Configure Repository on ISE

Contents

Introduction

Prerequisites

- Requirements
- Components Used

Background Information

Configuration

- Configure FTP Repository
  - Configure FTP Repository from the GUI
  - Configure FTP Repository from the CLI
- Configure SFTP Repository
  - Configure the SFTP Repository from the GUI
  - Configure SFTP Repository from the CLI
- Configure NFS Repository
  - Configure NFS Repository from the GUI
  - Configure NFS Repository from the CLI
- Configure ISE Local Repository
  - Configure Local Repository from the GUI
  - Configure Local Repository from the CLI

Verify

- Verify with GUI

File Management

- Verify with CLI

Troubleshoot

Introduction

This document describes how to configure a repository on the Identity Services Engine (ISE).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Basic knowledge of the Identity Services Engine (ISE)
- Basic knowledge of File Transfer Protocol (FTP) server and SSH File transfer protocol (SFTP) server

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Identity Service Engine version 3.x
- A functional FTP server and SFTP server

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

Cisco allows you to create and delete repositories through the Admin portal. You can create these types of repositories:

- DISK
- FTP
- SFTP
- NFS
- CD-ROM
- HTTP
- HTTPS

Note: It is recommended that you have a repository size of 10 GB for small deployments (100 endpoints or less), 100 GB for medium deployments, and 200 GB for large deployments.

ISE Repositories can be configured from both the GUI and the CLI of the ISE and can be used for these purposes:

- Backup and Restore of ISE Configuration and Operational data
- Upgrade of ISE nodes
- Patch installation
- Export of data (Reports) from the ISE
- Export of support bundle from the ISE node

Note: Repositories configured from CLI of the ISE node are local to each node and are removed upon reload of the node. Repositories configured from the GUI of the ISE are replicated to all nodes in deployment and are not removed upon reload of the node.

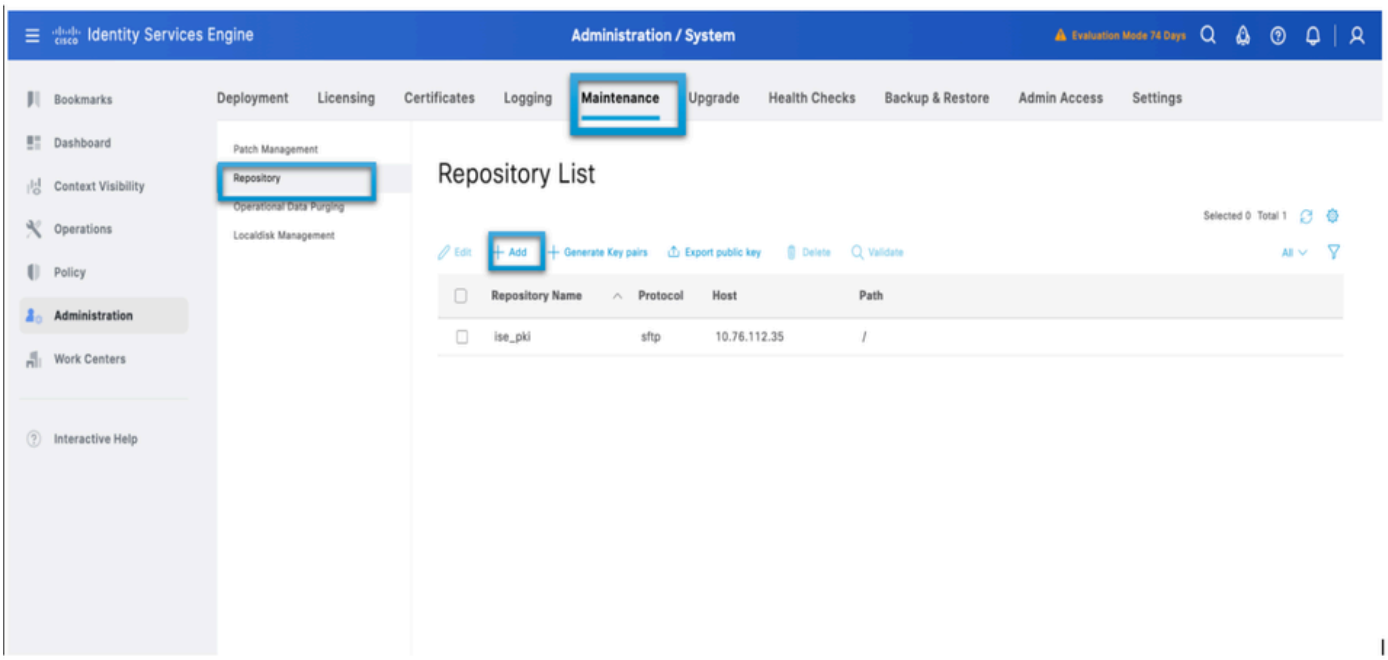
Configuration

The **crypto host_key add host <ip address of the server>** command needs to be added to all servers of a deployment.

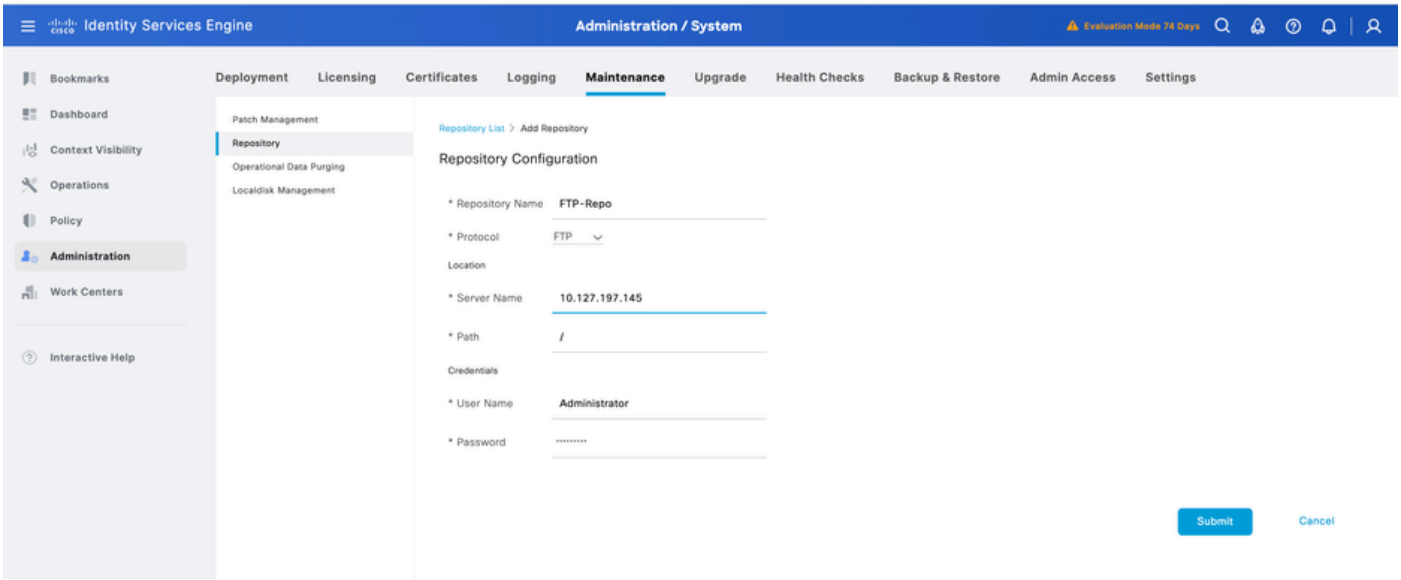
Configure FTP Repository

Configure FTP Repository from the GUI

Step 1. In order to configure a repository on the ISE, log in to the ISE GUI and navigate to Administration > System > Maintenance > Repository. Then click Add, as shown in the image.



Step 2. Provide **Repository Name** and choose FTP as the protocol. Then enter Server Name, Path, User Name, and Password. Click Submit, as shown in the image.



Configure FTP Repository from the CLI

Log in to the CLI of the ISE node via SSH and run these commands.

<#root>

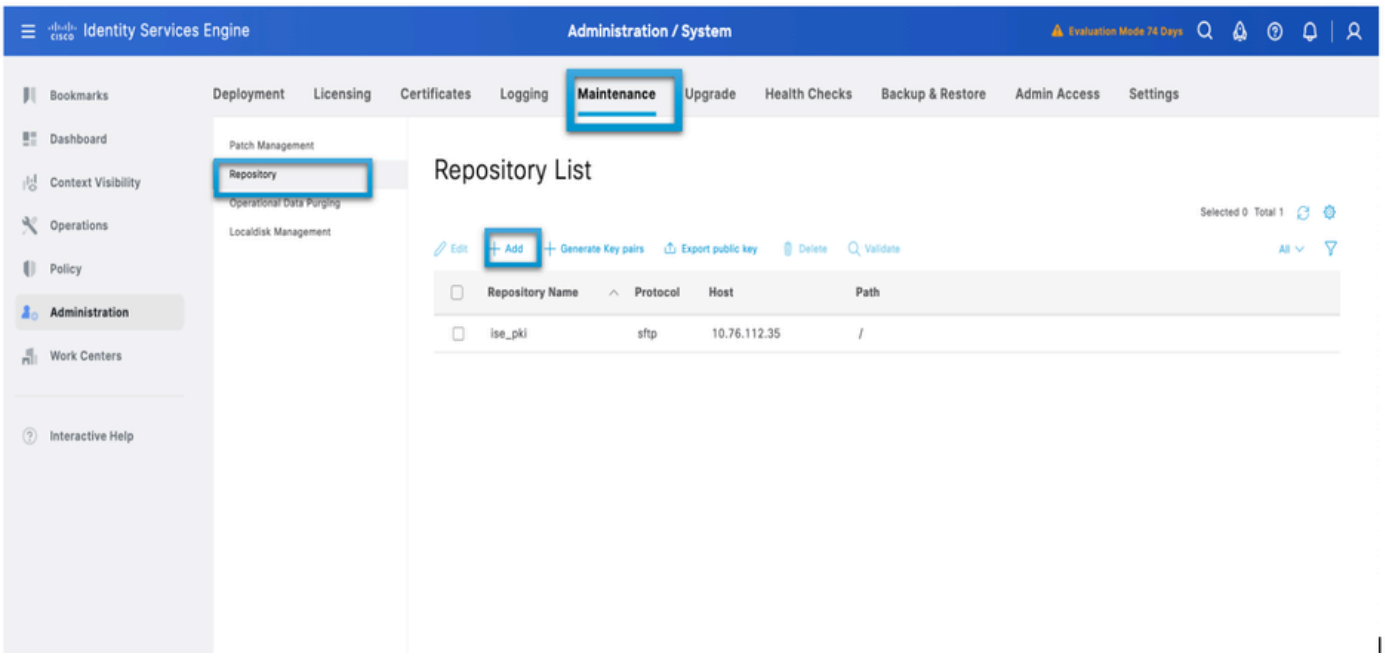
```
ise/admin#
ise/admin# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
ise/admin(config)# repository FTP-Repo
ise/admin(config-Repository)# url ftp://10.127.197.145/

ise/adminconfig-Repository)# user <Username> password plain <Password>
ise/admin(config-Repository)# exit
ise/admin(config)# exit
ise/admin#
```

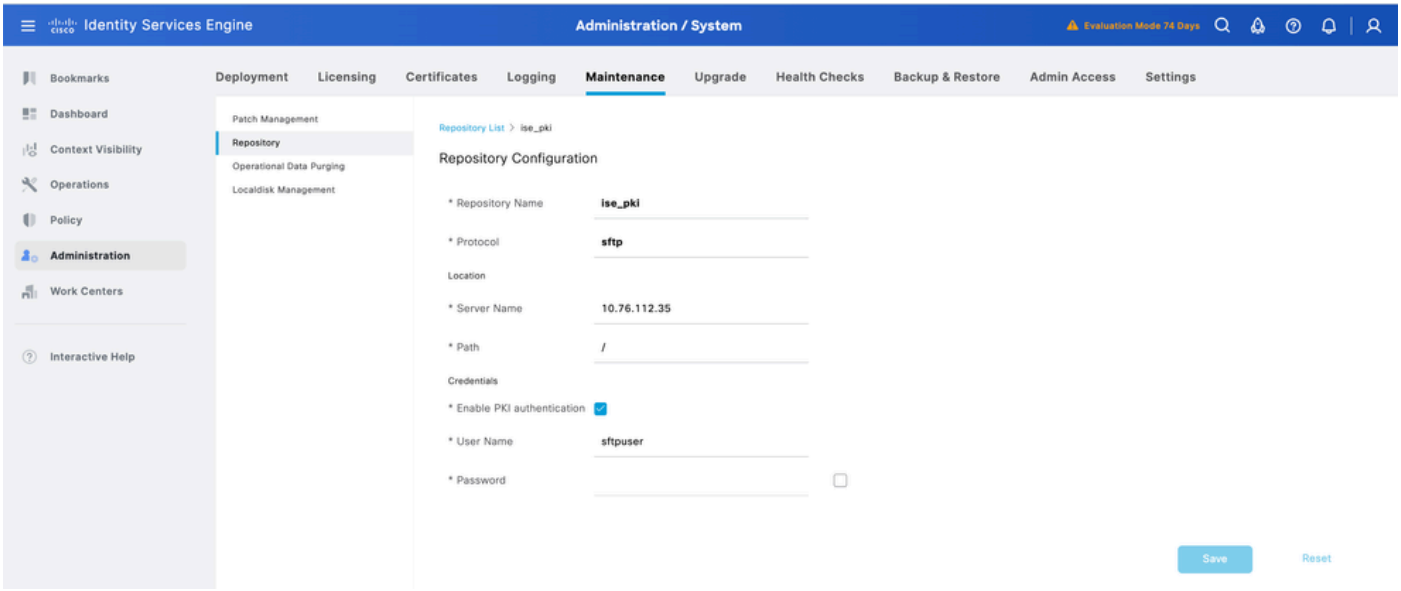
Configure SFTP Repository

Configure the SFTP Repository from the GUI

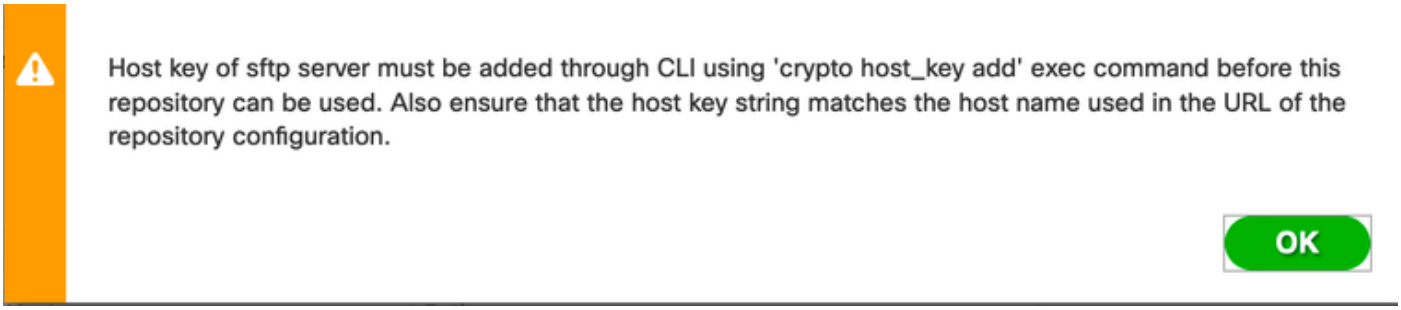
Step 1. In order to configure a repository on the ISE, log in to the **ISE GUI** and navigate to Administration > System > Maintenance > Repository. Then click Add, as shown in the image.



Step 2. Provide **Repository Name** and choose SFTP as the protocol. Then enter Server Name, Path, User Name, and Password, Click Submit, as shown in the image.



Step 3. After you click Submit, a pop-up message appears. The message prompts you to use CLI to add the **host_key** of the SFTP server, as shown in the image.



Step 4. Log in to the **CLI** of the **ISE node** via **SSH** and use the command crypto host_key add host <ip address of the server> to add the host key.

<#root>

```
ise/admin# crypto host_key add host 10.76.112.35
host key fingerprint added
Operating in CiscoSSL FIPS mode

# Host 10.76.112.35 found: line 1
10.76.112.35 RSA SHA256:exFnNITDhafaNPFr35x6kC1pR0iTP6xS+LBmtIXPfnk
ise/admin#
```

Configure SFTP Repository from the CLI

Log in to the **CLI** of the **ISE node** via **SSH** and run these commands:

<#root>

```
ise/admin#

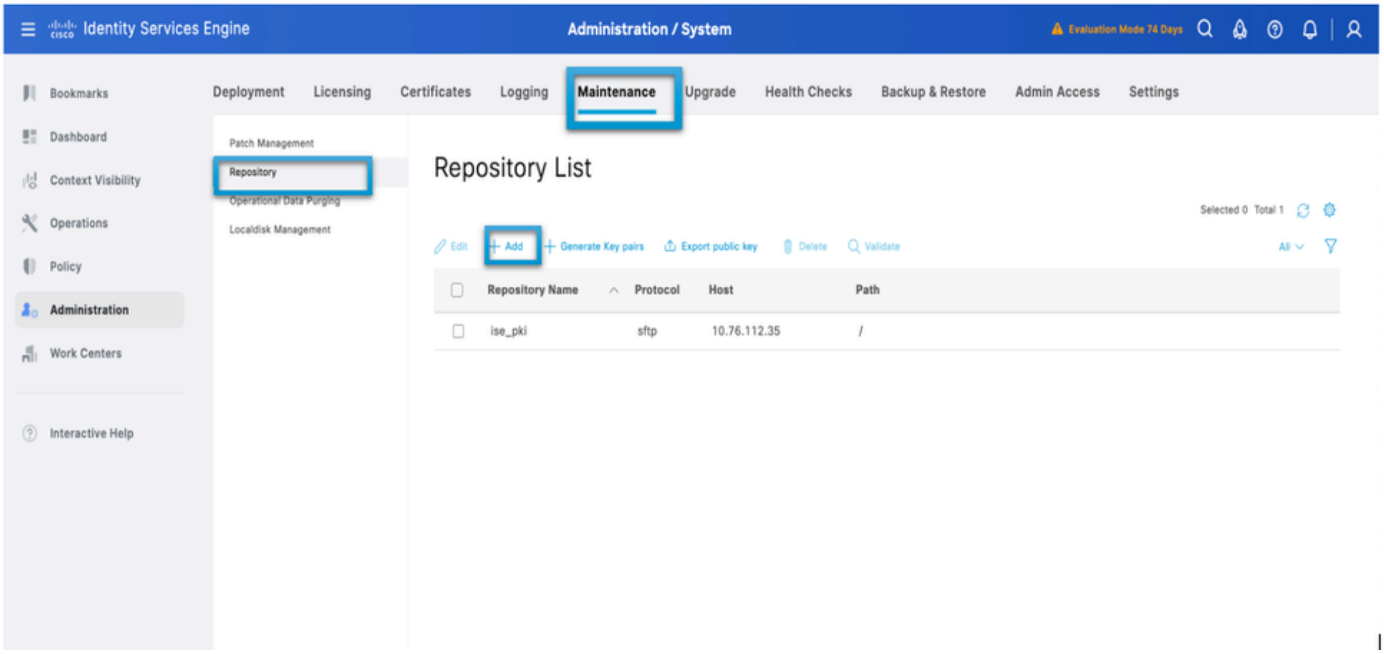
ise/admin# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
ise/admin(config)# repository SFTP-Repo
ise/admin(config-Repository)# url sftp://10.76.112.35/

ise/adminconfig-Repository)# user <Username> password plain <Password>
ise/admin(config-Repository)# exit
ise/admin(config)# exit
ise/admin#
```

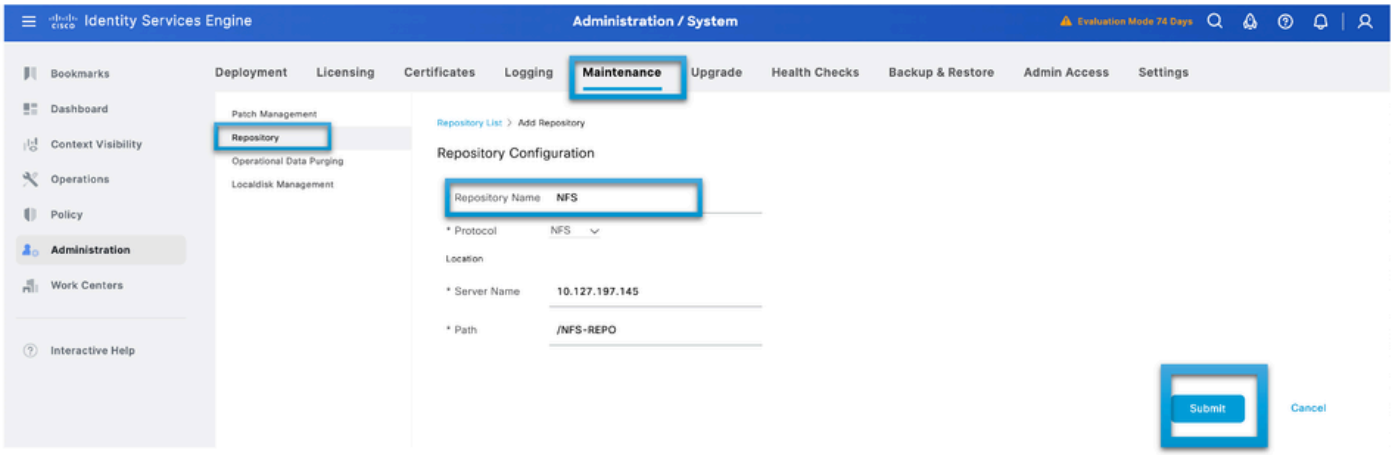
Configure NFS Repository

Configure NFS Repository from the GUI

Step 1. In order to configure a repository on the ISE, log in to the **ISE GUI** and navigate to Administration > System > Maintenance > Repository. Then, click **Add**, as shown in the image.



Step 2. Provide **Repository Name** and choose NFS as the protocol. Then enter **Server Name** and Path. Click Submit, as shown in the image.



Configure NFS Repository from the CLI

Log in to the **CLI** of the **ISE node** via **SSH** and run these commands:

<#root>

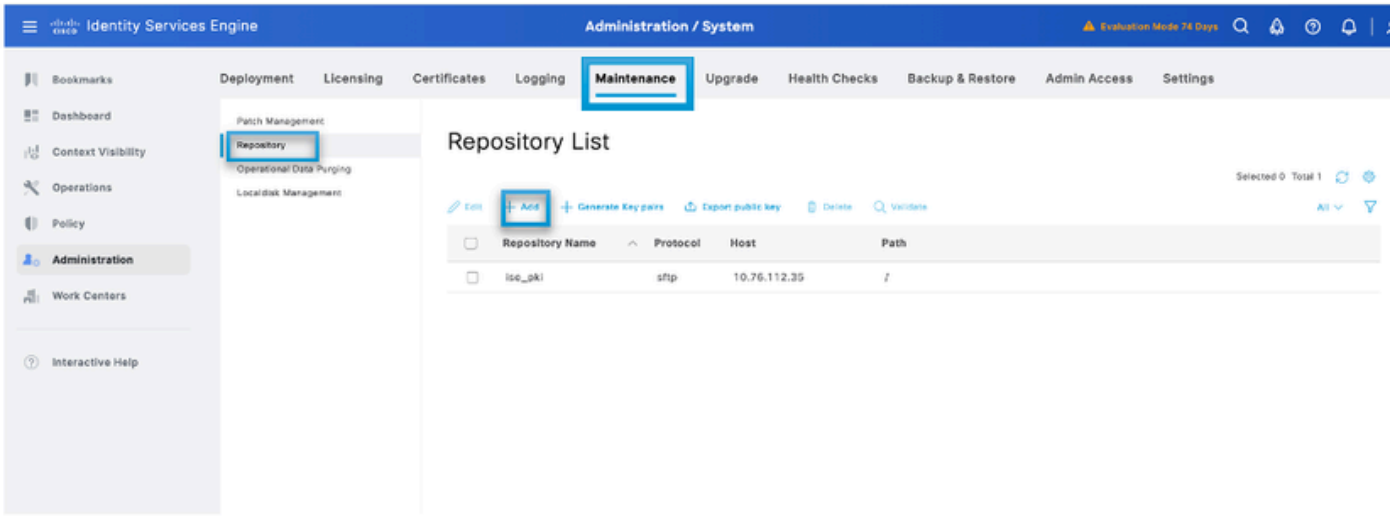
```
ise/admin#

ise/admin# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
ise/admin(config)# repository NFS-Repo
ise/admin(config-Repository)#  url nfs://10.127.197.145:/nfs-repo
ise/admin(config-Repository)# exit
ise/admin(config)# exit
ise/admin#
```

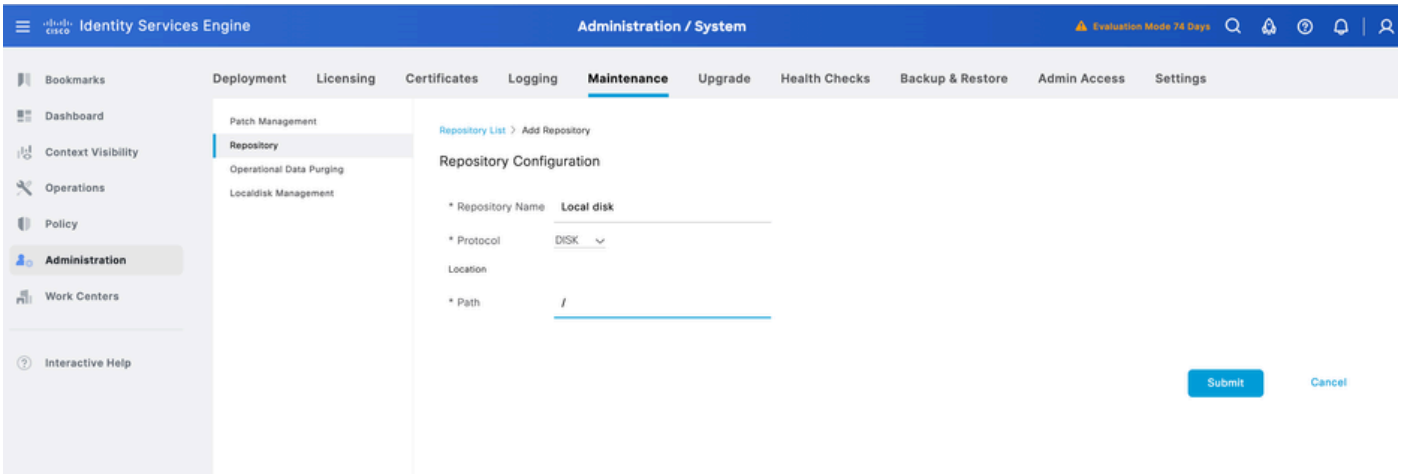
Configure ISE Local Repository

Configure Local Repository from the GUI

Step 1. In order to configure a repository on the ISE, log in to the **ISE GUI** and navigate to Administration > System > Maintenance > Repository. Then, click Add, as shown in the image.



Step 2. Provide **Repository Name** and choose DISK as the protocol. Then, enter the Path and click Submit, as shown in the image.



Configure Local Repository from the CLI

Log in to the **CLI** of the **ISE node** via **SSH** and run these commands:

<#root>

```
ise/admin#

ise/admin# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
ise/admin(config)# repository Local-Repo
ise/admin(config-Repository)# url disk:/
ise/admin(config-Repository)# exit
ise/admin(config)# exit
ise/admin#
```

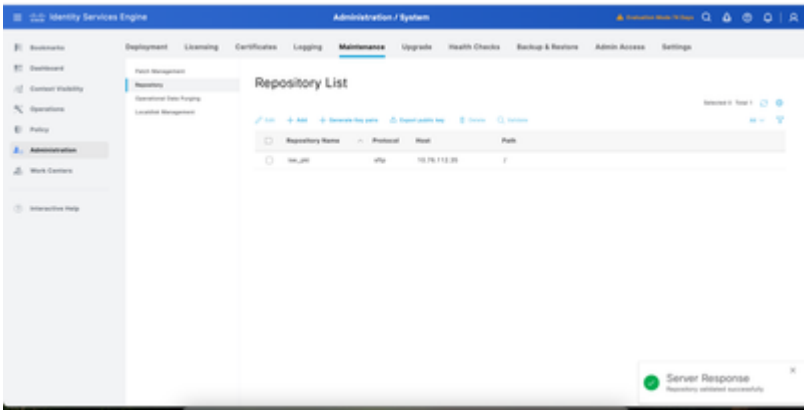
Note: Local repository stores data locally on ISE disk.

Verify

The repository can be verified from both GUI and CLI of the ISE server.

Verify with GUI

In order to use GUI to validate the repository,navigate to Administration > System > Maintenance > Repository, select the **repository**, and click Validate, as shown in the image.



After you click Validate, you must get the Repository validated successfully response on the GUI, as shown in the image.



File Management

Steps to transfer the file from repository to ISE local disk:

Repository name -> Test

File name--> test.txt

```
ise-pri/admin#show repository Test

test.txt
```

```
ise-pri/admin#copy repository Test file test.txt ?
Possible completions:
  <WORD> Enter URL (use disk:/path for local) (Max Size - 2048)
ise-pri/admin#copy repository Test file test.txt disk:/
ise-pri/admin#
ise-pri/admin#
ise-pri/admin#
ise-pri/admin#dir disk:/
Directory of disk:/
  4096 Nov 09 2024 07:01:23 corefileanalysis/
  4096 Nov 09 2024 04:54:58 corefiles/
  4096 Nov 09 2024 05:20:24 CSD-config-backup/
  4096 Dec 19 2024 10:33:44 gc/
  1647 Nov 09 2024 14:13:33 rpm_install.log
     0 Nov 09 2024 14:12:39 rpm_uninstall.log
137289 Nov 15 2024 05:52:09 SecondaryMNTlog.txt
     0 Dec 19 2024 18:49:33 test.txt
23505 Nov 09 2024 04:57:22 upgraderpms.log
        Usage for disk: filesystem
              57675014144 bytes total used
              201842233344 bytes free
              273484009472 bytes available
```

Steps to Delete the file from repository:

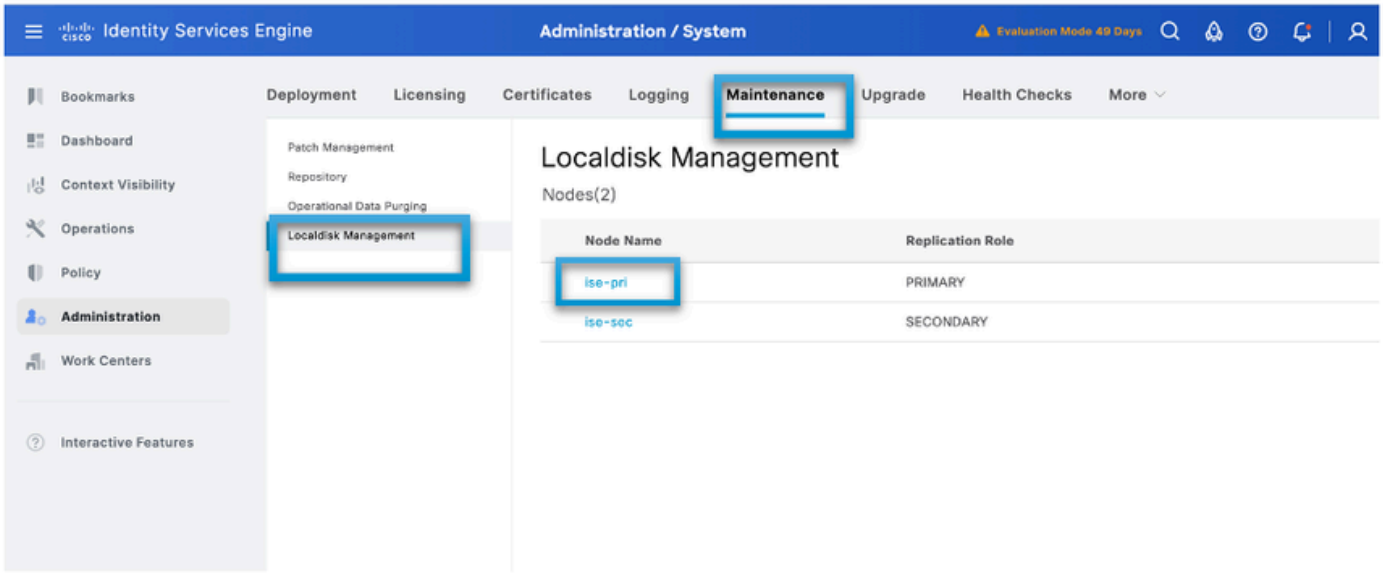
```
ise-pri/admin#delete disk:/test.txt
ise-pri/admin#dir disk:/
Directory of disk:/
4096 Nov 09 2024 07:01:23 corefileanalysis/
4096 Nov 09 2024 04:54:58 corefiles/
4096 Nov 09 2024 05:20:24 CSD-config-backup/
4096 Dec 19 2024 10:33:44 gc/
```

1647 Nov 09 2024 14:13:33 rpm_install.log
0 Nov 09 2024 14:12:39 rpm_uninstall.log
137289 Nov 15 2024 05:52:09 SecondaryMNTlog.txt
23505 Nov 09 2024 04:57:22 upgraderpms.log

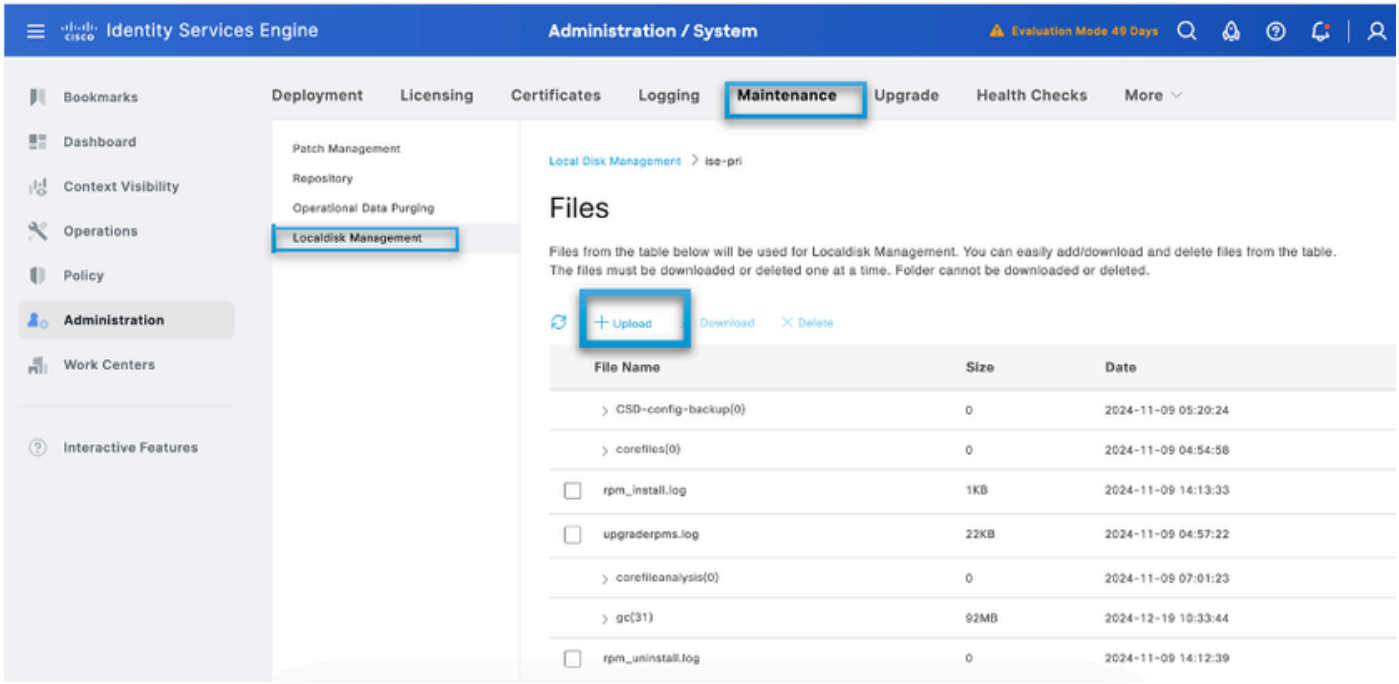
Usage for disk: filesystem
57675845632 bytes total used
201841401856 bytes free
273484009472 bytes available
ise-pri/admin#

Steps to upload a file in localdisk from GUI.

Navigate to **Administration > System > Maintenance > Localdisk Management**. Select the **node**:



Click **upload** and select the **file** that you want to use in the wizard as shown:



Upload File

Please drag and drop or select the file that you want to use in the wizard.

Choose file or drag and drop to upload.

Accepted files: All

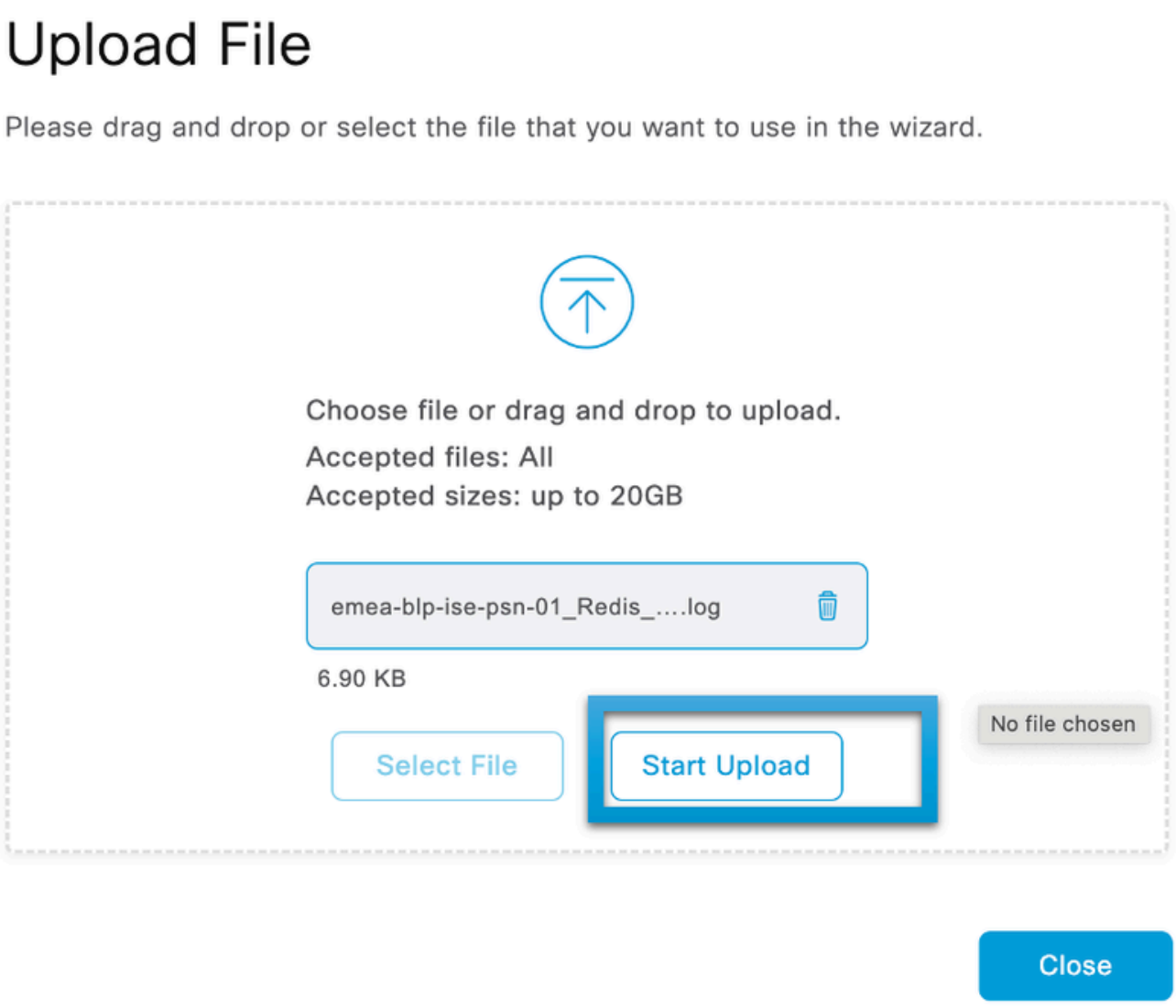
Accepted sizes: up to 20GB

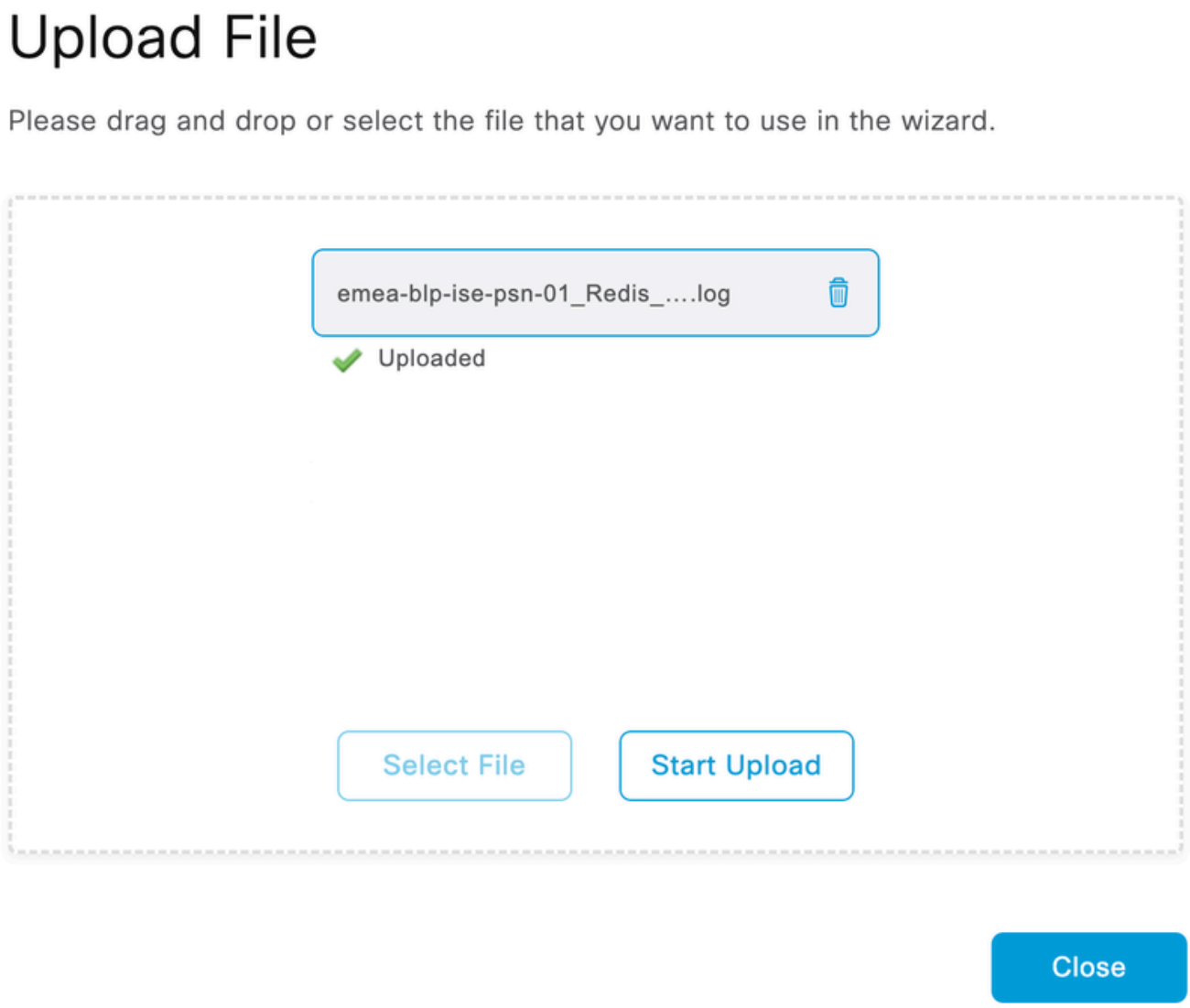
Select File

Start Upload

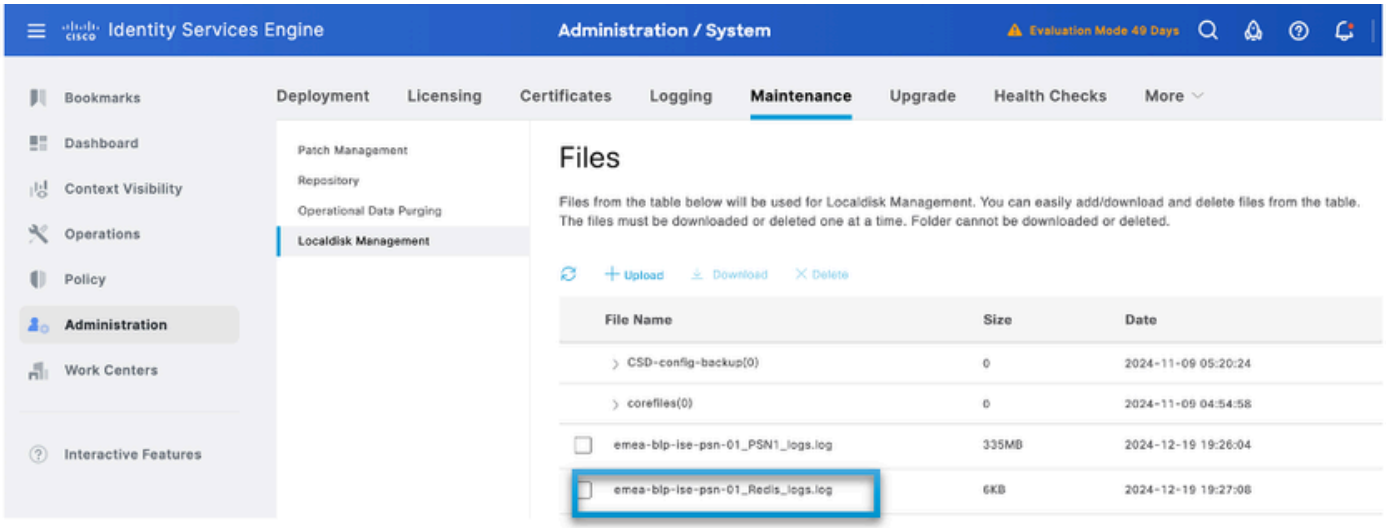
Close

Click **Start Upload** to upload the file as shown:





The file can be visible in localdisk of the node as shown:



Verify with CLI

In order to validate the repository from the CLI, log in to the **ISE node** via **SSH** and run the command show repository <name of the repository>. The output of the command lists the files present in the repository.

```
ise/admin#
ise/admin# show repository FTP-Repo
Config-Backup-CFG10-200307-1043.tar.gpg
ise/admin#
```

Troubleshoot

In order to debug the repository on ISE, use these debugs:

<#root>

```
ise-1/pan#
```

debug copy 7

```
ise-1/pan#
```

debug transfer 7

```
ise-1/pan#
ise-1/pan# 6 [25683]:[info] transfer: cars_xfer.c[220] [system]: ftp dir of repository FTP-Repo request
7 [25683]:[debug] transfer: cars_xfer_util.c[2017] [system]: ftp get dir for repos FTP-Repo
7 [25683]:[debug] transfer: cars_xfer_util.c[2029] [system]: initializing curl
7 [25683]:[debug] transfer: cars_xfer_util.c[2040] [system]: full url is ftp://
```

10.127.197.145

```
/ISE/
7 [25683]:[debug] transfer: cars_xfer_util.c[1928] [system]: initializing curl
7 [25683]:[debug] transfer: cars_xfer_util.c[1941] [system]: full url is ftp://
```

10.127.197.145

```
/ISE/Config-Backup-CFG10-200307-1043.tar.gpg
7 [25683]:[debug] transfer: cars_xfer_util.c[1962] [system]: res: 0
7 [25683]:[debug] transfer: cars_xfer_util.c[1966] [system]: res: 0-----filetime Config-Backup-CFG10-20
7 [25683]:[debug] transfer: cars_xfer_util.c[1972] [system]: filetime Config-Backup-CFG10-200307-1043.t
7 [25683]:[debug] transfer: cars_xfer_util.c[1976] [system]: filesize Config-Backup-CFG10-200307-1043.t
6 [25683]:[info] transfer: cars_xfer.c[130] [system]: ftp copy out of /opt/backup/backup-Config-Backup-
6 [25683]:[info] transfer: cars_xfer_util.c[787] [system]: curl version: libcurl/7.29.0 OpenSSL/1.0.2s
7 [25683]:[debug] transfer: cars_xfer_util.c[799] [system]: full url is ftp://
```

10.127.197.145

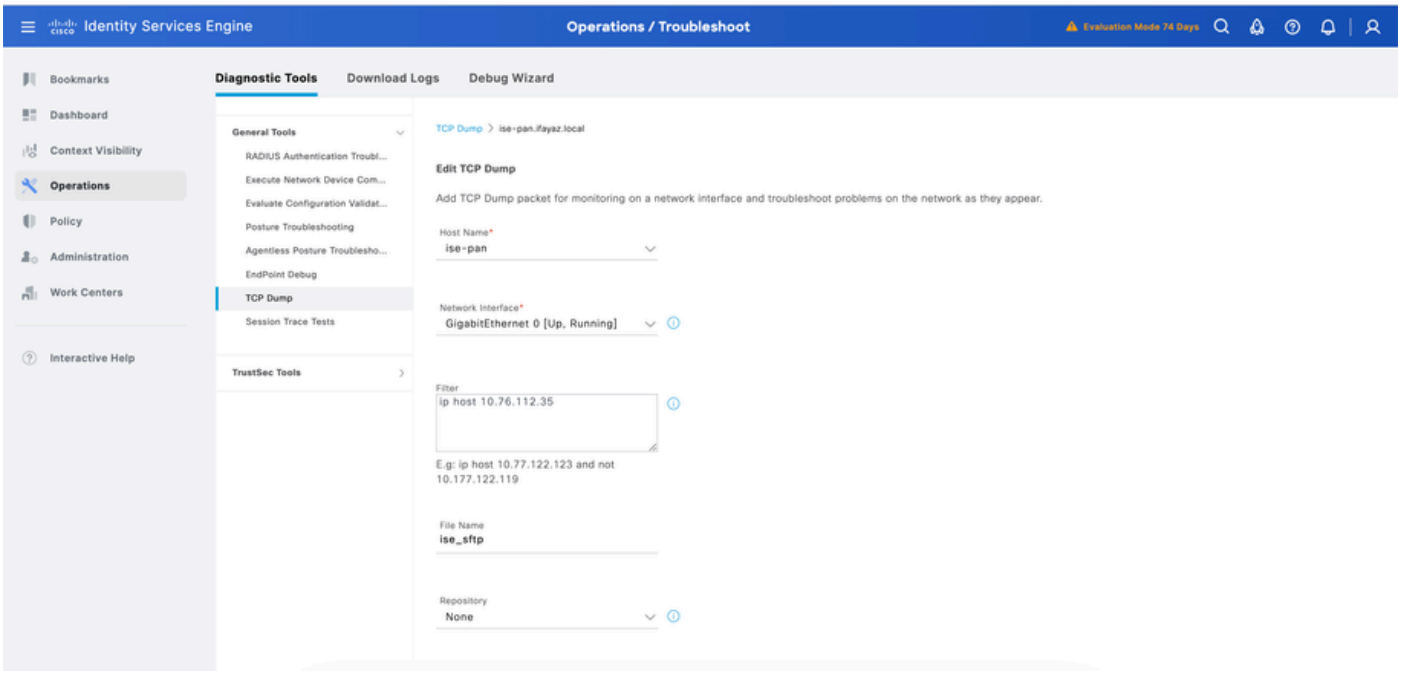
/ISE/Config-Backup-CFG10-200421-0712.tar.gpg

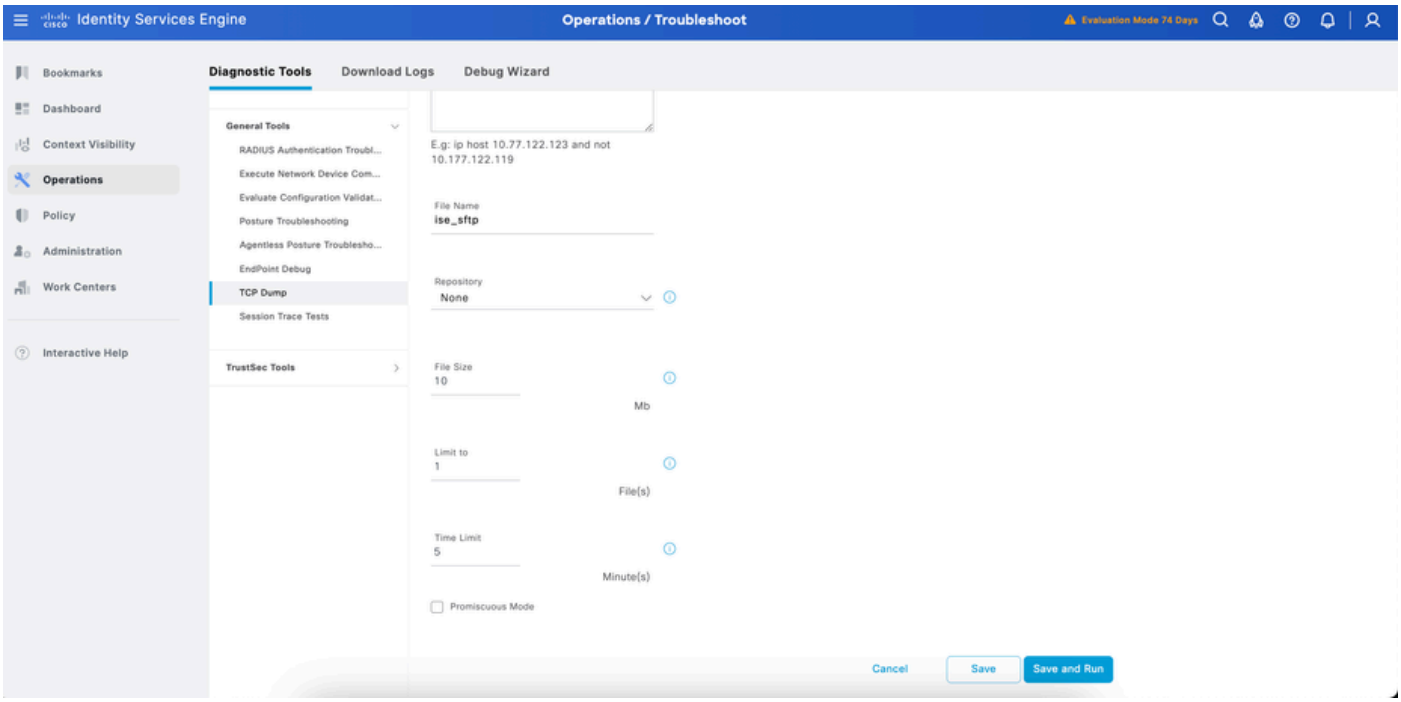
Debugs are disabled as shown here:

```
ise-1/pan#
ise-1/pan# no debug copy 7
ise-1/pan# no debug transfer 7
ise-1/pan#
```

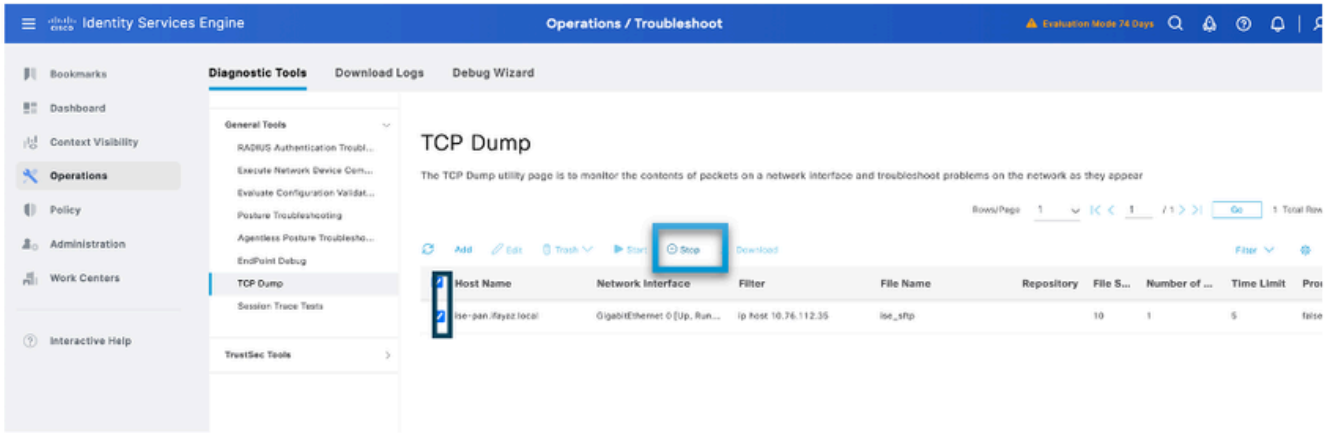
To ensure that there is proper communication between the ISE and the configured repository server, set up a packet capture from the ISE GUI:

1. Navigate to **Operations > Troubleshoot > Diagnostic tools > TCP Dump**.
2. Enter the appropriate value in **Filter** and select **Format**.
3. Click **Start**.





In order to trigger some traffic to the repository which needs to be tested, navigate to **Administration > System > Maintenance > Repository**, select the **repository**, and click Validate. Then, navigate to **Operations > Troubleshoot > Diagnostic tools > TCP Dump**, click Stop, and download the **packet capture** as shown in the image.



Spoiler (Highlight to read)