



IT Training Report

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Position: IT Trainee

Company: Northern Electricity Distribution Company (شركة توزيع كهرباء الشمال)

Duration: July 2025 – November 2025 (5 Months)

Location: Nablus, Palestine

Introduction

This report presents a comprehensive summary of my five-month Information Technology (IT) training at the **Northern Electricity Distribution Company** in Nablus, Palestine.

The training integrated theory and practice across the fields of **networks, databases, cybersecurity, operating systems, and enterprise management systems**, providing exposure to real industrial environments and the technical infrastructure that supports a major utility provider.

Through close collaboration with engineers and department supervisors, I developed skills in system administration, troubleshooting, data management, and workplace communication — forming a strong foundation for my future career in information technology and engineering.

First Month – Orientation and Core IT Infrastructure

The first month focused on orientation and understanding the company's technical structure.

- **Department Familiarization:** I was introduced to all technical departments and their coordination workflows that ensure continuous service delivery across the electricity network.
- **Server Infrastructure:** I visited the **server rooms** to observe real-time data handling, backups, and the **TABS data management system**, which stores and processes operational information.
- **Technical Support Division:** Learned the essential role of IT support in maintaining devices, resolving user issues, and ensuring system uptime.
- **Printing Systems:** Studied **modern printer technology**, including IP-based installation, driver configuration, maintenance, and differences between new digital printers and older analog models.
- **Career Skills:** Participated in sessions about career planning for programmers, emphasizing key software skills, teamwork, and problem-solving techniques required for entering the IT job market.

Key Outcomes:

- Gained understanding of IT department workflows.
- Acquired practical experience in printer networking and driver configuration.
- Developed awareness of professional IT roles within large organizations.

Second Month – Operating Systems, Fire Safety, and Surveillance

The second month combined **technical learning** with **practical system management** and institutional safety knowledge.

- **System Installation and Troubleshooting:** Performed complete installations of **Windows operating systems**, addressing boot errors, driver issues, and system recovery procedures.
- **Security and Fire Alarm Systems:** Studied the **fire detection network**, its sensors, control panels, and integration with building management systems. Understood maintenance procedures and emergency protocols.
- **Surveillance Systems:** Gained hands-on experience with **CCTV camera setup**, including camera types, lens specifications, and best placement practices to maximize security coverage.
- **Database Fundamentals:** Observed how the company's **database systems** connect between departments to maintain customer and operational data consistency.
- **System Security Policies:** Learned to configure post-installation settings following **corporate security guidelines** for user access and update control.

Key Outcomes:

- Strengthened practical OS installation and troubleshooting skills.
- Understood institutional safety systems and their IT integrations.
- Gained foundational database and network security awareness.

Third Month – Enterprise Resource Systems and Data Management

The third month was dedicated to **enterprise-level software systems** and **data reporting workflows**.

- **ERB System Training:** Gained comprehensive knowledge of the **Employee Resource and Billing (ERB)** platform used for managing employee data, attendance, payroll, and performance metrics.
- **Report Generation:** Learned how to create and analyze **attendance and financial reports**, helping management monitor operational efficiency.
- **Data Integration:** Studied how employee and departmental data synchronize across interconnected systems to ensure consistency and avoid redundancy.
- **Project Development:** Participated in workshops on developing **technical projects** that respond to community needs, discussing real-world applications of programming and system design.

Skills Acquired:

- Enterprise system operation and inter-departmental data linkage.
- Report automation and data-driven decision support.
- Project design and teamwork for practical innovation.

Challenges & Solutions:

- Some ERB functions were initially complex; they were mastered through repeated practice and guidance.
- Translating technical projects into social applications required group brainstorming to simplify concepts.

Fourth Month – Billing System, Databases, and Financial Integration

The fourth month centered on **billing systems, financial analysis, and database integration** within the company.

- **Billing Process Overview:** Studied the entire cycle of customer billing, from data entry of electricity usage to invoice generation and payment tracking.
- **System Integration:** Observed how the **billing, subscriber, and collection** systems communicate through shared databases, ensuring accurate financial operations.

- **Error Detection and Data Validation:** Practiced identifying incorrect readings, duplicate entries, and incomplete records, and learned how such errors affect financial reports.
- **Database Merging and Cleaning:** Participated in exercises merging different data sources, cleaning redundant or conflicting information, and ensuring integrity across datasets.
- **Encryption and Data Security:** Introduced to **encryption techniques** such as public/private key cryptography for secure message exchange and system authentication.

Key Outcomes:

- Learned the structure and function of enterprise billing systems.
- Gained practical understanding of database design and data integrity assurance.
- Developed awareness of data security, encryption, and financial system interdependence.

Fifth Month – Advanced Networking, Hardware, and System Security

The final month emphasized **network management, cybersecurity, and hardware optimization**, blending theoretical and applied skills.

- **Networking Fundamentals:** Reviewed the concepts of **IP addressing (IPv4/IPv6)** and **MAC addressing**, understanding how data flows between devices and routers.
- **Static vs Dynamic IP (DHCP):** Compared network configurations, studying routing tables and communication protocols.
- **Hardware Maintenance:** Conducted hands-on training in assembling and upgrading computers, installing RAM, SSDs, and replacing hardware components.
- **Performance Enhancement:** Compared **NVMe and SATA SSDs**, testing their read/write speeds and learning about system bottlenecks.
- **Firewall Management and VPN:** Learned to manage firewalls to control access across internal networks and configured **VPNs** to enable secure remote work connections for employees.
- **Remote Desktop Configuration:** Set up user profiles, administrator permissions, and access monitoring for efficient remote IT support.

Key Outcomes:

- Mastered hardware diagnostics and performance optimization.
- Developed strong foundational knowledge in network administration and security.
- Gained hands-on experience in remote access and secure connectivity solutions.