Configure Network File System Repository on ISE

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Introduction

This document describes how to configure a Network File System (NFS) repository on Identity Services Engine (ISE).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- ISE 2.x.
- basic shell commands

Components Used

- ISE
- Debian distribution (used Ubuntu here)

Configure

Step 1. Set Up NFS on ubuntu

- You need first to install the **nfs-kernel-server** package on the ubuntu machine:

```
bara@ubuntu:~$ sudo apt-get update
```

```
bara@ubuntu:~$ sudo apt-get install nfs-kernel-server
```

- Create a shared directory called nfs:

```
bara@ubuntu:~$ sudo mkdir /var/nfs/general -p
```

- Change ownership to match **nobody:nogroup**

```
bara@ubuntu:~$ sudo chown nobody:nogroup /var/nfs/general
```

- Configure the ISE as a client on the NFS, with the directory to be exported:

```
bara@ubuntu:~$ more /etc/exports

# directory_to_share    client(share_option1,...,share_optionN)

# /etc/exports: the access control list for filesystems which may be exported

#               to NFS clients.  See exports(5).

#

# Example for NFSv2 and NFSv3:

# /srv/homes       hostname1(rw,sync,no_subtree_check) hostname2(ro,sync,no_subtree_check)

#

# Example for NFSv4:

# /srv/nfs4        gss/krb5i(rw,sync,fsid=0,crossmnt,no_subtree_check)

# /srv/nfs4/homes  gss/krb5i(rw,sync,no_subtree_check)
```

- Open /etc/export with nano:

```
bara@ubuntu:~$ sudo nano /etc/exports
```

- Add the following two lines at the end (change the IP to ISE IP)

```
/var/nfs/general 10.48.85.249(rw,sync,no_subtree_check)
/home 10.48.85.249(rw,sync,no_root_squash,no_subtree_check)
```

- Save and close (**Ctrl+x**, when asked to save press **Y** and **enter**) then restart the NFS server using below command:

```
bara@ubuntu:~$ sudo systemctl restart nfs-kernel-server
```

Step 2. ISE Configuration

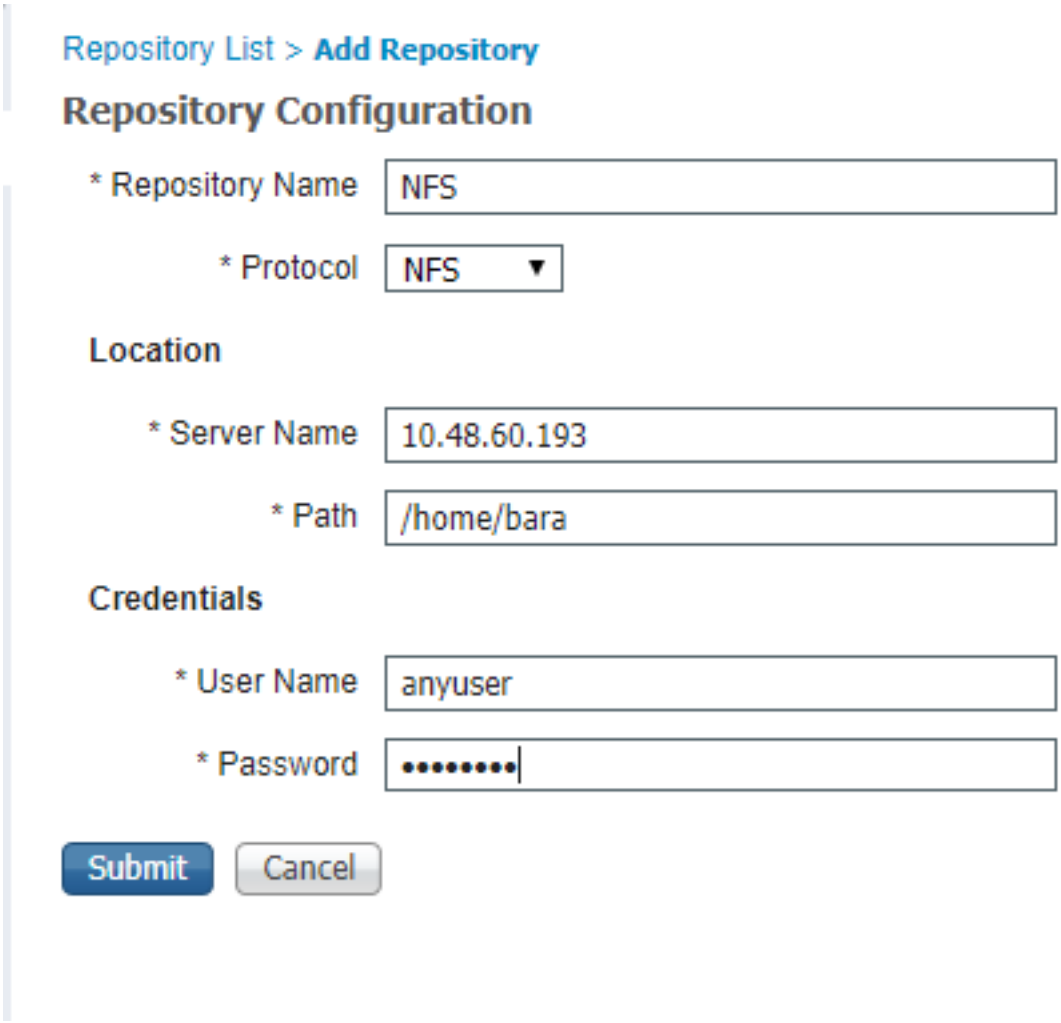
- Add the NFS repository to the ISE where **/home/bara** is the NFS mounting point

From the CLI:

```
ISE23S/admin(config)# repository NFS
ISE23S/admin(config-Repository)# url nfs://10.48.60.193:/home/bara
```

Note: Repositories configured from the CLI cannot be used from the ISE web UI and are not replicated to other ISE nodes.

From the GUI, go to **Administration** -> **Maintenance** -> **Repository**:



Note: NFS does not need username and password in this case, but since they are required in the form they must be added, any username and password can be entered.

Verify

- List all files in the NFS repository.

```
ISE23S/admin# show repository NFS
ise-support-bundle-przaise001-a-hv11674-11-04-2019-08-25.tar.gpg
jcameron-key.asc
test.txt
```

- On the NFS you can see the files:

```
bara@ubuntu:~$ pwd
/home/bara
bara@ubuntu:~$ ls
ise-support-bundle-przaise001-a-hv11674-11-04-2019-08-25.tar.gpg  jcameron-key.asc  test.txt
```

Known Defects

CSCvd73085: Error mounting NFS location on ISE

CSCvk61086: ISE 2.4 2.3 2.2 2.1 2.0 : NFS repository credentials are not used

CSCvk36814: ISE 2.4 error mounting nfs repository

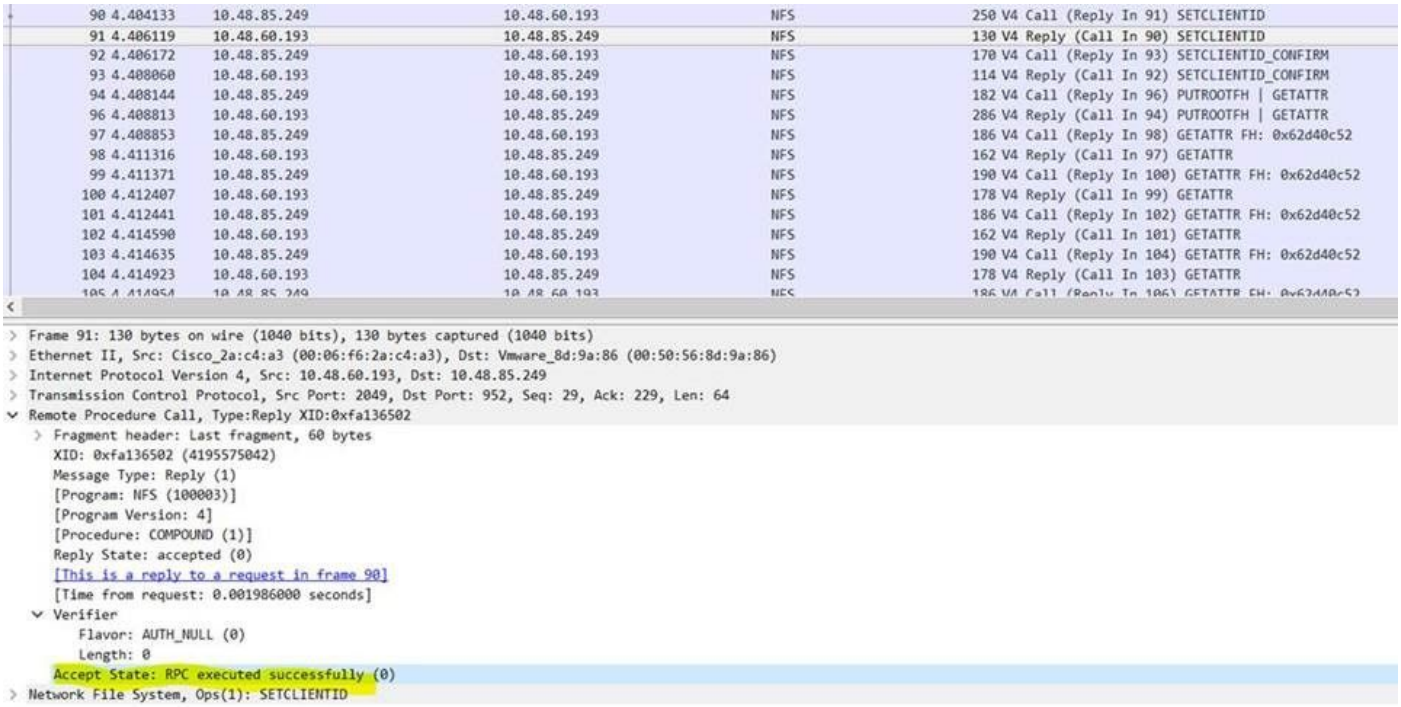
CSCvm41485: ISE 2.3 : Unable to access NFS repository and scheduled reports not working using NFS repository

Troubleshoot

- To debug the repository on ISE use following debugs:

```
#debug copy 7
#debug transfer 7
```

- If **#show rep NFS** is failing, take captures and debugs, below is a screenshot of a working scenario:



Working

- Below is a non-working scenario, it could be that ISE isn't listed in the /etc/exports

455	4.273621	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 456) SETCLIENTID
456	4.275495	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 455)
463	4.279409	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 465) SETCLIENTID
465	4.281223	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 463)
473	4.284947	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 475) SETCLIENTID
475	4.286759	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 473)
477	4.286834	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 478) SETCLIENTID
478	4.288635	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 477)
485	4.292429	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 487) SETCLIENTID
487	4.294248	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 485)

```
Frame 456: 90 bytes on wire (720 bits), 90 bytes captured (720 bits)
Ethernet II, Src: Cisco_c7:04:40 (00:c1:64:c7:04:40), Dst: Cisco_e7:76:84 (70:0f:6a:e7:76:84)
Internet Protocol Version 4, Src: 10.235.139.48, Dst: 10.240.239.68
Transmission Control Protocol, Src Port: 2049, Dst Port: 766, Seq: 29, Ack: 241, Len: 24
Remote Procedure Call, Type:Reply XID:0x1da7b938
  Fragment header: Last fragment, 20 bytes
  XID: 0x1da7b938 (497531192)
  Message Type: Reply (1)
  [Program: NFS (100003)]
  [Program Version: 4]
  [Procedure: COMPOUND (1)]
  Reply State: denied (1)
  [This is a reply to a request in frame 455]
  [Time from request: 0.001874000 seconds]
  Reject State: AUTH_ERROR (1)
  Auth State: bad credential (seal broken) (1)
```