NFS Server & Clients Configuration Using Ansible

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Session - 50 Agenda:

NFS Server & Clients Configuration Using Ansible:

Network File System (NFS) is a distributed file system protocol originally developed by Sun Microsystems (Sun) in 1984, allowing a user on a client computer to access files over a computer network much like local storage is accessed. NFS, like many other protocols, builds on the Open Network Computing Remote Procedure Call (ONC RPC) system.

Let's create an ansible playbook to configure the NFS server at the managed node(s) using Ansible.

$ vim nfs-server.yml

```
---
- name: NFS Server Configuration Playbook
  hosts: node1
  become: true
  tasks:
    - name: Installing NFS packages
      dnf:
        name: nfs*
        state: latest

    - name: Starting and enabling NFS services
      systemd:
        name: "{{ item }}"
        enabled: yes
        state: started
      loop:
        - nfs-server
        - rpcbind

    - name: Creating NFS export directory
      file:
        path: /nfs_share
        state: directory
        owner: nobody
        group: nobody
        mode: "0777"

    - name: Configuring NFS exports
      lineinfile:
        path: /etc/exports
        line: "/nfs_share *(rw,sync,no_root_squash,no_all_squash)"
        state: present
      notify: Restart NFS

    - name: Ensure NFS-related ports are open in firewall
      firewalld:
        service: "{{ item }}"
        permanent: yes
        state: enabled
        immediate: yes
      loop:
        - nfs
        - mountd
        - rpc-bind
```

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```
  handlers:
    - name: Restart NFS
      systemd:
        name: nfs-server
        state: restarted
...
```

We would require the ansible posix collection installed in our ansible server, which we can install from the ansible galaxy.

$ ansible-galaxy collection install ansible.posix

Now, we can execute the ansible playbook to setup the NFS server at the managed nodes.

$ ansible-playbook nfs-server.yml

NFS server has been configured successfully at the managed ansible node(s). Now, let's create an ansible playbook to setup the ansible client which can access this filesystem shared from NFS server.

$ vim nfs-client.yml

```
---
- name: NFS Share Mount Playbook
  hosts: localhost
  become: true
  vars:
    nfs_server: "node1"
    nfs_share: "/nfs_share"
    mount_point: "/opt/nfs_mount"
  tasks:
    - name: Installing NFS packages
      dnf:
        name: "{{ item }}"
        state: latest
      loop:
        - nfs-utils
        - nfs4-acl-tools

    - name: Ensuring mount point directory exists
      file:
        path: "{{ mount_point }}"
        state: directory

    - name: Mounting the NFS share
      mount:
        src: "{{ nfs_server }}:{{ nfs_share }}"
        path: "{{ mount_point }}"
        fstype: nfs
        opts: defaults
        state: mounted
...
```

Now, we can execute the ansible playbook to setup the NFS server at the managed nodes.

$ ansible-playbook nfs-client.yml

We can access the NFS filesystem which was shared from the NFS server at our NFS client node. So the NFS server is working properly as expected.

Thank You