DEVOPS – DAY 1

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Topic: Linux Fundamentals, Virtualization & Ubuntu Setup

1. Introduction to DevOps

DevOps is a combination of Development (Dev) and Operations (Ops). It focuses on collaboration, automation, continuous integration, and faster delivery of software.

Key Goals of DevOps:

- • Faster software delivery
- • Improved collaboration between teams
- • Automation of processes
- • Continuous monitoring and feedback

2. Linux Basics

Linux is an open-source operating system widely used in servers, cloud platforms, and DevOps environments.

Important Linux Commands

1. pwd – Displays present working directory
2. ls – Lists files and directories
3. ls -l – Shows detailed file information
4. ls -a – Shows hidden files
5. cd – Change directory
6. mkdir – Create new directory
7. touch – Create empty file
8. cp – Copy files
9. mv – Move or rename files
10. rm – Remove files
11. rm -rf – Force delete directory and contents
12. cat – Display file content
13. nano / vim – Edit files in terminal
14. history – Show previously used commands
15. clear – Clear terminal screen

3. Linux vs Windows

Windows:

- • Developed by Microsoft
- • GUI based
- • Paid license
- • Mostly used in personal computers

Linux:

- • Open-source and free
- • More secure and stable
- • Mostly command-line based
- • Preferred in servers and cloud

4. Virtual Machine (VM)

A Virtual Machine (VM) is a software-based computer that runs inside another physical computer.

Why VM is used:

- • Run multiple operating systems
- • Testing and development
- • Safe environment for experiments

Key Terms:

- • Host OS – Main operating system
- • Guest OS – OS installed inside VM
- • Hypervisor – Software that creates VMs (VMware, VirtualBox)

5. WSL (Windows Subsystem for Linux)

WSL allows Linux to run directly inside Windows without installing a full virtual machine.

Advantages:

- • Lightweight
- • Faster than VM
- • Easy setup

6. VMware Installation Overview

Steps Summary:

16. 1. Create Broadcom account
17. 2. Download VMware Workstation Pro
18. 3. Disable Hyper-V and conflicting features

19. 4. Enable virtualization in BIOS
20. 5. Install VMware and restart system

7. Ubuntu Server Installation (Summary)

- • Create new virtual machine
- • Select Ubuntu ISO file
- • Allocate RAM and CPU
- • Install Ubuntu Server
- • Create user and password
- • Enable OpenSSH (optional)
- • Reboot and login

8. System Update Command

Keep system updated using:

sudo apt update && sudo apt upgrade -y