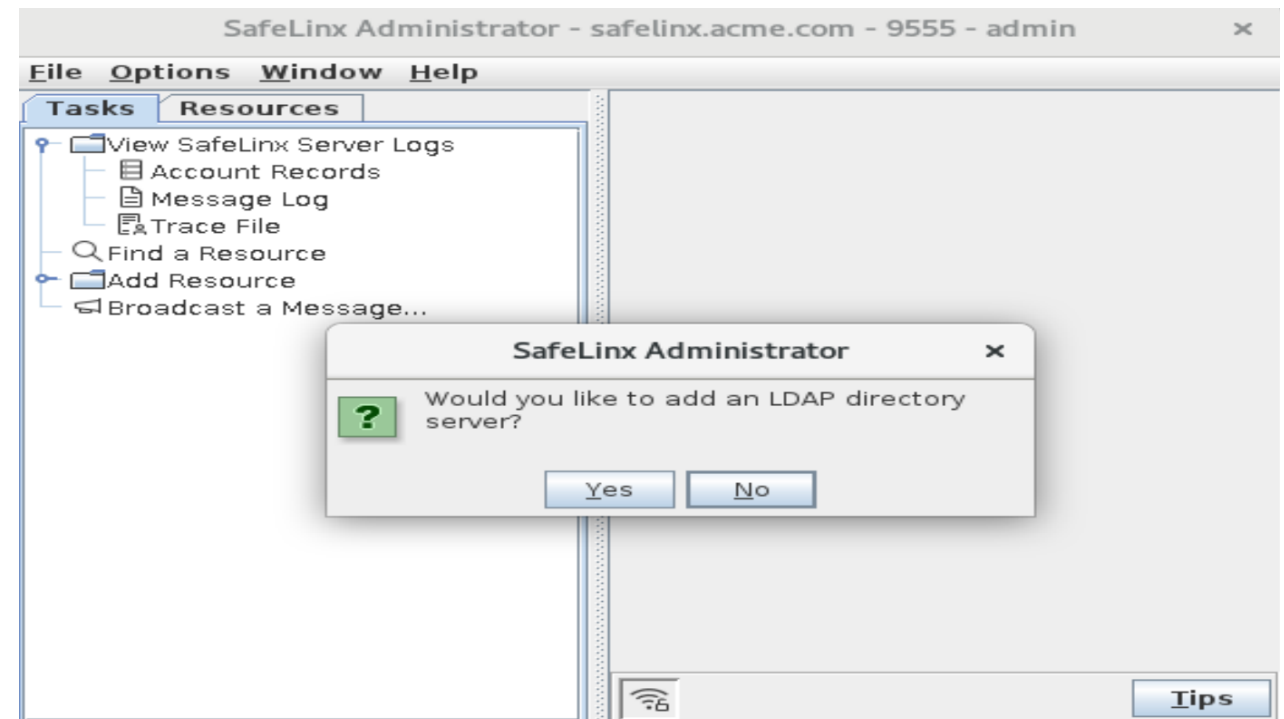


Configuring SafeLinx as Nomad Server

- Click Yes to add a Nomad server



- Click Yes to add an LDAP directory server.



Configure a connection from the SafeLinx server to Domino's LDAP service on port 389.

Configuring SafeLinx as Nomad Server

- Enter the details of your Domino LDAP server and click Next.

Common Name: **Server1.acme.com**

Host name or IP address of Service : **192.168.56.109**

Base DN : **O=Acme**

- Set up LDAP Service configuration. Click Next to continue.

Port number of Service: **389 (Default picked)**

Administrator's distinguished name (DN): **CN=Notes Admin/O=ACME**

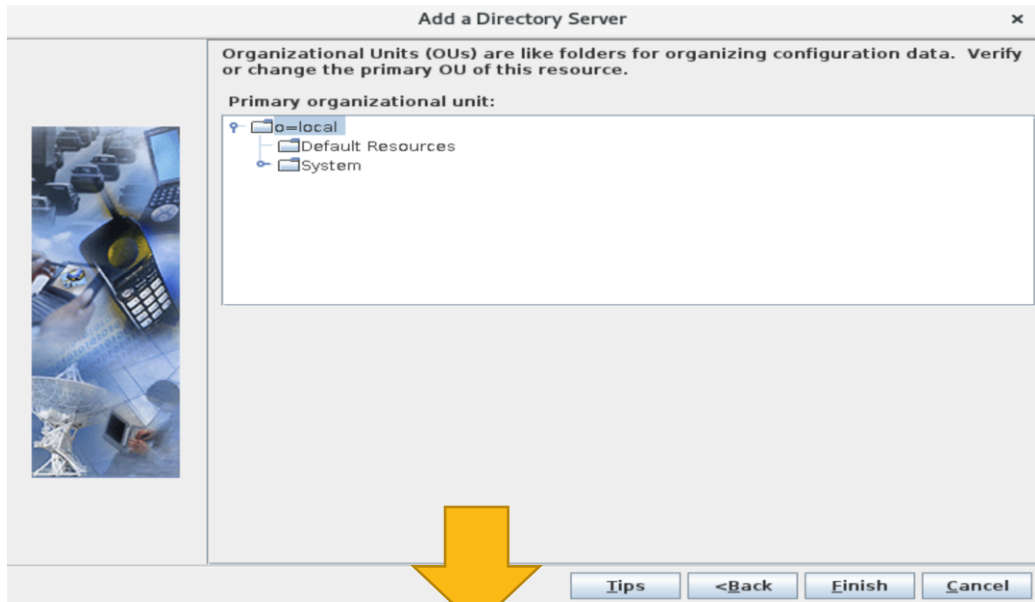
Enter Password: *********

Confirm the password : *********

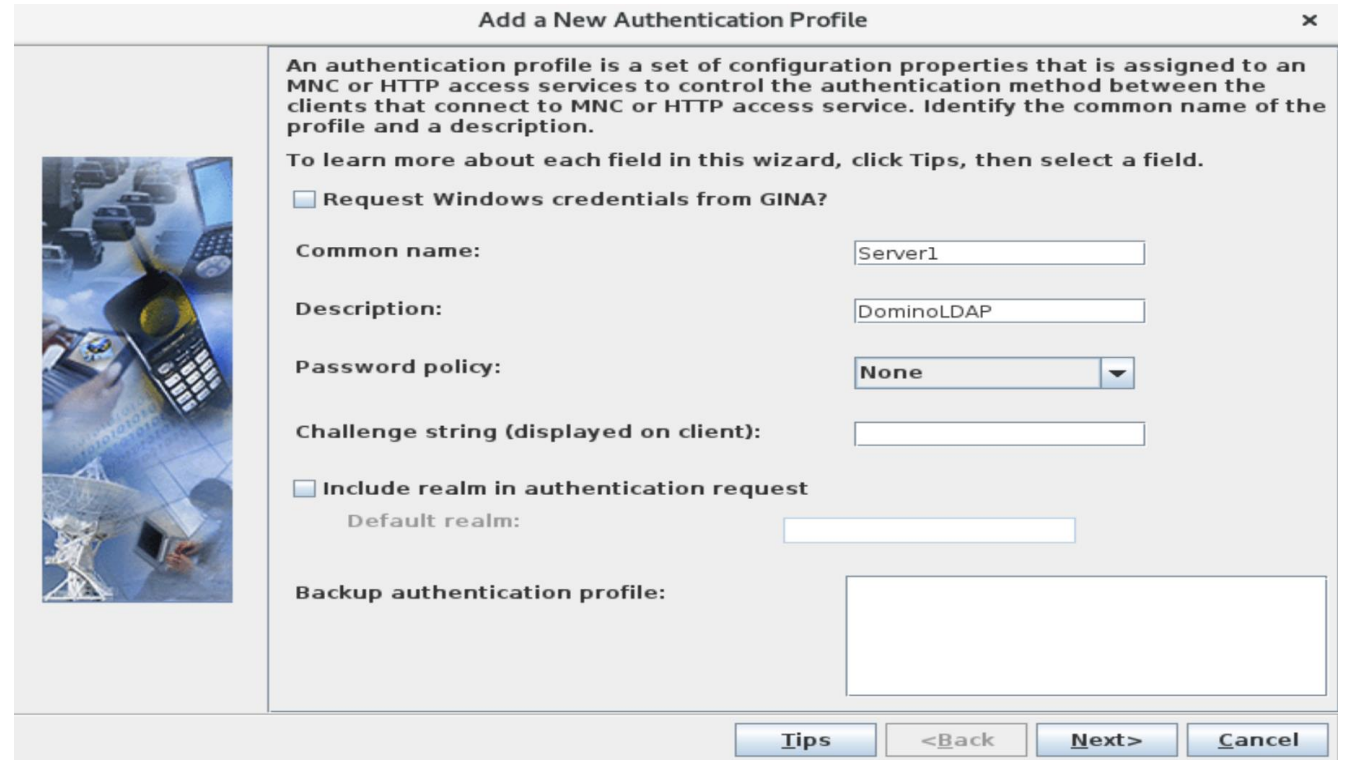
Note: The password for the Domino Administrator is stored as the Internet password in its person document in the Domino Directory.

Configuring SafeLinx as Nomad Server

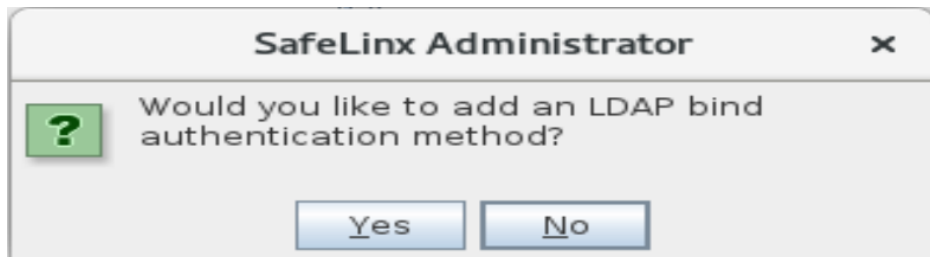
- Leave the default and click Finish to save the LDAP directory configurations.



- In the **“Authentication profile”** window, add the details as below.
Click Next to continue
Common name: **Server1**
Descriptive name: **DominoLDAP**

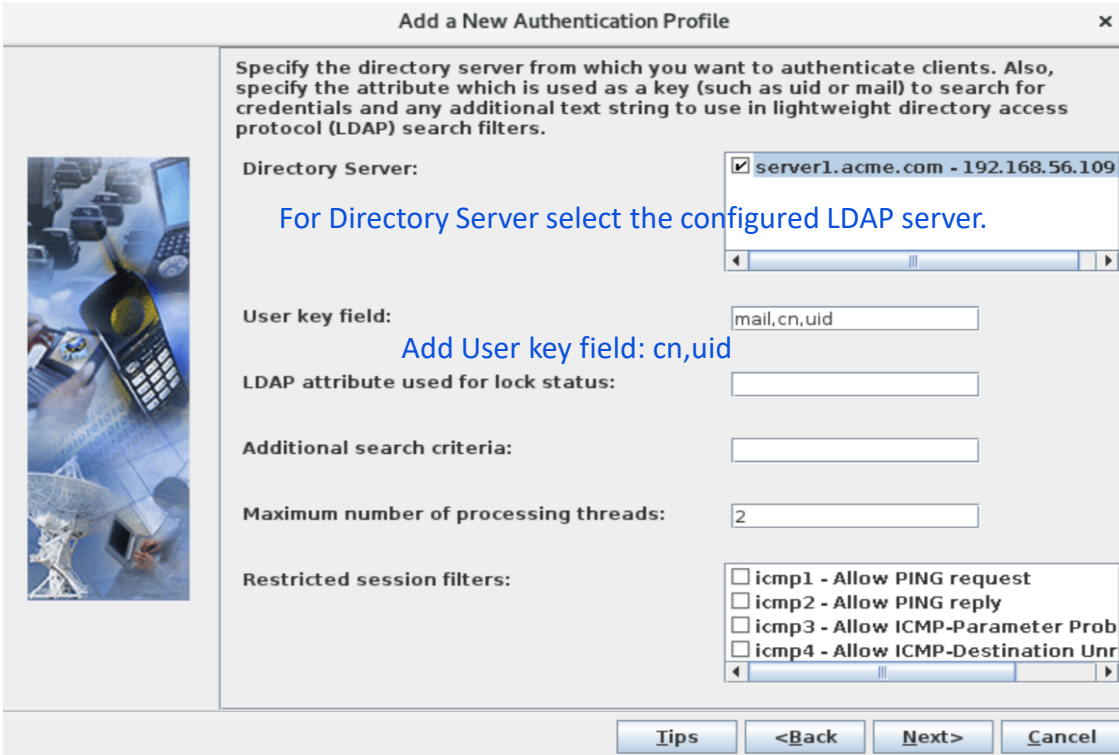


- Message prompt **“to add an LDAP bind authentication method”**. Click Yes to continue

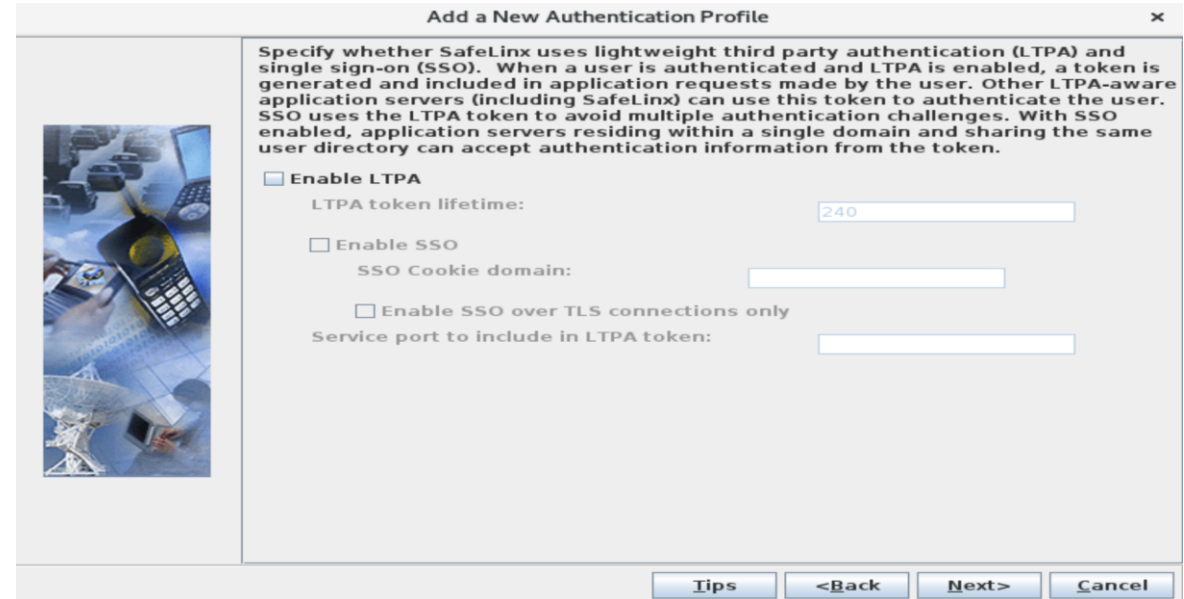


Configuring SafeLinX as Nomad Server

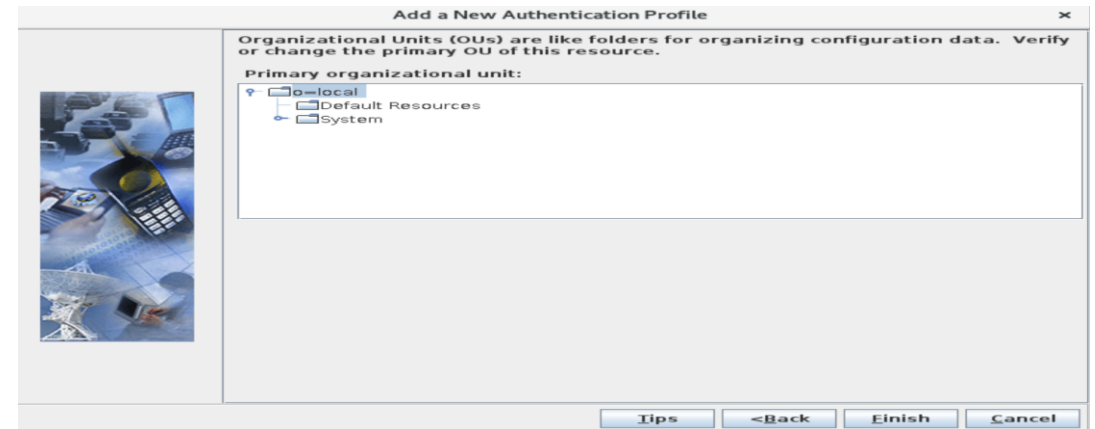
- Some settings are provided automatically, and others will need to be entered. Follow the instructions below for the following dialog boxes



- Leave the default and click Next to continue



- Leave the default and click Finish to continue.



Configuring SafeLinx as Nomad Server

- The next screen allows you to **"Add a Nomad Server"**. Complete the configuration.
- For this setup, we're using these values:

Service URL (https://):

<https://safelinx.acme.com>

TCP port to listen on: 443


PKCS12 keystore file: [slselfsign.p12](#)

Keystore password: [trusted](#)

Note: For your setup, the values should match your own server & TLS config details

- Click Next to continue

Add a Nomad server ✕



Specify the external facing URL end users will enter to reach this service. Specify the secure port, PKCS12 key store, key store password and initial state of the service.

To learn more about each field in this wizard, click **Tips**, then select a field.

SafeLinx: cn=safelinx.acme.com,o=local

Service URL (https://):

TCP port to listen on:

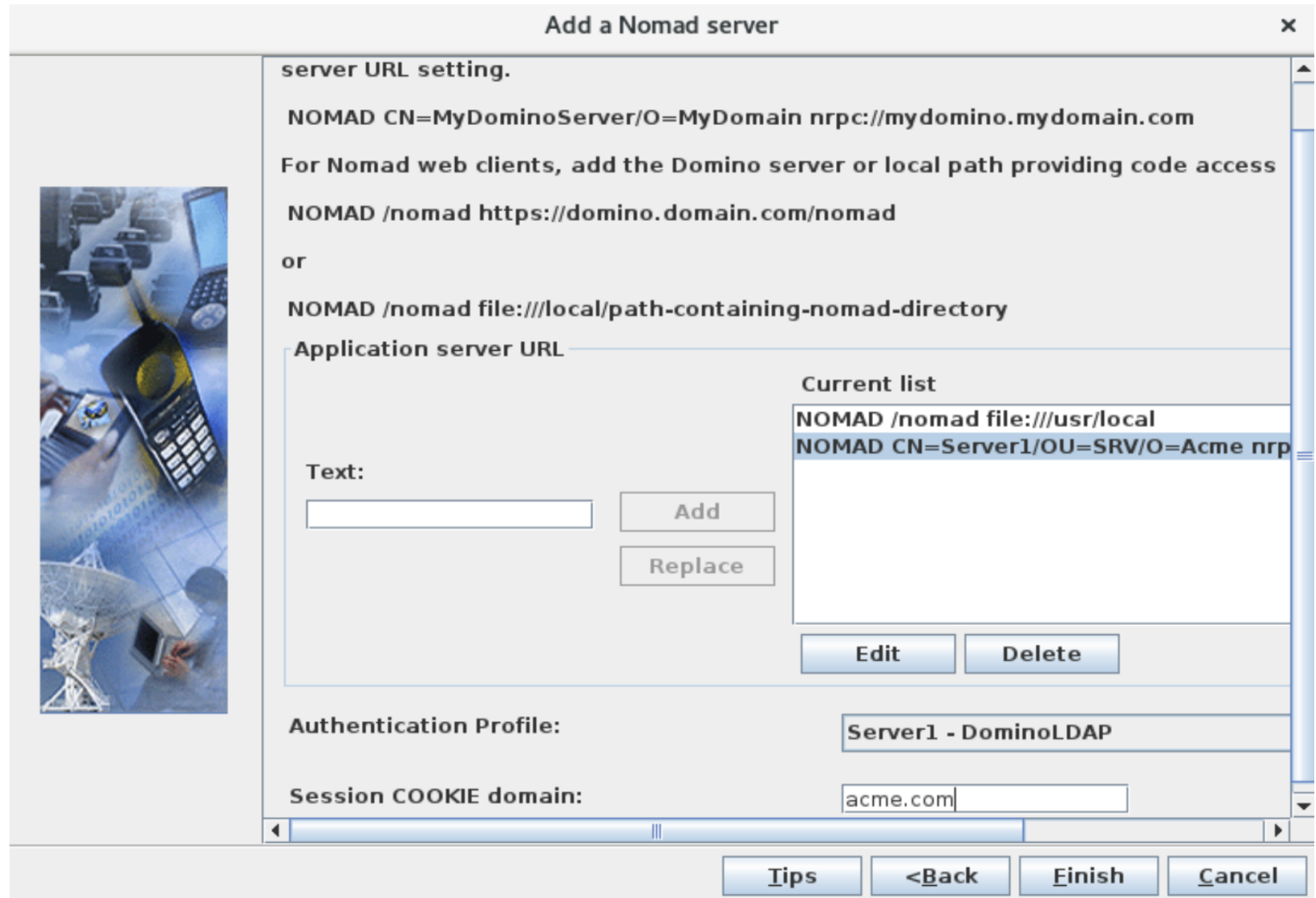
PKCS12 keystore file:

Keystore password:

Current state: ▼

Configuring SafeLinx as Nomad Server

- Add the below rules.
 - NOMAD /nomad file:///usr/local/
 - NOMAD CN=Server1/OU=Srv/O=Acme
nrpc://server1.acme.com:1352
- These should be as per your server naming conventions and nomad web static file path.
- Authentication Profile: Choose the profile which was created before from the dropdown.
- Session cookie Domain: acme.com (set the domain as per your organization)
- Click Finish



Add a Nomad server

server URL setting.

NOMAD CN=MyDominoServer/O=MyDomain nrpc://mydomino.mydomain.com

For Nomad web clients, add the Domino server or local path providing code access

NOMAD /nomad https://domino.domain.com/nomad

or

NOMAD /nomad file:///local/path-containing-nomad-directory

Application server URL

Text:

Add

Replace

Current list

NOMAD /nomad file:///usr/local

NOMAD CN=Server1/OU=SRV/O=Acme nrpc://server1.acme.com:1352

Edit

Delete

Authentication Profile: Server1 - DominoLDAP

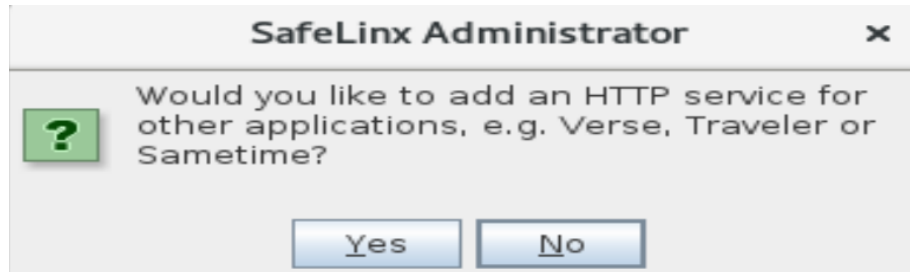
Session COOKIE domain: acme.com

Tips <Back Finish Cancel

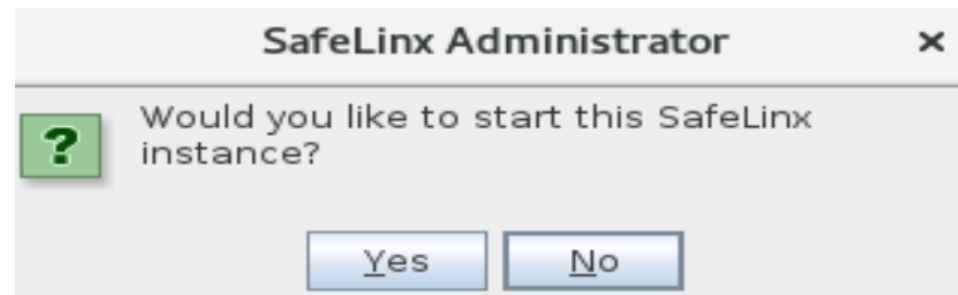
https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0096064

Configuring SafeLinX as Nomad Server

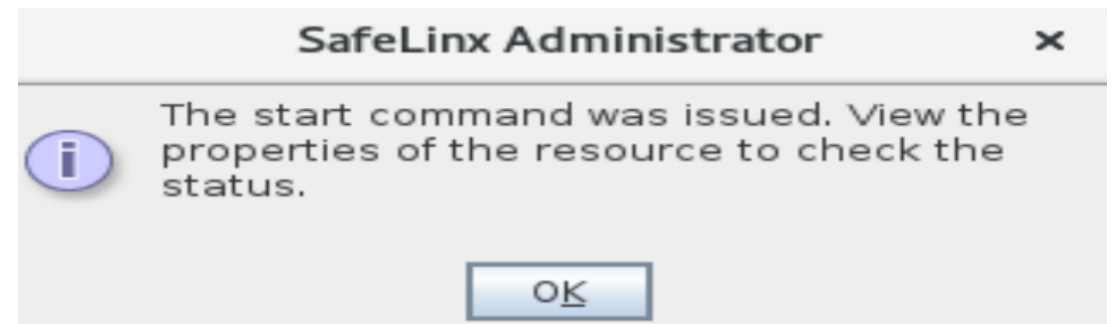
- Click **No** for adding another HTTP.



- Click **Yes** to start the SafeLinX instance.

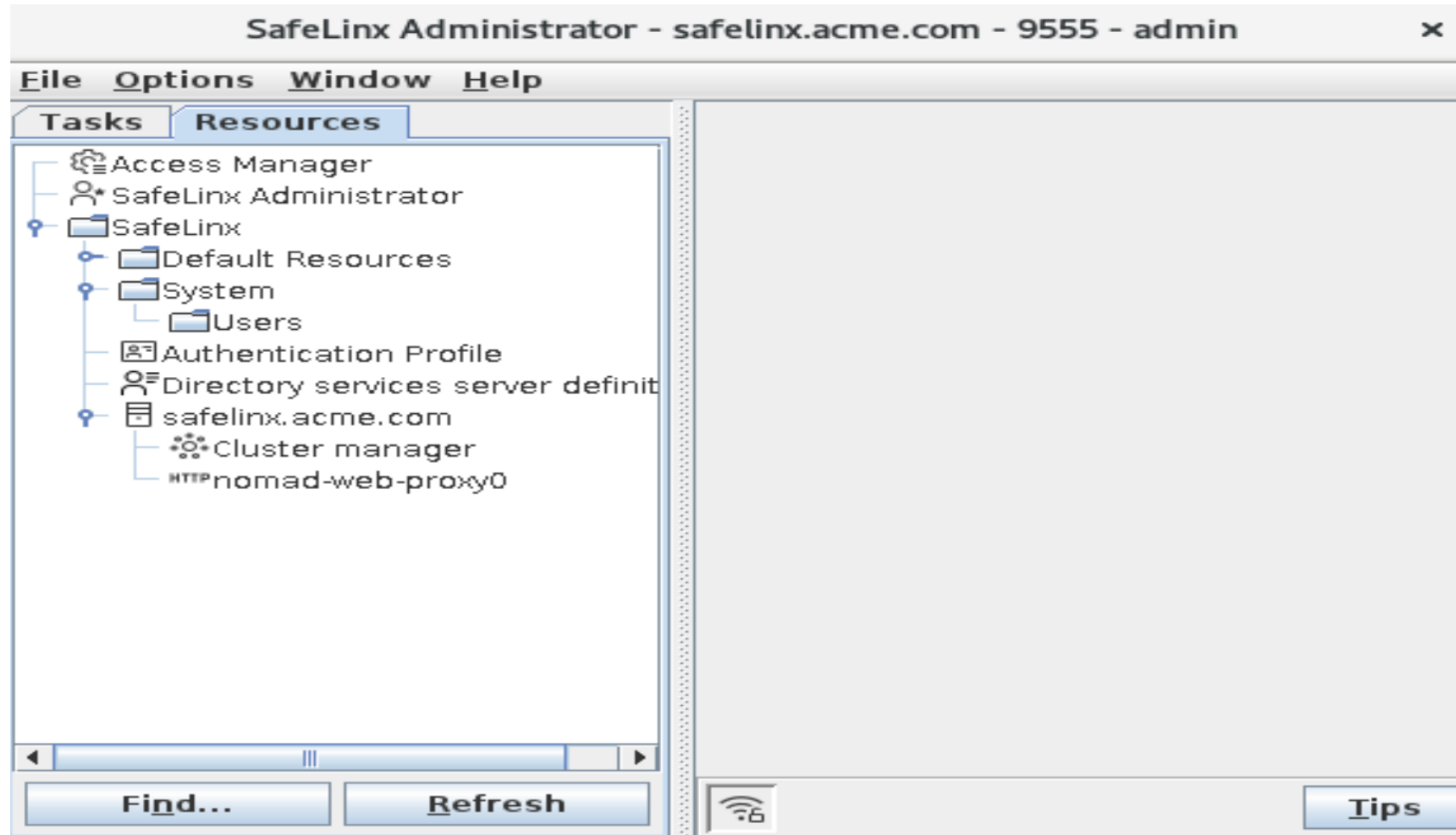


- Click **OK** to complete the SafeLinX server and Nomad Web



Configuring SafeLinX as Nomad Server

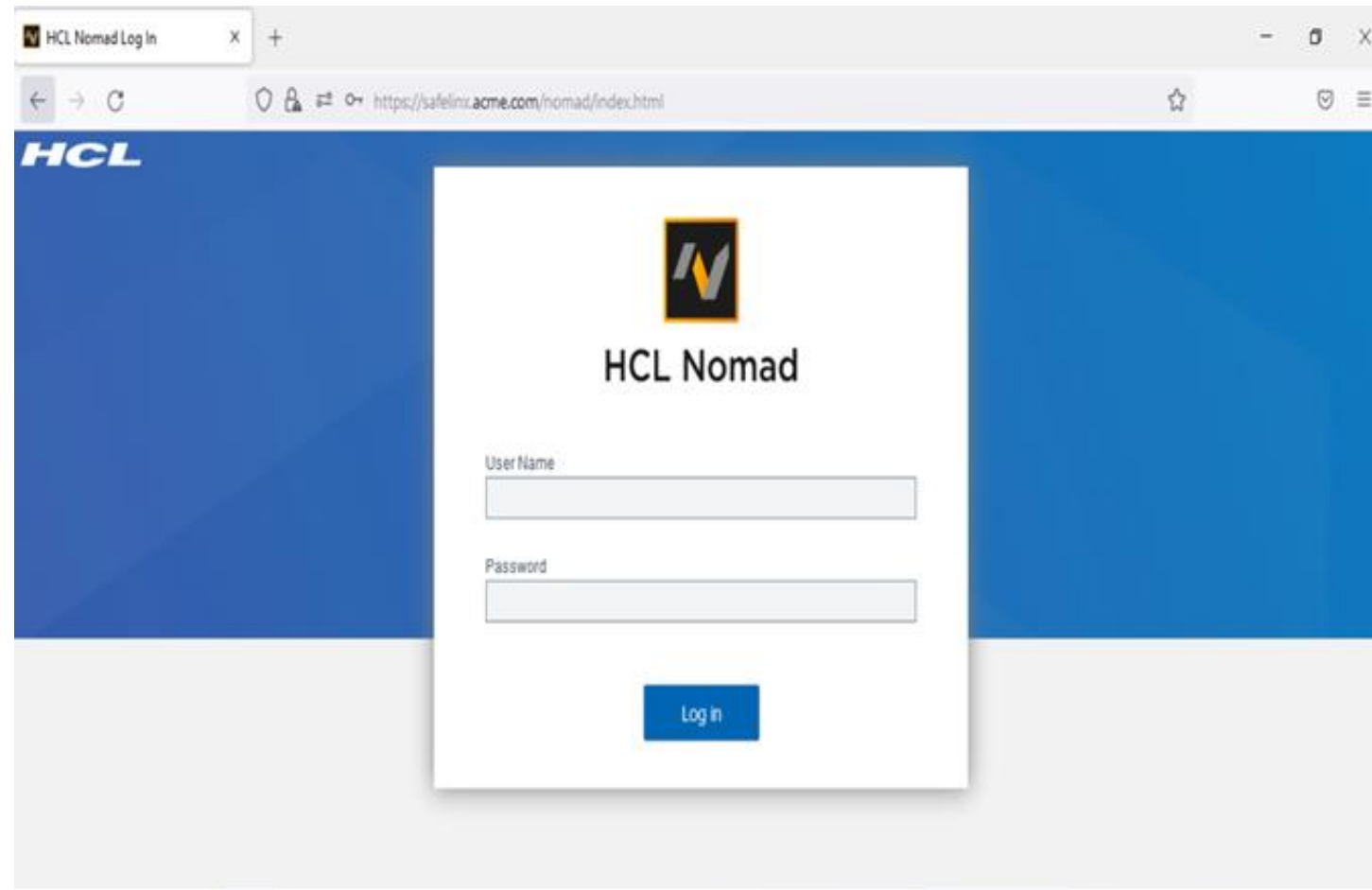
- The “**Resources**” tab looks as below in the SafeLinX administrator client.



This completes configuration of SafeLinX Server & Nomad web.

Configuring HCL Nomad for web browsers (End User)

- Start a browser to test HCL Nomad for web browsers.



- Access HCL Nomad for web browsers using any of the below URLs.

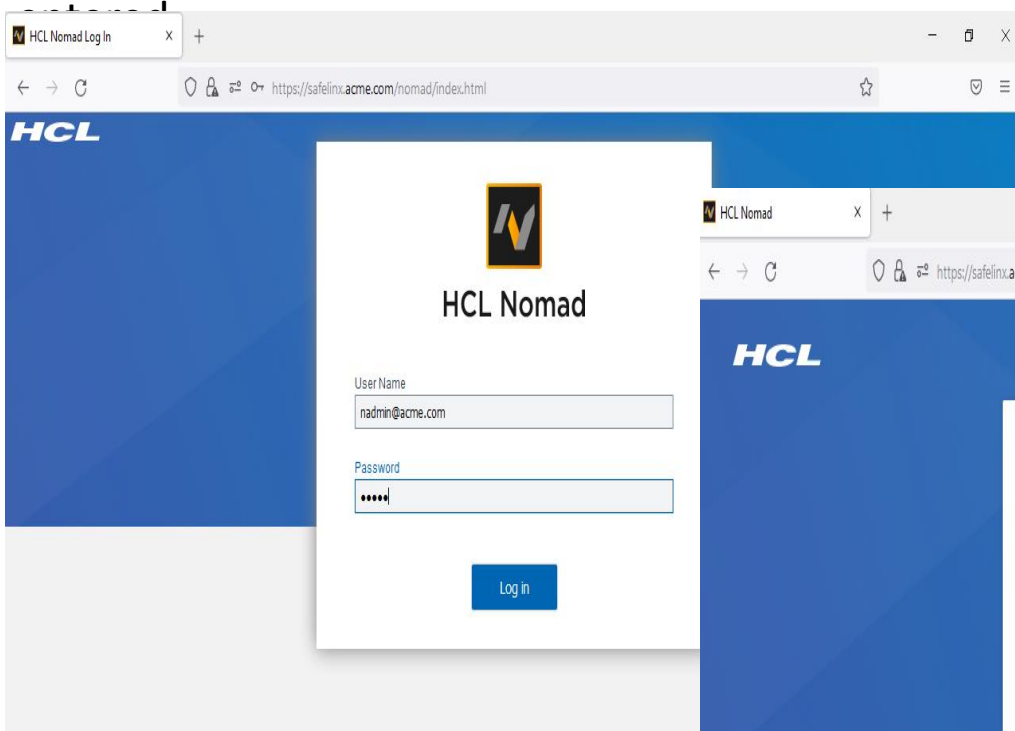
<https://safelinx.acme.com/>

<https://safelinx.acme.com/nomad/>

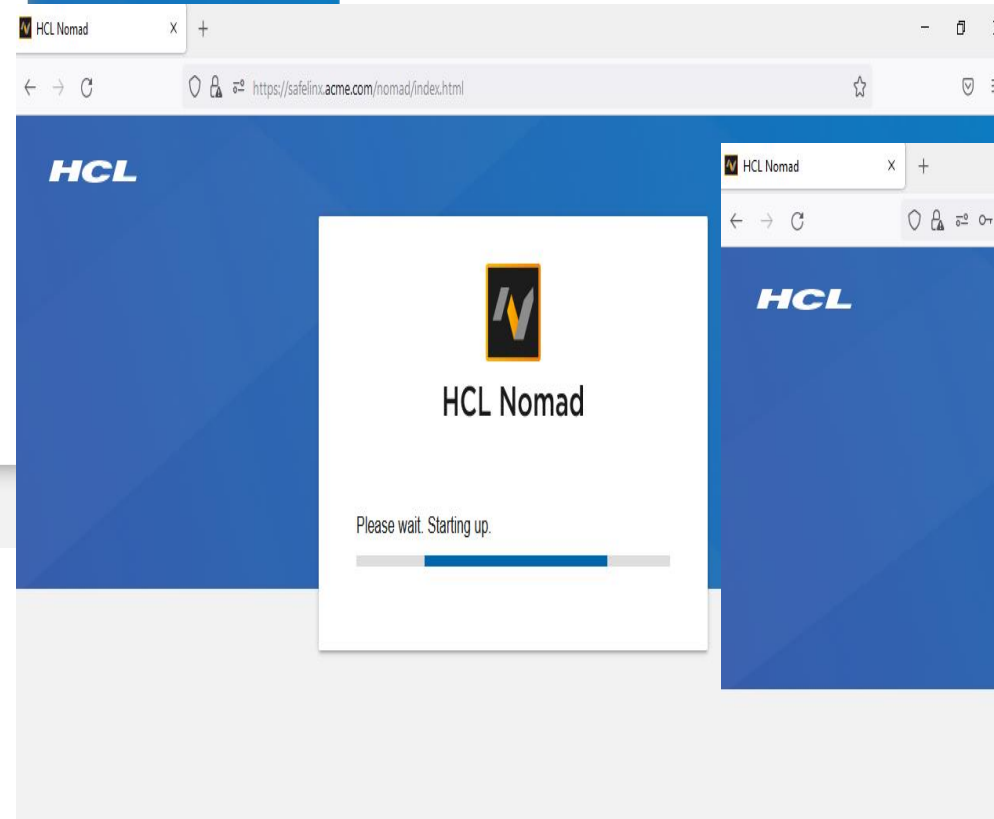
<https://safelinx.acme.com/nomad/index.html>

Configuring Nomad for web browsers (End User)

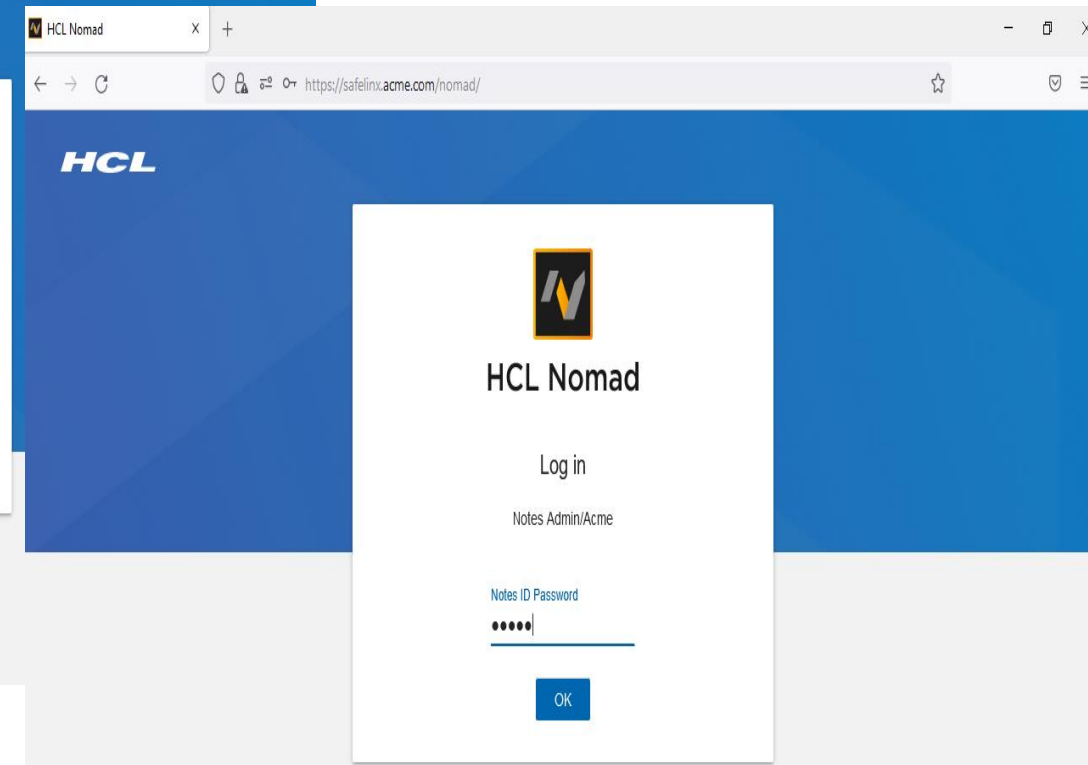
- Need to specify if the Notes Internet address and password is to be



- Start installation process & apply Nomad web's configuration



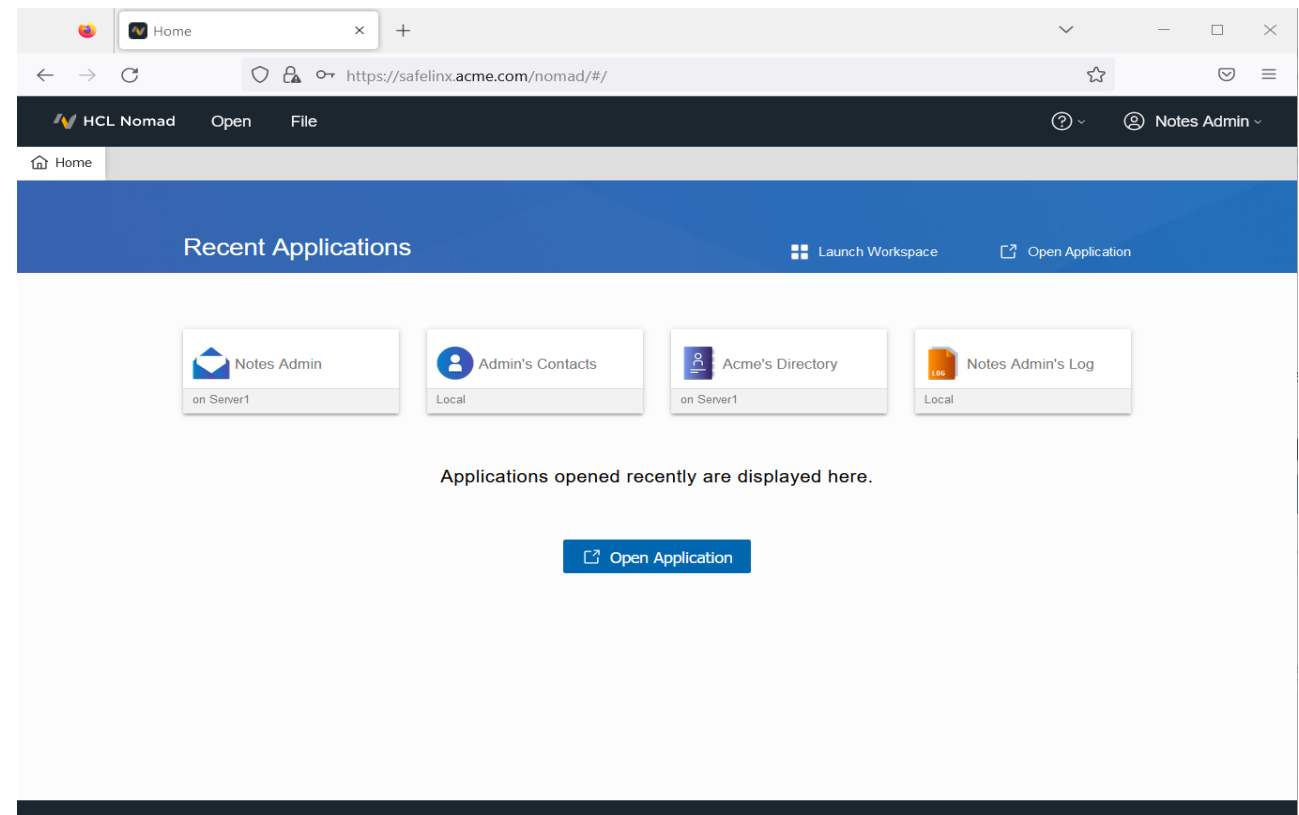
- Enter for the Notes ID password



Configuring Nomad for web browsers (End User)

- What happens after entering the username and password in Nomad web:
 - Connect to Server and download additional file.
 - Lookup username in IDVault database, It will connect to the ID vault server.
 - Verify the Notes id Credential to authenticate with ID vault server.
 - When Nomad Web is installed/configured on the workstation it places some files in the browser cache
 - Exact ID file from Vault
 - Configure user ID
 - Set up NOMAD
 - Apply Policies.
 - Update Policies.
 - Validate ECL
 - Configure Recent Applications
 - Optional : Please wait panagenda MarvelClient is configuring HCL Nomad

HCL NOMAD web application start

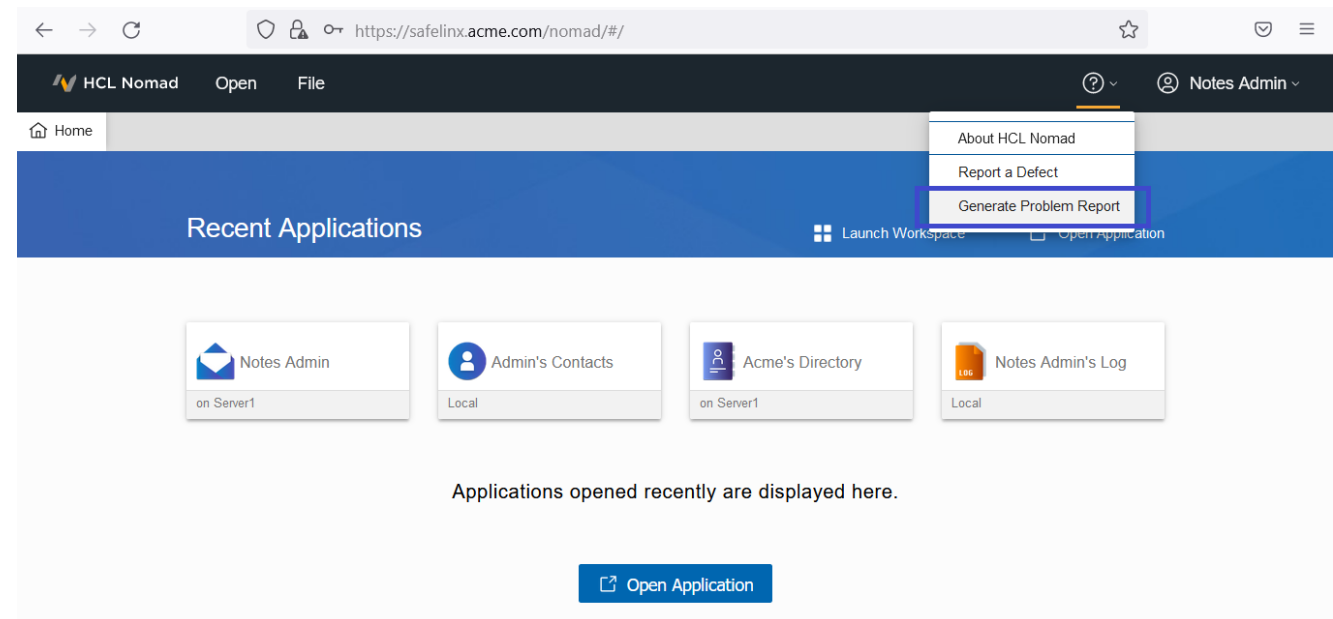


Troubleshooting

Log collection when reporting a problem to the HCL Support Team

- The date and time of the problem along with screen shots and/or logs.
- Information on your browser environment (what browser and what browser version)
- Information on your server environment (any proxies, any firewalls, Nomad web proxy/SafeLinx, and Domino).
- Reproduce the issue with HCL Nomad. Take screen shots of any errors, unexpected behaviours, etc.
- Log collection :

Help menu - Generate Problem Report.



Troubleshooting

Data collection when reporting a HCL Nomad Server problem to the HCL Support Team

- If Generate Problem Report is not available, issue `nomad.nprDownload()` in the browser's console

Generate the zip file of the logs that you download to your local machine and then provide to support.

- In Firefox : web Console is accessed via the 3 bar/hamburger button normally found to the right of the address bar:

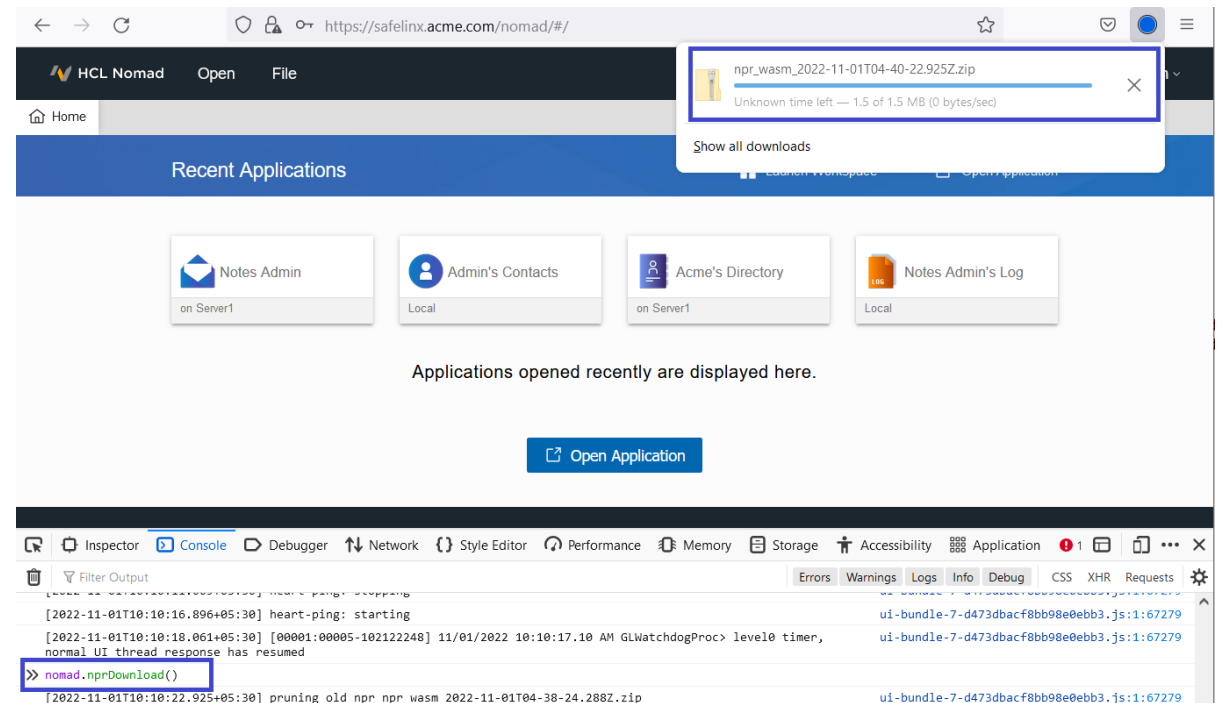
web Developer > web Console

- In Chrome and Edge : the Console is accessed via the 3 dot button normally found to the right of the address bar:

More Tools > Developer Tools

If you are running as a Progressive Web Application, use the 3 dot button

Select Open in Chrome to get back to Chrome (from which you can open the Developer Tools).



Setup Issues :

- If you are encountering issues with HCL Nomad for web browsers, complete the following steps (in order) to try to resolve your issue.
 - Double check your browser configuration and re-start the browser.
 - If the page does not load, sits at "**Starting up**" for more than a minute, or you get the Failed to register service worker message, check your HTTPS setup and any proxies that exist between the web browser and HCL SafeLinx.
 - If you get either the "**The information provided by the Nomad proxy server was incomplete or invalid.**" OR the "**Your ID file could not be found on the server. Nomad setup requires that your ID file be available in the ID vault on the server.**" message during startup, test what the proxy server returns by trying the /nomad/userConfig.json URL.
 - If you get the **Failed to install service worker. message during a first-time setup**, it is most likely caused by incorrect HTTP headers. Without proper headers, service workers are not allowed due to security reasons.
To resolve this issue, review Hosting the Nomad for web browsers static web files.
 - If you get the Failed to install service worker. message outside of a first-time setup, it is most likely caused by a lack of disk space on the machine. **Check the machine's disk space and ensure at least a few gigabytes are free.**

Troubleshooting

Setup Issues :

- If your environment is set up for SSO and Nomad is prompting for log in, despite another application in the same browser already being logged in (such as Verse, Sametime, Connections, etc.), your LTPA token trust settings in Nomad may not be set as desired.

Refer SafeLinX Troubleshooting : https://help.hcltechsw.com/nomad/1.0_admin/troubleshooting_safelinx_nomad.html

- In Chrome, if Nomad is not opened in a PWA window, if you do not get the option to "Install HCL Nomad" or "Open in HCL Nomad", you may need to close Chrome and delete the following cache files from your system:

For Windows:

C:\Users\\AppData\Local\Google\Chrome\User Data\Default\Cache*

C:\Users\\AppData\Local\Google\Chrome\User Data\Default\Code Cache*

C:\Users\\AppData\Local\Google\Chrome\User Data\Default\Storage*

For Mac:

~/Library/Caches/Google/Chrome/Default/Cache/*

~/Library/Caches/Google/Chrome/Default/Code\ Cache/*

~/Library/Caches/Google/Chrome/Default/Storage/*

Troubleshooting

General Issues :

- Reload the Nomad page.
- Restart the browser and reload the Nomad page.
- Attempt to start from scratch by cleaning up the browser and starting over.

Firefox :

- Click the padlock icon in the address bar Clear Cookies and Site Data > Remove , If you ARE on the Nomad page in a tab
- Click the address bar Preferences > Privacy and Security > Cookies and Site Data > Manage Data > Pick the Site (for example: safelinx.acme.com) > Remove Selected > Save Changes > Remove, If you ARE NOT on the Nomad page in a tab

Chrome:

- Click the padlock icon in the address bar Site Settings > Clear data > Clear , If you ARE on the Nomad page in a tab
- Click the address bar Settings > Privacy and Security > Site Settings > View permissions and data stored across sites > Pick the Site (for example, mycompany.com) > Pick the Site (for example, mysafelinxserver.mycompany.com) > Clear data > Clear , If you ARE NOT on the Nomad page in a tab

Edge :

- Click Settings > Cookies and Site Permissions > Manage and delete cookies and site data > See all cookies and site data > Cookies and site data.
- Expand the section for the site (for example, safelinx.com) and click the trash icon for the site.

References - Documentation

- HCL Nomad Administration Documentation → https://help.hcltechsw.com/nomad/1.0_admin/index.html
- Configuration options for the Nomad server for Domino → https://help.hcltechsw.com/nomad/1.0_admin/config_options.html
- System architecture → https://help.hcltechsw.com/nomad/1.0_admin/system_architecture.html
- HCL Nomad for web browsers 1.0.x Release Notes → https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0090289
- What's new in HCL Nomad for web browsers → https://help.hcltechsw.com/nomad/1.0_web/nomad_web_new.html
- Nomad for web 1.0.5 is live! → https://support.hcltechsw.com/community?id=community_blog&sys_id=f4a618731b825114534c4159cc4bcbe9
- Nomad Server document guide → <https://help.hcltechsw.com/nomad/docwizard/1.0/index.html>
- Installing the SafeLinX Administrator on Linux → https://help.hcltechsw.com/safelinx/1.2/adminguide/installing_the_gatekeeper_on_linux.html
- Roadmaps: Installing and setting up SafeLinX → https://help.hcltechsw.com/safelinx/1.2/adminguide/roadmaps_install_and_initial_config.html
- Step by step: Nomad configuration → <https://help.hcltechsw.com/safelinx/1.2/adminguide/stepbystep.html>
- Installing and Configuring HCL SafeLinX 1.2 for Nomad web browsers on Windows and Linux (White Paper)
https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0094988
- Webinar : HCL Nomad 1.0.2 Installation & Configuration on Windows → https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0096926

References – Published Youtube Video

- HCL Nomad for web browsers - Install and Use HCL Nomad web for browsers
<https://www.youtube.com/watch?v=3IV3hUMRJOs>
- HCL Nomad for web browsers - Configure Directory Server
<https://www.youtube.com/watch?v=VuXZvHyOi4o>
- HCL Nomad for web browsers - Create Authentication Profile
<https://www.youtube.com/watch?v=ClqjLQSFHDHY>
- HCL SafeLinx - How to securely connect to your infrastructure
<https://www.youtube.com/watch?v=xGZvS6qzYEM&t=875s>

Thank You!

Questions, Answers & Feedback

HCL

www.hcltech.com

\$10 BILLION | 159,000+ IDEAPRENEURS | 50 COUNTRIES