INTRODUCTION TO FUTURE NETWORKING

COURSE 1 OVERVIEW

CURRICULUM: Extreme Academy Course 1

CERTIFICATION LEVEL: Associate

CERTIFICATION FULL NAME: Extreme Networks Associate – Introduction to Future Networking

CERTIFICATION SHORT NAME: XNA - Introduction to Future Networking

WATCH COURSE ON DEMAND

DESCRIPTION

This introduction to Networking course covers the fundamentals of how networks work, with the latest technology and a view into the future.

DURATION / TIMING

Course designed for 2 days of training or 12 hours. Timings are recommended; however, an Instructor may wish to spend more or less time on certain topics. The course can be delivered as a 2-day block or spread out over time.

STUDENT PREREQUISITES

No previous experience of networking is required.

MODULES	MAIN TOPICS AND LEARNING OBJECTIVES (LO)	
MODULE 1. AN INTRODUCTION	**LO: To understand the context of course 1 and be introduced to Extreme Academy**	
MODULE 2. JARGON BUSTING	**LO: To demystify all the jargon and get an inside track on all the buzz words**	
MODULE 3. NETWORKS	**LO: To understand the purpose of Networks and the key principles to bear in mind when designing or managing them**	
	Data Communication Fundamentals	✔ To understand how network operations are described with the help of layers and protocols ✔ To understand how standards-giving organizations impact the evolution of networks
	Physical Connectivity (L1)	✔ Understand the principles of the physical layer operation ✔ Become familiar with various connection types and L1 related protocols
	Logical Connectivity (L2)	✔ To understand the principles of the Data Link Layer ✔ To understand L2 addressing ✔ To understand fundamental Switch operations ✔ To understand the separation of broadcast domains using VLANs (including multi-node network segments)
	Logical Connectivity (L3)	✔ To understand principles of the Network Layer ✔ To understand L3 addressing ✔ To understand how routing happens ✔ To understand L3 traffic types
	Data Transport (L4)	✔ To understand the principles of the Transport Layer ✔ To understand the differences between L4 source destination ports ✔ To understand the differences between connection connectionless protocols ✔ Distinguish common L4 networking protocols
	Application Flow Through the Communication Stack	✔ Understanding the principles of how the Application Layers interact with the lower layers ✔ To discuss essential network use cases from the communication stack viewpoint
MODULE 4. WIFI NETWORKS	**LO:** **– To understand the purpose and value of Wi-Fi networks** **– To understand basic concepts of wireless operation** **– To understand the concept of wireless communication how Wireless LANs (WLANs) fit into modern networks** **– Identify the major differences between wired wireless connectivity** **– To understand the challenges wireless networks create**	
	The Workings Behind Wi-Fi	✔ To understand the characteristics of Wi-Fi
MODULE 5. THE INTERNET, DEMYSTIFIED	**LO:** **– To learn how TCP/IP communication is used for typical client-server connections across the Internet** **– To understand essential Internet protocols that make up the TCP/IP protocol stack** **– To understand the ICMP protocol and how it can be used to diagnose network connectivity issues**	
	The Workings Behind Internet	✔ To understand the most important parts of LAN-to-Internet operations, such as NAT, WWW, DNS.
MODULE 6. MANAGING NETWORKS AND DEVICES	**LO:** **– To understand the rationale behind network management** **– To understand how networks and devices are managed in an 'On Premise' or 'In Cloud' scenario** **– To understand the principles of Network Management** **– To experience the benefits of Extreme CloudIQ for onboarding, monitoring and unified device management** **– To understand basics of device management options and protocols**	
	How We Manage Devices and Networks	✔ To understand on-premise and cloud approaches to network management and main differences between them ✔ To understand network management architecture in cloud-based approach. Learn to know basic Extreme CloudIQ functions.
	Cloud-Based Management	✔ To understand a 'Cloud-based' approach to network management architecture ✔ Experience basic Extreme CloudIQ functions. ✔ To understand the differences between 'on-premise' and 'cloud' approaches to network management
	Automating Network Maintenance	✔ To learn about the available automation and integration capabilities related to device or network management
COURSE CONCLUSION AND ASSESSMENT		
REFLECTION SECTION AND NEXT STEPS		