

Hardware & Networking Internship

(15 Days | Practical-Oriented | Industry Ready)

INTERNSHIP SYLLABUS

Internship Objectives

- Understand **computer hardware components** in real systems
- Perform **PC assembly, OS installation & troubleshooting**
- Learn **networking fundamentals, cabling & configurations**
- Gain **hands-on exposure** to LAN, IP addressing & network security
- Build confidence for **field work, IT support & networking roles**

DAY 1 – Computer Hardware Basics

- Introduction to computer systems
- Types of computers & uses
- Internal vs external hardware
- Lab: Identify hardware components

Practical:

Hardware parts demo

Outcome:

Understand system architecture

DAY 2 – Motherboard & Processor

- Motherboard types & slots
- CPU architecture & generations

- BIOS / UEFI basics
- Lab: Motherboard component identification

Practical:

BIOS settings exploration

DAY 3 – Memory & Storage Devices

- RAM types (DDR3/DDR4/DDR5)
- HDD vs SSD vs NVMe
- SMPS & power ratings
- Lab: RAM & storage installation

Practical:

Speed comparison (HDD vs SSD)

DAY 4 – PC Assembly & Disassembly

- Step-by-step PC assembling
- Safety precautions
- Cable management
- Lab: Complete system assembly

Practical:

Build a working PC

DAY 5 – Operating System Installation

- Windows installation (Win 10/11)
- Partitioning concepts
- Driver installation
- Lab: OS installation

Practical:

Dual boot setup (optional)

DAY 6 – System Troubleshooting

- Boot errors
- Hardware failure diagnosis
- Blue screen errors

- Lab: Troubleshooting real systems

Practical:

Error detection checklist

DAY 7 – Networking Fundamentals

- Network types (LAN, WAN, MAN)
- Topologies
- Network devices overview
- Lab: Network diagram creation

Practical:

Identify real devices

DAY 8 – Networking Devices & Cabling

- Hub, Switch, Router, Modem
- Network cables (UTP, Fiber)
- Crimping tools & standards
- Lab: Cable crimping

Practical:

RJ45 cable making

DAY 9 – IP Addressing & Subnetting

- IPv4 & IPv6
- Static vs Dynamic IP
- Subnetting basics
- Lab: IP configuration

Practical:

Configure LAN IP manually

DAY 10 – LAN Setup & Configuration

- Small office/home network
- Workgroup configuration
- File & printer sharing

- Lab: LAN creation

Practical:

Data sharing between systems

DAY 11 – Wireless Networking

- Wi-Fi standards
- Router configuration
- Security settings
- Lab: Wireless network setup

Practical:

Secure Wi-Fi configuration

DAY 12 – Network Security Basics

- Firewalls & antivirus
- Network threats
- Backup strategies
- Lab: Security tool demo

Practical:

System hardening checklist

DAY 13 – Server & Cloud Basics

- File server concept
- NAS overview
- Intro to cloud networking
- Lab: Local server setup

Practical:

Shared server folder setup

DAY 14 – Mini Project

- PC assembly + OS + LAN setup
- Network documentation
- Troubleshooting report

Practical:

End-to-end implementation

DAY 15 – Evaluation & Certification

- Project presentation
- Viva & practical assessment
- Resume & career guidance
- Internship completion certificate

Tools & Equipment

- Desktop systems & laptops
- Networking devices (Router, Switch)
- Crimping tools & LAN cables
- Windows OS & utilities
- Network testing tools

