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DEVOPS COURSE

WHY LITZ TECH?

Learn IT Zone is a pioneer in facilitating education using breakthrough technologies. With dedicated teams academic experts, the company has been on the forefront of heralding the next advancement in learning, thus becoming a distinctive player in bridging geographical and cultural borders, we are well connected with the networks of colleges and IT solutions. LITZ TECH INDIA PVT LTD recruits well performing students of Learn IT Zone that provides an effective career.

KEY FEATURES

- Train from professionals with industry experience
- Learn theoretical concepts and gain hands-on training simultaneously
- Realtime Hands-On Practical Experience Training to imbibe corporate practices ➤ Get certified at the end of the training
 - Receive placement support once the training is completed ➤ Getting exposure to latest technology up gradations.
- Advanced lab facility and most updated syllabus and materials will be provided with learning tools for easy learning
- You will have the access to contact the trainers at anytime.

CCNA Course Syllabus

Net working concepts

- Components of network – router, switch, hub, bridge etc.
- Types of Network – LAN, MAN, WAN, VPN, PAN & Content Network
• Defining Network requirements – NIC-Ethernet (CSMA/CD).
- 10/100/1000 Mbps DUPLEX (Half/Full/Auto) – Connecting Media – Coax. 10 base 2T – UTP/STP – CAT 1/2/3..
- Straight through/cross crimping (only details no practical).
- Fiber optics – Single/Multimedia.
- 100BaseTX/FX etc – wireless communication.
- Ethernet cabling Standard.
- Connecting Devices .
- Repeater – Hub – Switch – Bridge – Topology – Bus/Star/Ring

OSI – Model

- 7 Layers – Communication between the Layers (Encapsulation & De-encapsulation) .
- Layer 2 – MAC/LLC – 802.3/802.2 (SAP/SNAP)/Ethernet II – Frames.
- Broadcast/Collision domain – point of Hub/Switch/Router
- L4 – 3 way handshake – windowing – and about – Connectionless
- Packet size [64B (mini) to 1518B (Max)]

TCP/IP Model & Ipv4 Addressing

- All Layers of TCP/IP Compound with – OS.
- Application Layer – TFTP/FTP/SMTP/TELNET/SNMP/DNS . Transport
Layer – TCP/UDP – TCP Segment Format .
- 3 way handshake/windowing – UDP segment Format.
- Internet Layer.
- IP datagram format – Protocol No. – TCP 6 – UDP 17.

- ICMP-ARP -RARP.
- Introduction to IP Addressing-Class A/B/C/D/E.
- Private IP Address-First OCTET Range etc.

Subnetting

- Default Subnet Mask.
- Class C Subnetting & Practice no. given.
- Class B Subnetting & problems.
- Class A Subnetting & problems

Introduction to IPV6

- Introduction.
- Host Address Assignment.
- Unicast, Multicast and other Special IP V6 Addresses.
- Configuring IP V6 Routing and Routing Protocols.
- Translations between IP V4 and IP V6.
- Summary

Basic of Router & Configuration

Selection of Router & Cabling a Route

- When Router used-LAN with WAN connect-to connect networks of different IP .
- Different interface of Router-AUI/S0/S1/AUX-console/BR etc.
- Cables used in different interfaces/purpose of interfaces.
- WAN interface cable-EIA/TIA-232/449/530-35-X.21.
- Different CISCO series-modular/fixed-10mbps/100etc.
- Straight through between DTE & DCE

Different modes of operation & basic commands

Internal Components: .

- ROM-POST-BSL-ROM-MONITORPRG-MINI IOS.
- Different interface of Router-AUI/S0/S1/AUX-console/BR/etc.
- DRAM-Running Config.
- NVRAM-Startup Config.
- FlashMEM- IOS

Different Modes:-

- ROMMonitor-RebootMode-Setup-ExecModel
- **ExecMode**
- User -Privilege – Global – Sub-configuration mode . Syntax/command to switch between modes .
- Assigning IP Address for-E0-S0-S1.
- Enabling/disabling-console/privilege/vtypassword .
- Mod-command.
- ShowConfig/start/run/version/flash

Basic commands practice

- Changing between modes-(user-privilege-Global-etc) .
- IP Address configuration-E0-S0-S1.
- Password-enabling-encrypting it.
- Practice-motd-show commands-editing commands.
- Assigning hostname(for Router)

Advanced Commands

- Register value-X2102-boot field value/purpose ROM monitor made-password .
- breaking 8th/6th/13th bit of register value importance.
- Boot system flash/network/ROM-config-register(Changing register value)- etc .
- command purpose Booting sequence-Backup&Recovery-CDP.

- Practice above commands as well as following.
- Telnet-[ctrl+shift+6]x-disconnect-shusers/Sessions.
- Clear lines resume-[hostname resolving in telnet domain Enabling/disabling etc – no practical for this alone] .
- Overview of Cisco SDM (Security Device Manager)

IP Routing IP Routing, Static Routing & Default Routing

- IP Routing-static routing-default-dynamic routing.
- Providing clock rate to the link after identifying DCE by "Sh controllers" command .
- Commands/syntax-Static/default routing

Static Routing & Default Routing

- Practical-session for Static & default routing

Dynamic Routing and RIP.

- Dynamic Routing-IGP&EGP.
- IGP-RIP-OSPF-EGRP-EIGRP.
- Classes of Routing Protocol-Distance vector-Link State-Balanced hybrid .
- Role of Routing Protocol-builds/updates/selects & Routes the packet Solving for Routing loops – Max.
- loop count – split horizon – Route poison Reverse – Hold down Timer Features of RIP –distance vector algorithm –RIP V1/V2-load sharing-metric (depends – loop count) .
- Metric value depends –loop count-Ticks-delay-Reliability-cost-MTU – Bandwidth .
- Command-Router RIP Network.
- Sh IP route.
- Timer value for RIP-Update/Invalid/hold down/flush Timer

RIP

- Dynamic Routing – RIP Practical

Dynamic Routing EIGRP & OSPF

- Limitations of distance vector algorithm .
- Features of EIGRP and its operations .
- Configuring EIGRP – “Auto-redistribution” .
- Verify and troubleshooting EIGRP .
- Features of OSPF and its operation .
- Configuring single area OSPF .
- Verify and troubleshoot OSPF

Access List

- Purpose/advantage of Access-list .
- IP [for a host – for a network/subnetwork] .
- Std IP Access-list – wildcard calculation .
- Ext IP Access list .
- Switchport ACL, .
- Steps involved in creating access list .
- Applying access list at the interface – (inbound/outbound) .
- Named access-list for IP .
- Access-list in Telnet session

IP Standard Access List

- Practical on .
- IP Std access-list

IP Extended Access List

- IP Ext access-list, named access lists

NAT

Implement, Verify & Troubleshoot NAT

- Explain the Basic Operation of NAT
- Using (including CLI/SDM).
- Practical on Static NAT, Dynamic NAT and PAT.
- Troubleshoot NAT Issues

WAN Technologies

WAN Technologies - Leased Line

- Leased line.
- P to P communication.
- HDLC & PPP protocol features.
- Enabling HDLC & PPP

PPPoE

- PPPoE & its explanation/role.
- PAP/CHAP role.
- Configuring PAP/CHAP using commands

VPN

- Describe VPN technology.
- Importance of VPN
- Benefits & Role.
- Impact & Components

Frame Relay

- Packet Switched Network
- Virtual circuit - DLCI - Access link - CRI - FECN - BECN - LMI
- Enabling Frame-relay.
- Inverse ARP.
- Configuring frame-relay for .

- MeshNetwork.
- StarNetwork.
- Combinationofabovetwo

Switching

SwitchingOperationandConfiguration-

- Function–add-learning/Forward-filterstheFrame/loopavoidance . Redundantpathanditsproblems.
- SpanningTreeProtocol–purpose–itsdifferentstate (blocking/listening/learning/forwarding) .
- Modesofoperationofswitch/Bridge.
- Portduplexing.
- Switch&hub–halfduplex.
- Switch&Server–fullduplex.
- CISCOcatalystswitch1912&1924interfacedetails.
- M/K/Imodes.
- Basicandadvancedcommands.
- Enabling&configuringMACaddresstable

VLANConfiguration

- VLAN–ISL–Trunking.
- EnablingTrunking.
- AssigningVLANNo.&name.
- ConfiguringportstoaspecificVLAN.
- VTPpurpose.
- VTPdomain.
- VTPmodesofoperation.
- SwitchingTechnologies(includingVTP,RSTP,PVSTP,802.1q)
- ImplementBasicSwitchSecurity(includingPortSecurity,Trunkaccess.etc)

Wireless LAN Wireless Intro & Operation

- Standards associated with Wireless Media (including WiFi Alliance, ITU/FCC) .
- Ad-hoc mode, infrastructure mode .
- SSID, BSS, ESS .
- Basic Parameters to configure on a Wireless Network .
- Wireless Security Features (WEP, WPA1/2) .
- Implementing Wireless Networks

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