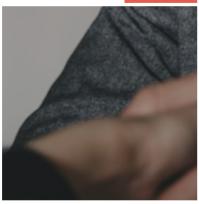


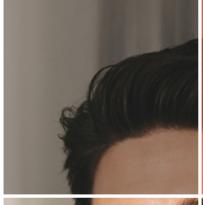
# **CSR INITIATIVE**

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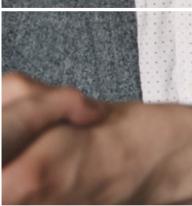


InfosecTrain Contributing
For those who are struggling
to land a job amidst this pandemic,
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# LEARNING PATH

- Level 1: A+
- Level 2: Introduction to Networks
- Level 3: Linux Fundamentals
- Level 4: Security & Cloud Essentials



#### Hardware Fundamentals

- Personal Computer Components
- Storage Devices
- Mobile Digital Devices
- Connection Interfaces
- CPU, RAM, MOTHERBOARD, POWER SUPPLIES

#### **Operating System Fundamentals**

- PC and Mobile Operating Systems
- PC Operating System Tools and Utilities

#### **Networking and Security Fundamentals**

- Network Types
- Network Components
- Common Network Services
- Cloud Concepts
- Security Fundamentals

# **Safety and Operational Procedures**

- Basic Maintenance Tools and Techniques
- Personal and Electrical Safety
- Environmental Safety and Materials Handling
- Professionalism and Communication
- Organizational Policies and Procedures
- Troubleshooting Theory

# **Working with Other Operating Systems**

- The OS X Operating System
- The Linux Operating System

#### **LEVEL 2: Introduction to Networks**



#### **Introduction to Networks**

- What's a Network?
- The Local Area Network
- Common Network Components
- Wide Area Network
- Network Architecture: Peer-to-Peer or Client-Server?
- Physical Network Topologies
- Bus Topology
- Star Topology
- Ring Topology
- Mesh Topology
- Point-to-Point Topology
- Point-to-Multipoint Topology
- Hybrid Topology
- Topology Selection, Backbones, and Segments
- Selecting the Right Topology
- The Network Backbone
- Network Segments
- CAN

#### The Open Systems Interconnection Specifications

- Internetworking Models
- The Layered Approach
- Advantages of Reference Models
- The OSI Reference Model
- The Application Layer
- The Presentation Layer

- The Session Layer
- The Transport Layer
- The Network Layer
- The Data Link Layer
- The Physical Layer
- Introduction to Encapsulation

#### **Networking Devices**

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- Network Interface Card
- Hub
- Bridge
- Switch
- Router
- Firewall
- IDS/IPS
- Access Point
- Wireless Range Extender
- Contention Methods

- Dynamic Host Configuration Protocol Server
- Multilayer Switch
- Load Balancer
- Domain Name Service Server
- Proxy Server
- Encryption Devices
- Analog Modem
- Packet Shaper

#### **IP Addressing**

- IP Terminology
- The Hierarchical IP Addressing Scheme
- Network Addressing
- Private IP Addresses
- IPv4 Address Types
- Layer 2 Broadcasts
- Layer 3 Broadcasts
- Unicast Address
- Multicast Address (Class D)
- IP Subnetting

- Internet Protocol Version 6 (IPv6)
- Why Do We Need IPv6?
- The Benefits of and uses for IPv6
- IPv6 Addressing and Expressions
- Shortened Expression
- Address Types
- Special Addresses
- Stateless Autoconfiguration (EUI-64)
- DHCPv6 (Stateful)
- Migrating to IPv6

#### **WAN Infrastructure**

- WAN basics
- WAN Connectivity methods

# **Troubleshooting Network Issues**

- Network Troubleshooting Methodology
- Network troubleshooting tools
- Wired and Wireless Connectivity and Performance issues

#### **LEVEL 3: Linux Fundamentals**



#### **Exploring Linux Command-Line Tools**

- Understanding Command-Line Basics
- Exploring Your Linux Shell Options
- Using a Shell
- Exploring Shell Configuration
- Using Environment Variables
- Getting Help
- Using Streams, Redirection, and Pipes
- Exploring Types of Streams
- Redirecting Input and Output

- Piping Data Between Programs
- Generating Command Lines
- Processing Text Using Filters
- File-Combining Commands
- File-Transforming Commands
- File-Formatting Commands
- File-Viewing Commands
- File-Summarizing Commands

#### **Managing Files**

- File Naming and Wildcard Expansion Rules
- File Commands
- File Archiving Commands
- Managing Links
- Directory Commands
- Managing File Ownership
- Assessing File Ownership
- Changing a File's Owner
- Changing a File's Group

- Configuring Routing
- Using GUI Configuration Tools
- Using the ifup and ifdown Commands
- Configuring Hostnames
- Diagnosing Network Connections
- Testing Basic Connectivity
- Tracing a Route
- Checking Network Status
- Examining Raw Network Traffic

# **Administering the System**

- Managing Users and Groups
- Understanding Users and Groups
- Configuring User Accounts
- Configuring Groups
- Tuning User and System Environments
- Using System Log Files
- Setting Logging Options
- Manually Logging Data
- Rotating Log Files
- Reviewing Log File Contents

- Maintaining the System Time
- Linux Time Concepts
- Manually Setting the Time
- Using NTP
- Running Jobs in the Future
- Understanding the Role of cron
- Creating System cron Jobs
- · Creating User cron Jobs
- Using at



#### Writing Scripts, Configuring E-mail, and Using Databases

- Managing the Shell Environment
- Reviewing Environment Variables
- Understanding Common Environment Variables
- Using Aliases
- Modifying Shell Configuration
   Files
- Writing Scripts
- Beginning a Shell Script
- Using Commands

- Using Variables
- Using Conditional Expressions
- Using Loops
- Using Functions
- Managing E mail
- Understanding E mail
- Choosing E mail Software
- Managing E mail
- Securing Your E-mail Server

# LEVEL 4: Security & Cloud Essentials



### Understanding Threat Actors & Threat Intelligence

- Vulnerability, Threat, and Risk
- Internal/External
- Types of Hackers
- Threat Research Sources
- Tactics, Techniques, and Procedures and Indicators of Compromise

#### **Understanding Security Assessments**

- Assess Organizational Security with Network Reconnaissance Tools
  - ipconfig, ping, and arp
  - Nmap
  - Wireshark
- Understanding Security Concerns with General Vulnerability Types
  - Zero-Day and Legacy Platform Vulnerabilities
  - Weak Host Configurations
  - Weak Network Configurations
  - Impacts from Vulnerabilities
  - Common Vulnerabilities and Exposures
  - Penetration Testing Concepts

# Social Engineering and Malware

- Familiarity/Liking
- Social Proof
- Scarcity and Urgency
- Dumpster Diving, Tailgating & Shoulder Surfing
- Phishing, Vishing & SMiShing
- Spear phishing, Whaling & Watering Hole Attack
- Pharming
- Typosquatting
- Credential Harvesting
- Malware Classification

#### **Understanding Authentication Controls**



- Authentication Factors
- Multifactor Authentication
- Authentication Attributes
- Implement Authentication Technologies

#### **Understanding Identity and Account Management Controls**

- Identity Management Controls
- Background Check and Onboarding Policies
- Personnel Policies for Privilege Management
- Offboarding Policies

- Security Group-Based Privileges
- Understanding Account Policies
- Account Password Policy Settings
- Account Restrictions
- Account Lockout and Disablement

# **Understanding Physical Security**

#### **Cloud Essentials**

- An Introduction to Cloud Computing Configurations and Deployments
- Cloud Operations
- Disaster Recovery, Business Continuity & Ongoing Maintenance
- Cloud Management



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