

“DESIGN AND DEVELOPMENT OF NETWORK INFRASTRUCTURE FOR AN ORGANISATION (USING WINDOWS SERVER 2003)”

PREFACE

This project, titled “**Design and Development of Network Infrastructure for an Organisation (Using Windows Server 2003)**”, is submitted as part of the Diploma in Information Technology curriculum. The objective is to provide practical exposure to server operating systems, specifically focusing on Windows Server 2003.

Windows Server 2003 has been a foundational platform in enterprise IT, offering tools and services like Active Directory, DNS, DHCP, and more. Though now considered legacy software, it remains relevant in specific sectors due to its stability and compatibility with older systems.

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INTRODUCTION

The project demonstrates how Windows Server 2003 Enterprise can be used to build a reliable, scalable, and cost-effective network for small to medium organizations. It features centralized server management, improved access to applications, and better resource utilization.

It supports services such as user authentication, file/print sharing, and remote access. The model is adaptable, helping bridge the digital divide by enabling institutions and small enterprises to adopt digital infrastructures even in rural areas.

IMPORTANCE

1. **Foundation of Server Management** – Builds knowledge of centralized server setup.
2. **Hands-on Networking** – IP setup, DNS, DHCP, and security configuration.
3. **User & Resource Control** – Active Directory and Group Policy usage.
4. **Cost-Effective Learning** – Ideal for labs and practice environments.
5. **Legacy Systems Understanding** – Useful in industries using old systems.
6. **Problem-Solving Skills** – Through real-time configuration and debugging.
7. **Team-based Learning** – Practical implementation and documentation.
8. **Certifications Ready** – Aligned with Server+ and MCSA fundamentals.

USES OF THE PROJECT

1. **Active Directory** – Centralized user and group management.
 2. **File & Print Services** – Secure sharing across the LAN.
 3. **IIS (Web Hosting)** – Hosting web apps and websites using ASP.NET.
 4. **Network Services** – DNS & DHCP for automated network setup.
 5. **Application Server** – Support for SQL Server, ERP, CRM apps.
 6. **Remote Access** – Secure RDP and VPN for remote work.
 7. **Clustering** – High availability with up to 8-node clusters.
 8. **Security & Policy Control** – Using Group Policy and audits.
 9. **Virtualization** – Test environments with Virtual Server.
 10. **WSUS** – Centralized update management.
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REQUIREMENTS

Hardware:

- CPU: 1 GHz or higher
- RAM: 8–16 GB
- HDD: 500 GB+
- NIC, CD/DVD Drive, Monitor, Mouse, Keyboard

Software:

- Windows Server 2003 Enterprise
- Exchange Server 2003 for Emails
- SQL Server 2003 for Data Base Management
- Oracle 9i
- Internet security
- Application Server 2003 for software firewall

Network Setup:

- Router/Switch, Ethernet Cables
- Static IP Plan, Basic Firewall Config

Functional Setup:

- Active Directory, DNS, DHCP
- File & Printer Sharing, Security Policies
- Backup and Restore Systems

FUTURE SCOPE OF THE PROJECT**1. Migration to Modern Servers**

- Skills apply to Windows Server 2019/2022, Linux-based systems.
- Learn upgrade and compatibility strategies.

2. Cloud Integration

- Concepts like AD, DNS, IIS useful in Azure, AWS, GCP.

3. IT Career Foundation

- Prepares for roles in system/network administration.

4. Cybersecurity Path

- Learn to implement firewalls, IDS, encryption.

5. Virtualization & Containers

- Expansion to VMware, Hyper-V, Docker for scalable infra.

6. Backup & Recovery Planning

- Practice data safety and business continuity strategies.

7. Web & App Deployment

- Host enterprise apps, step into full-stack & DevOps roles.

8. Enterprise-Level Exposure

- Simulates real IT setups for schools, offices, and e-governance.

