COLLEGE OF COMPUTER SCIENCE AND ENGINEERING

COOP Final Report

Write your company name here and insert their logo on the next line

Student's name		**Student's ID**	
Student's Major		**Company supervisor's name**	
Academic advisor's name		**Company name**	

September 10, 2025

ACKNOWLEDGEMENTS

Briefly express your gratitude for those who helped you in the process of Coop/Summer training and report writing.

You may thank Almighty Allah for His guidance, your parents, your company supervisor, your academic advisor, and the Coop coordinator for their support during the whole training period.

ABSTRACT

Provide a summary of your report here. You should mention the company name, departments, and the duration of training etc.

A brief description of all tasks must be provided here.

Finally, the structure of this report may be disclosed, i.e., what are different chapters about.

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CHAPTER 1.
INTRODUCTION

Provide a brief introduction to the company or organization and the COOP training in that organization.

1.1: Company Introduction:

Introduce the company or organization where you completed your COOP training. You may also include organizational hierarchy as well.

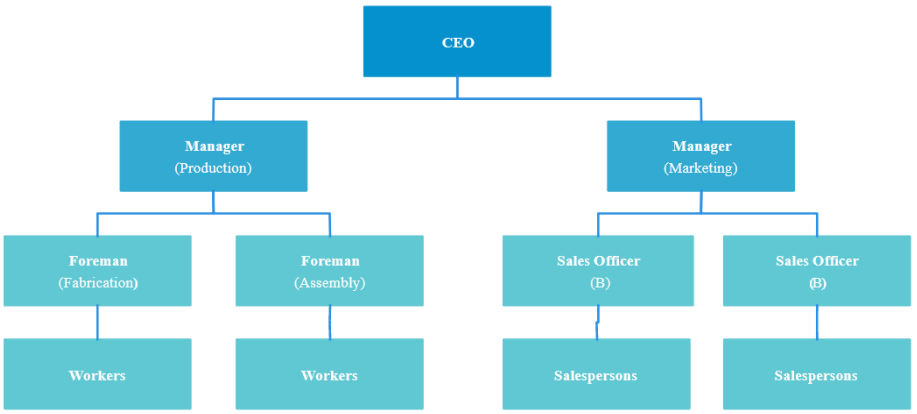

Figure 1: Organizational Chart

1.2: COOP Program:

Summarize your training experience in the COOP training program where you were trained, what you learnt and how you did it.

1.3: IT and other Technology Used:

Provide brief description of the IT devices and technology used/provided by the company to their trainees.

1.4: Work Plan:

Provide a week-wise plan of your COOP tasks in a tabular form, Gantt Chart, or both. This should be the final/updated plan you actually followed.

Table 1: Weekly Plan

	Task Name	Duration	Start	Finish	Comments	Status
1	Introduction and Back Ground of The Company	10d	01/28/18	02/08/18		Complete
2	Discussions about the telecom company	7d	02/11/18	02/19/18		Complete
3	Preparation and Requirements for New Branch Office					
4	IP telephone system	6d	02/18/18	02/25/18		Complete
5	Video conference system	10d	02/19/18	03/04/18		Complete
6	Preparation a New Sites and Maintenance					
7	Prepare new servers	25d	04/05/18	05/09/18		
8	Prepare new case register	10d	04/23/18	05/06/18		
9	Prepare PCs for sites	7d	05/07/18	05/15/18		
10	Update the IT area in the sites	10d	04/15/18	04/26/18		
11	Maintenance sites	10d	05/13/18	05/24/18		
12	Preparation Cisco Exam Certification ICND 1 and ICND 2	180d	02/04/18	10/11/18	I will not include the details here	
13	Prepare New Computers for New Employee					
14	Maintenance company computers	10d	02/25/18	03/08/18	it could any time	
15	Customized windows computer	7d	06/12/18	06/20/18		
16	Creating images software	8d	06/24/18	07/03/18		

CHAPTER 2.

CHAPTER HEADING, SUCH AS, DEVICES, TOOLS, SOFTWARE, PROCESSES AND TASKS

Provide a brief introduction to the devices, software or tools you used, processes you followed and tasks you performed during the COOP training.

2.1: What is Required:

A detailed description of each task must be provided.

2.2: What are the Tasks:

Tasks may include daily tasks or special task given to you. For example, preparation of devices (such as preparing PCs for a lab/office or servers), installation of software (Operating System, Antivirus, other software needed, etc.), networking (connecting PC, offices, etc.), programming (writing programs for something), website development, database design or administration, software engineering (designing and developing software), server administration, maintenance, daily operations (such as using a software for daily work), data analysis (using statistical or other techniques), enabling cybersecurity (using some cybersecurity tools), etc. …

2.2: How to Show a Figure:

Figures should be inserted in the center and a label should be put below it.

For many figures in your report, you may copy-past the following given figure and the label, and then update the figure and its label as usual but the figure number by right-clicking on it and selecting Update Field.

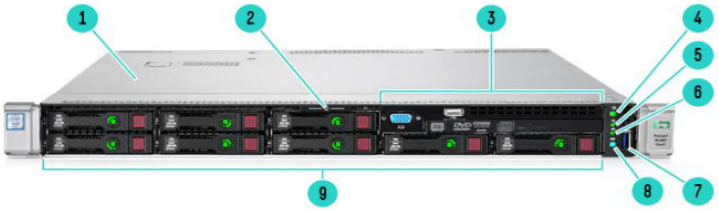

Figure 2: Front view of the server

2.2: How to Make a Table:

Table should be inserted in the center and a label should be put above it.

For many tables in your report, you may copy-past the table and the label given below, and then update the table and its label as usual but the table number by right-clicking and selecting Update Field.

Table 2: Detiles of the server's font view

1. Access Panel.	2. Serial Label Pull Tab.	3. HPE Universal Media Bay or NVMe.
4. Power On/Standby button and system power LED button.	5. Health LED.	6. NIC Status LED.
7. USB 3.0 Connector.	8. Unit Identification Button & LED.	9.SAS/SATA/SSD/NVMe Drive Bays.

CHAPTER 3.

CASE STUDIES

Provide a detailed description of the tasks you performed during the COOP/Summer training. It may be any IT related problem you solved by using your knowledge, such as troubleshooting, programing, report generation, etc.

CSE students are required to provide explanation of at least 4 tasks they performed during COOP training, while SWE/CYB/DSC students are required to provide explanation of at least 2 tasks. You may include more tasks than the minimum requirement. Here are a few examples of case studies.

3.1: Case Study 1: Disconnected Devices

3.1.1: Introduction:

The devices in the office are connected to LAN network. They are connected to router through patch panels and LAN switches.

3.1.2: Problem Statement:

The network devices faced problems frequently. For example, printers going offline and access points disconnecting often.

3.1.3: Process:

I considered the following possible solutions:

1) Replace cables.
    - Replace cables attached to devices.
    - Replace cables attached to patch-panels and switches.

2) Check patch panels and switches.

3) Check device settings.

   - Check printers setting.
   - Check access-points' settings.

4) Ping the IP of devices.

5) Check routers.

6) Check network settings.

3.3.4: Solution:

By checking the settings of devices, I figured out that use of dynamic IP address was causing conflict with other IP addresses. I considered the following possible solutions for IP settings:

1) Exclude the range of IPs to be assigned to network devices so that no other device can use these IPs.

```
Press RETURN to get started!



Router>
Router>en
Router#
Router#conf
Router#configure ter
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip dhcp ex
Router(config)#ip dhcp excluded-address xxxx xxxx
```

Figure 3: Excluding a range of IPs

2) Change IP address of any device with IP conflict .

```
Router#show
Router#show ip dhcp
Router#show ip dhcp bi
Router#show ip dhcp binding
IP address       Client-ID/              Lease expiration
Type
                 Hardware address
Router#
```

Figure 4: Changing IPs

3) Assign static IP address to each device.

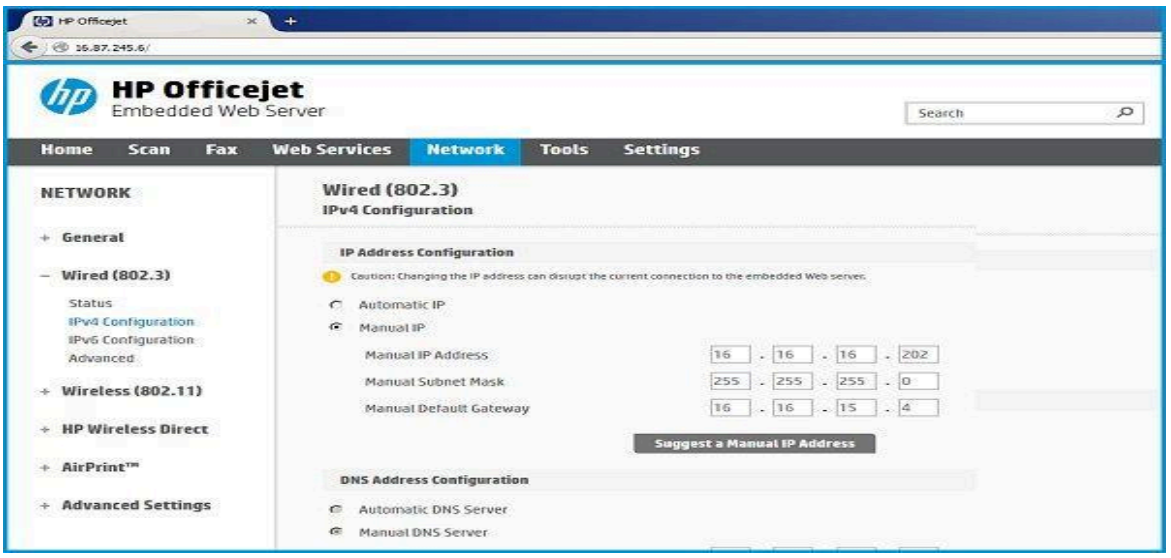

Figure 5: Assign static IPs

3.2: Case Study 2: Report Generation

3.2.1: Introduction:

The data of our company's clients was available in a text file. It consisted of many fields including name, address, phone number, email, etc. The company wanted to send some updates on their products to their clients. A list of emails was required to be generated from the text data.

3.2.2: Problem Statement:

The data was in a file which was stored in text format, not an Excel sheet or a database. It was difficult to quickly find email addresses from that file.

3.2.3: Process:

There were many options considered. The emails could be copied manually from the file. Alternatively, emails could be extracted using some online tools or writing my own tool. Possibly, the text file could be converted to table using some tools. I

decided to write a Java program to read the file, collect all emails, and store in a new file.

3.2.4: Solution:

< Java program

and

explanation on how it works>

>> PUT at least 2 cases for SWE/CYB/DSC but 4 for CSE.

CHAPTER 4.
CONCLUSIONS AND RECOMMENDATIONS

This chapter provides some important conclusions from the experience you gained as COOP trainee. It also makes some recommendations to improve COOP experience for the future COOP trainees.

4.1: Conclusions

Provide your conclusive remarks here: what you learned and how it improved your vision etc.

4.2: Recommendations

Based on your experience, advise the future students to take care of any important points.

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APPENDIX A -
Definitions

1) DIA: Dedicated Internet Access is a continuous, high-bandwidth method for enterprises to connect their local area networks (LANs) with the public Internet and streamline the performance of their wide area network (WAN).
2) VPN: A VPN is a networking technology that allows users to connect over a public internet connection to their main network remotely. A VPN allows employees to work from home and connect to the company's intranet, giving them access to all the shared network files of their office computer.

3) IP VPN: It works in much the same way, establishing seamless connectivity to a main network across an ISP. The difference is that an IP VPN utilizes multiprotocol label switching (MPLS) technology to prioritize internet traffic and avoid public gateway to increase security, making it a layer 2 services.

4) VPN vs. IP VPN: They are very similar, but the most important difference is the layer of the OSI Model on which they're classed.

   Typical VPNs fall under layer 3 and 4, and frequently use a public gateway to connect which makes them exposed to DoS (Denial of Service) attacks that decrease speeds and valuable bandwidth. But an IP VPN is considered layer 2, meaning it avoids public internet by traveling on a private connection to each remote site, so your vital company data remains secure. Plus, as a layer 2 service, IP VPN uses MPLS capabilities that prioritize your company's internet traffic, so critical applications like video conferencing and digital voice are guaranteed the bandwidth they need to perform.

APPENDIX B -

Differences between Raids

Features	RAID 0	RAID 1	RAID 5	RAID 6	RAID 10
Minimum # Drives	2	2	3	4	4
Data Protection	No Protection	Single-drive failure	Single-drive failure	Two-drive failure	Up to one disk failure in each sub-array
Read Performance	High	High	High	High	High
Write Performance	High	Medium	Low	Low	Medium
Read Performance (degraded)	N/A	Medium	Low	Low	High
Write Performance (degraded)	N/A	High	Low	Low	High
Capacity Utilization	100%	50%	67% - 94%	50% - 88%	50%
Typical Applications	High end workstations, data logging, real-time rendering, very transitory data	Operating system, transaction databases	Data warehousing, web serving, archiving	Data archive, backup to disk, high availability solutions, servers with large capacity requirements	Fast databases, application servers

APPENDIX C -

COOP Training Certificate

الشركة المتحدة للوقود
UNITED FUEL COMPANY

Co-op Training certificate

We certify that **Student**. **Khalid Marzouq Almuraykhi** has completed the training program planned by his college for the period from 21/ 01/ 2018 to 26/ 07/2018 in IT Department as **Computer Science & Engineering** trainee. During his training, he has been punctual, helpful and workaholic. Thus, this certificate has been issued upon his request as per Saudi Labor Law, after he had received all his due entitlements, without further liability on the company. We wish him continuous success and progress.

Mohammad Buobaid

General Manager

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