Day-2

17 June 2025

Continuing of day-2 from the previous day and will merge up the PDFs after the breakthrough for a clear understanding of the topic as whole.

Mount the partitions

We will mount the partitions we did earlier in the file system. In simple terms, mounting means attaching the disks and partitions to the file system.

- *Mount /dev/vda2 /mnt*
  This will make the partition *vda2* accessible or we can say attached to the */mnt*. */mnt* have the physical devices attached to it.
- *Mkdir /mnt/boot*
  mount /dev/vda1 /mnt/boot/
  This will attach the memory of 512MiB we created earlier to the boot folder insisde mnt point. We're using this memory for EFI system, as discussed earlier.

Install

We will be installing the base arch system in this step.

- We will use the command *pacstrap* to install the sytem.
- *Pacstrap –K /mnt base linux linux-kernel*
- This command will install the base arch system, linux kernel and firmware blob for hardware on the */mnt* directory.

Set Timezone

ln –sf /usr/share/zoneinfo/Asia/Kolkata /etc/locatime

This command binds the time zone info to the localtime file.

Set Locale (Language and Encoding)

Defines what language and character encoding our system uses for messaging, applications and other processes.

1. First, we will edit the locale generation file.
   nano /etc/locale.gen
2. *We will uncomment the line - en_US.UTF-8 UTF-8*
3. *Generate the locale ---> locale-gen*
4. *Set system locale ---> echo "LANG=en_US.UTF-8" > /etc/locale.conf*

Set Hostname

We will now give our system a hostname on network. For ssh, terminal and communication.

- *Echo "kaushal" > /etc/hostname*

Set Hosts Files

Maps hostnames to IPs – So local name and networking resolution works.

nano /etc/hosts
127.0.1.1 kaushal.localdomain kaushal

Add users and set passwords
Till now, we're root in chroot. We need normal user accounts to use our system.

1. First, we will set password for the root using the command – *passwd*. Enter and re-enter the password when prompted.
   Now, we will create the user and add it to the wheel group for sudo rights. Wheel group is nothing but users who can have admin level rights and sudo rights.

   useradd –m –G wheel –s /bin/bash kaushal01
   passwd kaushal01

   Here, -m creates a home directory. -G adds it to the wheel group. And –s define the shell type. It can be zsh, fish, bash. We're using bash here.

Enable Sudo for wheel group
This will allow our user to execute sudo commands like pacman –syu
EDITOR=nano visudo
and then uncomment this line - %wheel ALL=(ALL:ALL) ALL

Check everything we have done till now
Run the following commands mentioned below, if there's no error, our configuration is going well

cat /etc/hosts
cat /etc/locale.conf
cat /etc/hostname
ls –l /etc/localtime
id kaushal01