

INTERNSHIP TASK1

Objective

Assemble and troubleshoot PCs for a college lab, install Ubuntu 24.10 LTS, and configure essential tools.

Task Details

Part 1: Hardware Assembly and Troubleshooting

1. PC Assembly:

- Assemble PCs from the provided components (motherboard, processor, RAM, HDD/SSD, PSU, GPU, etc.).
- Ensure proper cable management and airflow within the cabinet.
- Perform a visual inspection to ensure proper connections and secure fittings.

2. Troubleshooting:

- **Check PSU Functionality:**
 - Verify whether the power supply unit (PSU) is capable of turning on and providing power to the motherboard, CPU, and other components.
 - Use a PSU tester or a paperclip test to confirm the PSU is functional (if no other method is available).

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- **Minimal Boot Test:**
 - Disconnect all unnecessary components, leaving only the CPU, one stick of RAM, and the motherboard connected.
 - Check for any signs of boot activity such as POST beeps, motherboard lights, or fan movement.
 - **Access BIOS/UEFI:**
 - If the system successfully boots, press the appropriate key (e.g., F2, Del) to access the BIOS/UEFI.
 - Ensure the CPU, RAM, and storage are detected correctly.
 - Check for stable voltages and temperatures within the BIOS settings.
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Part 2: Operating System Installation

1. Install Ubuntu 22.04 LTS:

- Boot from the Ubuntu installation media (USB).
 - Follow the installation steps, including partitioning the drive.
 - Perform a full update after installation.
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Part 3: Software Installation

1. Essential Tools Installation:

- Visual Studio Code
- Git
- Docker
- Thunderbird

2. Network Configuration:

- Configure Static IP Range:
 - Set up the static IP range of 172.16.250.XX/16.
 - Set the Gateway as 172.16.16.16
 - DNS as 8.8.8.8, 8.8.4.4.
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Deliverables

1. A functional college lab network with assembled and tested PCs.
 2. Installed Ubuntu 24.10 LTS with necessary software.
 3. Configured network settings with the static IP range of 172.16.250.XX/16, Gateway 172.16.16.16, and DNS 8.8.8.8, 8.8.4.4.
 4. Installed and tested tools (VS Code, Git, Docker, Thunderbird).
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Evaluation Criteria

1. Successful assembly and troubleshooting of all hardware components.
2. Proper installation of Ubuntu 24.10 LTS and necessary tools.
3. Correct configuration of network settings.
4. Installed and verified tools (VS Code, Git, Docker, Thunderbird).