

Scandinavian Academy Training Center

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Riyadh - Al Khaleej District - Sheikh Abdul Aziz Bin Abdul Rahman Bin Bishr Street - 13223 - Office No. 5 | P.O.BOX : 13224

Course: Introduction to TCP_IP and Internet Security

Code	City	hotel	Start	End	price	Language - Hours
IT-683SA	Alula	Hotel Meeting	2027-01-24	2027-01-28	10950 SR	En - 25

Overview

This is an overview of the TCPIP Suite of protocols. It is designed for audiences new to the world of TCP/IP. It is an instructor led presentation course with some computer based practical exercises

Objectives

- Be introduced to the various protocols that are covered by TCP/IP
- Learn about the development and limitations of Internet Protocol Addressing
- Learn how to plan and configure a TCP/IP based network
- Learn some of the tools used to troubleshoot TCPIP networks

Course Outline

Introduction

- History of TCP/IP
- Standards Bodies – The Internet
- TCP/IP Architecture
- The TCP/IP Suite
- Standards Bodies – ISO
- Open System Interconnection
- ISO OSI 7-layer model
- Layered Protocols

The Internet Protocol

- Internet Protocol
- Internet Protocol Version 4 Addressing
- Internet Protocol Routing
- IPv4 Address Classes
- Classfull IPv4 Address Ranges
- Multicast Addresses
- IPv4 Reserved Addresses
- IPv4 Address Assignment
- IPv4 Private Network Addressing
- Address Exercise
- IP Address Allocation
- Dynamic IP Address Allocation – RARP
- Dynamic IP Address Allocation – BOOTP
- Dynamic IP Address Allocation – DHCP
- Windows DHCP Commands
- The IPv4 Header
- IP Fragmentation
- IP Precedence
- Differentiated Services – DiffServ

Address Resolution

- Protocol Encapsulation with TCP/IP
- Address Resolution Protocol (ARP)
- Default Gateway
- Connecting Hosts

IP Address Limitations

- Limitations of the Classfull System
- Subnet Motivation – IP Addresses

- Subnet Extensions
- Subnetting
- Subnet Mask Application
- Defining Subnetworks
- Subnetworking in Action
- Subnet Granularity
- Subnet Mask Application
- Subnet/Supernet Calculators
- What is IPv6?

ICMP

- Internet Control Message Protocol
- PING
- PING Options
- TraceRoute
- PathPing

The Transport Layer

- TCP Concepts
- Simple Reliability
- TCP Segment
- TCP Port Numbers
- User Datagram Protocol (UDP)
- UDP Segment
- UDP versus TCP

IP Routing

- Routers and Routing
- Static Routing
- Static Routing

- Dynamic Routing
- Dynamic Routing Protocols
- Routing Information Protocol
- RIP Versions
- RIP Responses
- Open Shortest Path First
- An OSPF Network
- OSPF Costs
- Link State Algorithm
- The OSPF Hello Message
- OSPF Convergence

NAT & NAT with PAT

- Introduction
- Overview
- Network Address Translation
- Dynamic NAT with Port Address Translation
- NAT with Port Address Translation

The Domain Name System

- The Domain Name System
- The Domain Name Space
- Windows DNS Configuration
- Testing DNS

The Process Layer

- Processes
- File Transfer Protocol
- Trivial File Transfer Protocol
- Telnet

- Modern Network Management
- Simple Network Management Protocol
- Components of SNMP

The Scandinavian Academy for Training Center adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training Center.

Program Timings: 9:00 AM to 2:00 PM

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.
- A closing ceremony on the final day to distribute certificates and celebrate participants achievements.
- **Note: All prices are exclusive of 15% Value Added Tax (VAT).**

Our Success Partners

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