



MIKROTIK



PROFESSIONAL NETWORK ENGINEER

**Basic-PNE + CISCO + Mikrotik (MTCNA+MTCRE)
+OLT+CCTV/IP Camera COMBO PACKAGE**

বেসিক-প্রফেশনাল নেটওয়ার্ক ইঞ্জিনিয়ার (বিপিএনই)

Basic-PNE(Professional Network Engineer)

Section-1. Introduction to Network Engineering:

What is network engineering?

Why is it important?

What are the key skills required for network engineers?

Hardware Introduction

Introduction to Cabling,RJ45etc

Section -2. Network Topologies:

What is a network topology?

Different types of network topologies (star, bus, ring, mesh, hybrid)

LAN Create (Workgroup Network)

Corporate LAN & ISP LAN manage

Corporate Network Design and Implementation

Advantages and disadvantages of each topology

Section 3. Network Components:

Types of network components (routers, switches, hubs, firewalls, servers, etc.)

Basic functions and features of each component

How they interact with each other to form a network



FLASH IT LTD

Section -4. Network Protocols:

What are network protocols?

Types of protocols (TCP/IP, HTTP, DNS, FTP, etc.)

How they are used in a network

Section-5. Network Security:

What is network security?

Types of network security threats (viruses, malware, hacking, etc.)

Best practices for securing a network

Section-6. Network Design:

What is network design?

Key design considerations (scalability, redundancy, security, etc.)

Common network design models (2-tier, 3-tier, spine-leaf, etc.)

Section-7. Network Troubleshooting:

What is network troubleshooting?

Common network issues (slow performance, connectivity issues, etc.)

Troubleshooting steps and best practices

Career Paths and Certifications:

Types of network engineering roles (network administrator, network engineer, network architect, etc.)

Key skills and qualifications required for each role

Common industry certifications (CCNA, JNCIA, Mikrotik Advance Course etc.)



FLASH IT LTD

Course outline about Mikrotik (MTCNA & MTCRE + OLT)

Mikrotik ট্রেনিং সিস্টেমের (MikroTik Training System) MTCNA কোর্স (MTCNA & MTCRE Course) হল একটি বিশেষ কোর্স যা আপনাকে কম্পিউটার নেটওয়ার্ক প্রযুক্তি এবং নেটওয়ার্ক প্রতিষ্ঠানের পরিচালনার জন্য প্রয়োজনীয় জ্ঞান সরবরাহ করবে।

Section-1. Introduction to MikroTik:

Overview of MikroTik hardware and software.
RouterOS and the RouterBOARD product line.
Basic CLI and GUI configurations.

Section-2. Networking Essentials:

Network topology and network devices.
IP addressing and subnetting.
Basic network protocols (TCP/IP, DNS, DHCP).

Section-3. PPPoE server, Profile and Pool Configuration

Section-5. MikroTik Router Configuration:

Basic router configuration.
Configuring interfaces, IP addresses, and default gateways.
Basic firewall and security settings.

Section-6 Firewall:

Basic to Advance Firewall (Filter Rules-Forward, input&output, NAT-srcnat, dstnat)
NAT for ISP Setup



FLASH IT LTD

Mangle: Firewall Marking

1. Failover With Firewall Marking
2. Load Balancing Multiple Same Subnet Links
3. Load Balancing With Per Connection Classifier -PCC
4. Load Balancing With NTH
Packet Mark

Section-7 Routing:

BGP configuration

Static Route

OSPF configuration

Redundancy Link configuration:

ECMP method, PCC method and PBR method

Section-8. Routing:

Static routing configuration.

Dynamic routing protocols (BGP,Static Route configuration in Corporate & ISP).

Section-9 Wireless Networking:

Introduction to wireless networking.

Configuring wireless interfaces.

Wireless security and encryption.

Winbox Software Introduction

You can use the following utilities or applications:

Internet browser

Telnet or SSH client

MikroTik App

MikroTik WinBox

Version upgrade, version downgrade

New package install

How to configure your MikroTik device as an access point?



FLASH IT LTD

Section-10 Network Services:

Configuring DHCP server and client.

DNS server and caching.

Network Time Protocol (NTP) and other network services.

Section-11 Tools Introduction:

E-mail Backup-Restore

packet sniffer

Backup create and restore

IP scan

Graph management

profile

Watchdog

Telnet

Netwatch

Torch & Traceroute

Section-12 VPN and Tunneling:

Virtual Private Networks (VPN) configuration.

Point-to-Point Tunneling Protocol (PPTP) and Layer 2 Tunneling Protocol (L2TP).

OpenVPN setup.

Section-13 ISP Setup with INT,GGC,FNA& BDIX

P2P Configuration

VLAN Create

NAT

Route

Section-14 Advanced NAT Concepts:

Firewall Filter and NAT(SrcNAT,dstNAT,Masquerad) configuration

OLT Course OUTLINE

OLT ACCESS * Working Principles of OLT * Optical Power Budget

*Command of OLT

* OLT MGMT * ONU Management * Advance Configuration * Layer3 Configuration

* SNMP/RMON Configuration * System Management



FLASH IT LTD

CCNA-সিসকো রাউটার এন্ড সুইচ এ কাজ করে কাজের প্লেসমেন্ট করার সুযোগ :

Course outline about CCNA :

Section:-01 Introduction to Networking:

Overview of network components and their functions.

Network topologies, media, and protocols.

Network models (OSI, TCP/IP).

Section:-02 Ethernet and switch operation.

Virtual LAN (VLAN) concepts and description.

VLAN access & Trunk description.

Spanning Tree Protocol (STP) concepts and types of STP IEEE 802.1D

STP, Rapid STP (RSTP) & Multiple STP (MSTP) description

Section:-03 Network Access

Configure and verify VLANs (normal range) spanning multiple switches

1. Access ports (data and voice)
2. Default VLAN
3. InterVLAN connectivity

Configure and verify interswitch connectivity

1. Trunk ports
2. 802.1Q
3. Native VLAN

Configure and verify Layer 2 discovery protocols (Cisco Discovery Protocol and LLDP)

1. Configure and verify (Layer 2/Layer 3) Ether Channel (LACP)

Describe the need for and basic operations of Rapid PVST+ Spanning Tree Protocol and identify basic operations

1. Root port, root bridge (primary/secondary), and other port names
2. Port states (forwarding/blocking)
3. PortFast benefits



FLASH IT LTD

Determine how a router makes a forwarding decision by default

- 1.Longest match
- 2.Administrative distance
- 3.Routing protocol metric

Configure and verify IPv4 static routing

- 1.Default route
- 2.Network route
- 3.Host route

Section:-04 IP Connectivity:

IP addressing and subnetting.

Routing concepts and protocols.

Inter-VLAN routing.

Section:-05 IP Services:

Dynamic Host Configuration Protocol (DHCP) concepts and configuration.

Domain Name System (DNS) concepts and configuration.

Network Address Translation (NAT) concepts and configuration.

Section:-06 Network Security:

Basic concepts of network security.

Access control lists (ACLs) concepts and configuration.

Network Address Translation (NAT) concepts and configuration.

Section:-07 Automation and Programmability(Its needed for future network engineer):

Basic concepts of network automation and programmability.

Python scripting and automation tools.

Review of all topics covered in the course.

Hands-on labs and practice exercises.

Exam preparation tips and strategies.



FLASH IT LTD

CCTV/IP Camera Course Outline:

সিসিটিভি/আইপি ক্যামেরা কোর্স একটি সম্পূর্ণ প্রযুক্তি কোর্স, যা আপনাকে বিশেষভাবে সিসিটিভি ও আইপি ক্যামেরা সিস্টেমের জ্ঞান সরবরাহ করবে- এই কোর্সটি বিশেষভাবে ব্যবহারকারীদের জন্য তৈরি করা হয়েছে যারা নতুনদের জন্য ক্যামেরা প্রযুক্তি ও নেটওয়ার্ক পরিষেবার ব্যবস্থাপনা সম্পর্কে জানতে চায়।

কোর্সটির বিস্তারিত অংশগুলি হল -

১. সিসিটিভি এবং আইপি ক্যামেরা সিস্টেমের পরিচিতি এবং ক্যামেরা প্রযুক্তির সম্পর্কে জানুন।
২. ক্যামেরা সিস্টেম সেটআপ ও ইনস্টলেশন সম্পর্কে শিখুন।
৩. ক্যামেরা সিস্টেম প্রযুক্তির সম্পর্কে জানুন এবং নেটওয়ার্ক পরিষেবার পরিচালনা সম্পর্কে জানুন