# TASK-1

## NAME: DevOps Concepts.

## What is DevOps? How does DevOps Work?

## Describe the DevOps lifecycle.

## Describe DevOps Principles.

## Explain the benefits of DevOps

# TASK-2

## NAME: Preparing Lab Environment.

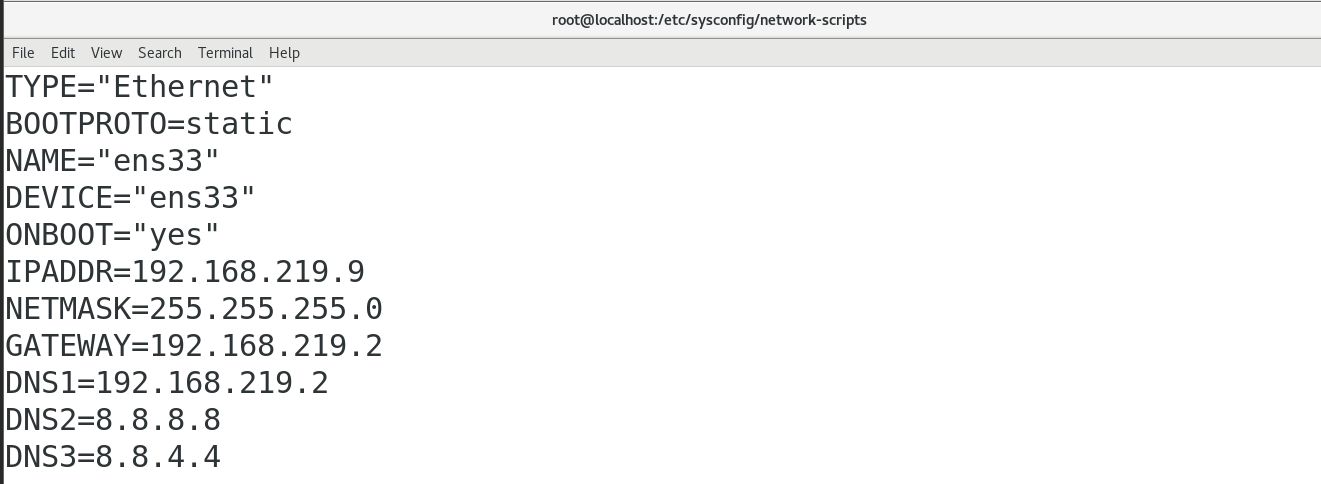
## Installing VMware Workstation or VirtualBox.

## Creating Virtual Machine of CentOS 7.

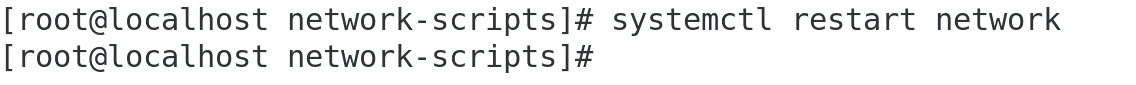
## Assign the hostname of Linux machine <yourname>.devops.com

## Configure your network interface with static ip address and start the network service.

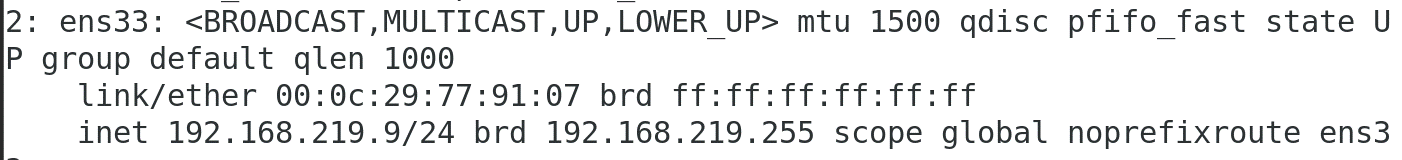
The ifcfg-ens33 file was edited to be:



Restarting the networking service:



Verifying the new IP address of the system:

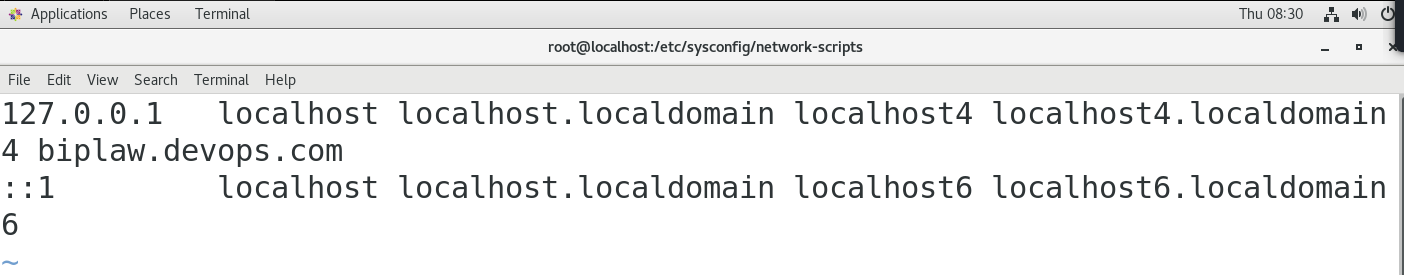


## Map your static ip address to your hosts name in configuration file /etc/hosts

Opening the hosts file:

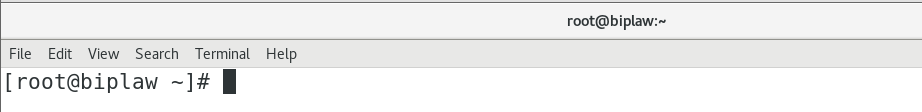


Mapping the static IP address to our host file:



Then the system is restarted.

After restart the hostname was set as defined.



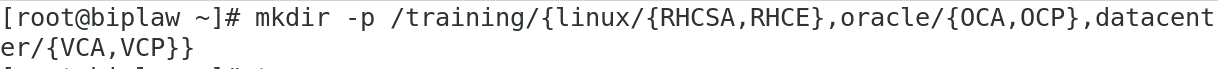
# TASK-3

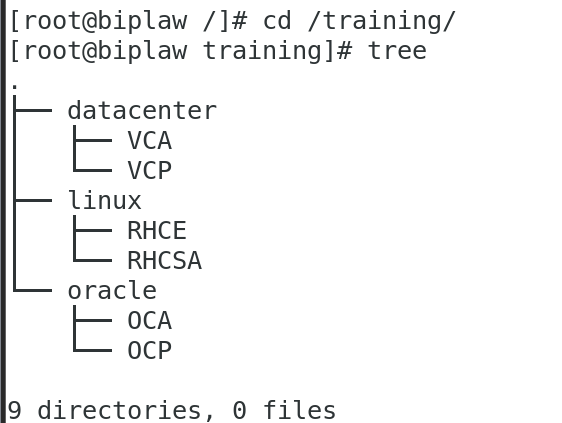
## NAME: Linux Fundamentals

## Write brief history of Linux.

## Describe briefly about the following Linux Filesystems Hierarchy: /boot, /root, /user, /home, /usr/bin, /bin, /user/sbin, /sbin, /usr/lib64, /lib64, /usr/lib, /lib, /dev, /etc, /media, /mnt, /opt, /proc, /tmp, /var, /run

## Login from root user then create folders according to following tree structure

The folders were created using the following command:

Now, the tree structure of the folder is:

## Copy all the files that have .conf filename extensions inside /etc directory to /root/backup directory.

## Create a directory /root/selected then move all files of /root/backup directory that have ‘o’ or ‘a’ as the second character of their file name to /root/selected directory.

## Remove second character with r in path /root/backup.

## Remove all files and directories in path /root/backup.

# TASK-4

## NAME: Users, Groups, Permission

## Create a user named student.

## Login from student user then create files and folders according to following tree structure. [where, d→ directory and f→ file]

## Change the permission of the file f1 so that the owner will get full permission, group member will get read and execute permission and others will get read-only permissions.

## Change permission of the file f2 such that the owner’s and group members will get read and write permission but others will get no permission.

## Change permission of directory d3 such that all categories of users will get full permissions.

# TASK-5

## NAME: User and Group Administration

## Task below are based on following structure:

## Create group for each department *(production, marketing, sales).*

## Create user account *(user1, user2, user3, user4, user5, user6, manager, boss)* for each employee assigning them respective group.

## Create common directory *(production, marketing and sales)* for each department.

## Change ownership of group directories such that boss will become the owner and the respective groups will be group owner.

## Change the permission of the group directories such that only the owner and group member will get full permission and other will not get any permission.

# TASK-6

## NAME: Package and Service Management, and Firewall Configuration in CentOS 7

## Enable EPEL repository (epel-release package) and verify the repo configuration in /etc/yum.repos.d

## Install firewalld package as well as start and enable firewall services

## Install httpd package as well as start and enable httpd services.

## Add the following services and ports to allow packets through the firewall. [Service = http, smtp port = 25 /tcp, 25/udp, 110/tcp].

## Remove the following services and ports to block packets through the firewall. [Service = smtp port = 25 /tcp, 25/udp].

# TASK-7

## NAME: Bash Shell Scripting.

## Write a command to find the path of the bash shell.

## Write a script named helloworld.sh to display “Hello World”.

## Write a script named age.sh to prompt for age and display it.

## Write a script named guesspass.sh to guess admin password. [password = Redhat123]

## Write a script to calculate simple interest.

## Write a script to determine the type of tringle by reading the lengths of its sides.

## Write a script to determine if a user-inputted number is positive, negative, or Zero.

## Write a script to print the first 10 elements of Fibonacci series.

## Create a shell script named “bg.sh” inside /root directory which when execute with parameter ‘boy’, the output should be ‘girl’, when execute with the parameter ‘girl, the output should be ‘boy’ & when execute with some other parameter or no parameter the output should be “enter boy or girl only”.