INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Linux Networking

Introduction to Linux Networking

1. Overview of computer networks
2. Introduction to Linux networking
3. Understanding OSI and TCP/IP models
4. Basic Linux networking commands (`ifconfig`, `ip`, `netstat`, etc.)

Network Configuration

1. Configuring network interfaces (`ifconfig`, `ip`, `nmcli`, etc.)
2. Network configuration files (`/etc/network/interfaces`, `/etc/sysconfig/network-scripts/`, etc.)
3. DHCP configuration
4. Static IP address configuration
5. DNS configuration

Routing and Gateway Configuration

1. Understanding routing tables
2. Configuring static routes

3. Default gateway configuration

4. Dynamic routing protocols (brief overview)

Network Services

1. Introduction to network services (HTTP, FTP, SSH, etc.)

2. Configuring network services (Apache, OpenSSH, vsftpd, etc.)

3. Firewall configuration (iptables, firewalld)

4. Network Time Protocol (NTP) configuration

Network Troubleshooting

1. Basic network troubleshooting techniques

2. Using network diagnostic tools (ping, traceroute, tcpdump, etc.)

3. Troubleshooting common networking issues (DNS resolution problems, connectivity issues, etc.)

4. Analyzing network traffic

Security and Encryption

1. Introduction to network security

2. Securing SSH connections

3. Implementing SSL/TLS certificates

4. VPN configuration (OpenVPN, IPSec)

Advanced Networking Concepts

1. VLANs and trunking

2. Network bonding and teaming

3. Bridge configuration

4. Network namespaces

Monitoring and Management

1. Network monitoring tools (Nagios, Zabbix, etc.)

2. Log management (syslog, rsyslog)

3. Performance tuning and optimization

4. Automating network tasks with scripts (Bash, Python, etc.)

Case Studies and Real-world Scenarios

1. Case studies of real-world network setups

2. Best practices for designing and implementing Linux-based networks

3. Hands-on labs and exercises