Linux-Day-5

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Service

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- In any operating system whether it is Windows/Linux some of applications/services continuously will run in background to make sure the features are working correct.

- Suppose if you take a windows operating system how to check water all the services are running in the windows machine?
  - Open **services.msc** in the run prompt
  - Here in the status column you can see the mini services are running in background.
  - Some services will be helpful to work properly our audio systems/video systems/login access things..etc.
  - Here my **audio** system working fine because of the service "**WindowsAudio**" running continiously, If I stop it I can't listen anything.
- So far whatever the services we seen like
  - Audio
  - Video
  - Bluetooth
  - CredentialManager

  are related to the system level resources.

- Apart from system level services we have some other application related services also there like,
  - Database as service
  - Webserver as service
  - Application server as service
- The process for stopping/starting for any service(system/application) is same.

► Similar as windows in Linux as well we have services.

- Now let's install apache webserver & start as a service.

- **How to install the Apache web server on the Amazon Linux machine**
  yum install httpd -y

- Now **how can we check whether my Apache server is running or not?**
  Actually there are two ways to check whether my service is upon running or not.
  service httpd status
  systemctl status httpd

- **The service command is used in the older version of the Linux operating systems and systemctl is used in the latest version of the Linux operating systems.**

- Even though if you run service command in the latest operating system it will work correctly only but in background the service command rotate to the systemctl command.

- Now you can see that the status of the httpd web service are Apache web service is showing as a stopped state.
  Let's **start the Apache web service** the command is
  service httpd start

- In future if you **upgrade the Apache web service** versions you have to restart the service in those situations how can you restart the service?
  service httpd restart

- **How can you stop the service?**
  service httpd stop

- In place of service command you can always well and good to use the systemctl command based on your choice the latest operating systems.

- **Now let me ask you a one thing if I reboot my machine will my service automatically in running state?**
  No it will not buy default the service will not run automatically on system reboot.

- **How can you enable the service to run automatically when systems get rebooted?**
  systemctl enable httpd

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Users and groups management

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- **Scenario:** Company got a new project and for that project company recruited different skills people.
  - So now the company recruited four employees
    - user1
    - user2
    - user3
    - user4
  - Just assume **user1** and **user2** are **developers** and **user3** and **user4** are **Linux admin**
  - Now when the four people need access to the servers first we have to create the groups that belongs to the users

- How to create a groups and Linux
  groupadd developers
  groupadd linuxadmins

- We have to create the users under these groups
  useradd -g developers user1
  useradd -g developers user2
  useradd -g linuxadmin user3
  useradd -g linuxadmin user4

- Now let's set the password for this users whatever we have created.
  How to be set the password to the users for that will use passwd command
  passwd user1
  passwd user2
  passwd user3
  passwd user4

- Now let's try to login to the server using the user one account.
  Login to the server for the user one will failed, why it is failed?
  - The machines that are provided from the AWS by default login with username and password is disabled.
  - So to enable login to the linux server using the username and password you have to do some small configuration change
    Open your **/etc sshd_config** file in this file password authentication was set into no so we have to make it as a then after we have to restart the sshd.
  - Now let's try to login to the server again with the user1, now you are able to login to the server successfully. why we are able to login successfully now?
  - we have update at the **passwordauthentication** and we have **restarted the sshd** service so now any user that is present on the server can login with their credentials to the server without any issues.

- **Sudo privileges**
  - Now the users that are present in the **developers group and LINUX admin group** both are having the **root/admin privileges** is it that correct? - yes
  - **So now if you have a requirement to install any packages does the users user1/user2/user3/user4 can able to do?** - **no** right, why no these users are normal users they don't have any sudo religious so they cannot able to do any admin kind of actions.
  - **Now I want to provide admin access to the users that are present in Linux admin group for that one what we have to do?**
    - There will be a **/etc/sudoers** file this configuration file need to be updated in order to provide admin privileges to any group or any user.
    - Add the Linux admin group in the End of file in order to get the admin privilege.
    - Now try to login the server using the users that are presented in the Linux admin group, so I am login with user3 and checking whether I am having sudo access or not.
    - After login just type sudo su - see now user3 have the admin privileges, previously we were getting error right? This is how we provide should access to the group level.
  - **Now let's see how to grant root access to the user level.**
    - Now login to the server with the user one which is presented in the developer group and check whether we have should access or not when we type sudo su - access denied.
    - So now update the /etc/sudoers file by adding user1 now check whether user one having the privileges are not.
      user1 ALL=(ALL) NOPASSWD: ALL

When we type **sudo su -** you are able to switch root users.

- Also it is not mandatory to switch root account to run the admin level commands(user/group creation, enable service, install packages..etc), you can just **prefix sudo command before the command that you want to run from the non-root user** it will get executed successfully same as from root privileges.

- **Find**
  - **Find all the files that are present in the current directory.**
    find -type f
    This command will displays all the files in the current directory and also the files that are presented in the nested directories.

  - Find all the directories that are presented in the current directory.
    find -type d

  - Find that files that are presented under the particular path.
    Let's search the files that are presented under the top level root directory.
    find / -type f

  - Find the director is that are presented under particular directory.
    In similarly we will search the director is that our present under the top level root directory.
    find / -type d

  - Find the specific file location under the top level root directory.
    find / -type f -name passwd

  - Find the specific directory location under the top level root directory
    find / -type f -name init

- free -h

- du -sh *

- df -h