# Microsoft Azure

Always Available, Effortlessly Accessible,
and Endlessly Reliable

# AZ – 700

## Designing and Implementing Microsoft Azure Networking

## Overview

This course teaches Network Engineers how to design, implement, and maintain Azure networking solutions. This course covers the process of designing, implementing, and managing core Azure networking infrastructure, Hybrid Networking connections, load balancing traffic, network routing, private access to Azure services, network security and monitoring. Learn how to design and implement a secure, reliable, network infrastructure in Azure and how to establish hybrid connectivity, routing, private access to Azure services, and monitoring in Azure.

**Course Objectives**

By the end of this course, participants will be able to:

- Design and implement core networking infrastructure
- Design, implement, and manage connectivity services
- Design and implement application delivery services
- Design and implement private access to Azure services
- Secure network connectivity to Azure resources

# Prerequisites

Successful Azure network engineers should have experience creating and managing compute, storage, and networking resources in Azure.

# Audience Profile

This course is for Network Engineers looking to specialize in Azure networking solutions. An Azure Network engineer designs and implements core Azure networking infrastructure, hybrid networking connections, load balance traffic, network routing, private access to Azure services, network security and monitoring. The azure network engineer will manage networking solutions for optimal performance, resiliency, scale, and security. Successful Azure Network Engineers start this role with experience in enterprise networking, on-premises or cloud infrastructure and network security.

- Understanding of on-premises virtualization technologies, including: VMs, virtual networking, and virtual hard disks.

- Understanding of network configurations, including TCP/IP, Domain Name System (DNS), virtual private networks (VPNs), firewalls, and encryption technologies.

- Understanding of software defined networking.

- Understanding hybrid network connectivity methods, such as VPN.

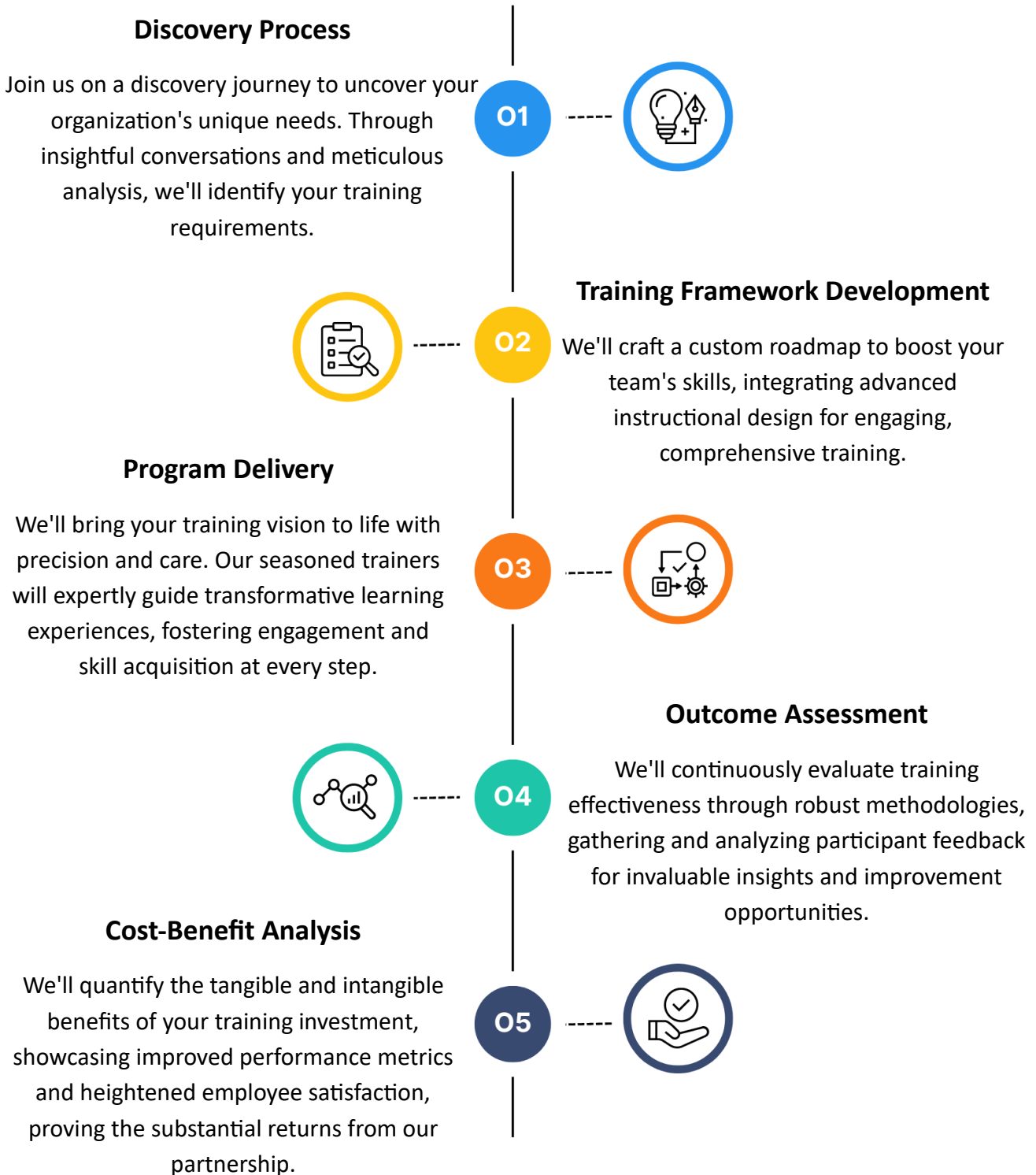- Understanding resilience and disaster recovery, including high availability and restore operations.

# Course Level

- Intermediate

# Course Duration

- 3 Days – 24 Hours

# Creating Tailor - Made Training Programs to Meet Your Specific Goals

### Discovery Process

Join us on a discovery journey to uncover your organization's unique needs. Through insightful conversations and meticulous analysis, we'll identify your training requirements.

**O1**

### Training Framework Development

**O2**

We'll craft a custom roadmap to boost your team's skills, integrating advanced instructional design for engaging, comprehensive training.

### Program Delivery

We'll bring your training vision to life with precision and care. Our seasoned trainers will expertly guide transformative learning experiences, fostering engagement and skill acquisition at every step.

**O3**

### Outcome Assessment

**O4**

We'll continuously evaluate training effectiveness through robust methodologies, gathering and analyzing participant feedback for invaluable insights and improvement opportunities.

### Cost-Benefit Analysis

We'll quantify the tangible and intangible benefits of your training investment, showcasing improved performance metrics and heightened employee satisfaction, proving the substantial returns from our partnership.

**O5**

# Course Outline

As a candidate for this certification, you should have subject matter expertise in planning, implementing, and managing Azure networking solutions, including:

- Core network infrastructure
- Hybrid connectivity
- Application delivery services
- Private access to Azure services
- Network security

As an Azure network engineer your responsibilities include optimizing performance, resiliency, scale, and security of Azure networking solutions. You proactively monitor network environments to identify issues and minimize risk. You also identify and resolve connectivity issues.

To deliver Azure solutions, you work with:

- Solution architects
- Cloud administrators
- Security engineers
- Application developers
- DevOps engineers

As a candidate for this certification, you should have experience creating and managing compute, storage, and networking resources in Azure. You should understand networking fundamentals, such as:

- Name resolution
- Network protocols
- Network address management

**Module 1: Introduction to Azure Virtual Networks**
- Lesson: Explore Azure Virtual Networks
- Lesson: Configure Public IP addresses
- Lesson: Design name resolution for your Virtual Network
- Lesson: Configure DNS settings in Azure
- Lesson: Enable Cross-VNet connectivity with peering
- Lesson: Implement virtual network traffic routing
- Lesson: Configure internet access with Azure Virtual NAT
- **Exercise: Design and implement a Virtual Network in Azure**
- **Exercise: Connect two Azure Virtual Networks using global virtual network peering**

## Module 2: Design and Implement Hybrid Networking
- Lesson: Design and implement Azure VPN Gateway
- Lesson: Connect networks with Site-to-site VPN connections
- Lesson: Connect devices to networks with Point-to-site VPN connections
- Lesson: Connect remote resources by using Azure Virtual WANs
- Lesson: Create a network virtual appliance (NVA) in a virtual hub
- **Exercise – Create and configure a Virtual Network Gateway**
- **Exercise – Create a Virtual WAN by using the Azure Portal**

## Module 3: Design and implement Azure ExpressRoute
- Lesson: Explore Azure ExpressRoute
- Lesson: Design an ExpressRoute deployment
- Lesson: Configure peering for an ExpressRoute deployment
- Lesson: Connect an ExpressRoute circuit to a VNet
- Lesson: Connect geographically dispersed networks with ExpressRoute Global Reach
- Lesson: Improve data path performance between networks with ExpressRoute FastPath
- Lesson: Troubleshoot ExpressRoute connection issues
- **Exercise – Configure an ExpressRoute Gateway**
- **Exercise – Provision an ExpressRoute circuit**

## Module 4: Load balancing non-HTTP(S) traffic
- Lesson: Explore load balancing options in the Azure portal
- Lesson: Design and implement Azure Load Balancer using the Azure portal
- Lesson: Explore Azure Traffic Manager
- **Exercise – Create and configure an internal load balancer using the Azure portal**
- **Exercise: Create a traffic manager profile using the Azure portal**

## Module 5: Load balancing HTTP(S) traffic in Azure
- Lesson: Design Azure Application Gateway
- Lesson: Configure Azure Application Gateway
- Lesson: Deploy Azure Application Gateway
- Lesson: Design and configure Azure Front Door
- **Exercise: Create a Front Door for highly available web application using the Azure portal**

## Module 6: Design and Implement Network Security
- Lesson: Get network security recommendations with Microsoft Defender for Cloud
- Lesson: Deploy Azure DDoS Protection by using the Azure portal
- Lesson: Deploy and configure Network Security Groups
- Lesson: Design and implement Azure Bastion
- Lesson: Design and implement Azure Firewall
- Lesson: Working with Azure Firewall Manager
- Lesson: Implement a Web Application Firewall
- **Exercise – Configure DDoS Protection on a virtual network**
- **Exercise – Deploy and configure Azure Firewall using the Azure portal**
- **Exercise – Secure your virtual hub using Azure Firewall Manager**

## Module 7: Design and implement private access to Azure Services
- Lesson: Explain Virtual Network Service Endpoints
- Lesson: Define Private Link Services and Private Endpoints
- Lesson: Integrate Private Endpoint with DNS
- **Exercise – Restrict network access to PaaS resources with virtual network service endpoints**
- **Exercise – Create an Azure Private Endpoint using Azure PowerShell**

## Module 8: Design and Implement Network Monitoring
- Lesson: Monitor your networks using Azure Monitor
- Lesson: Use Azure Network Watcher to troubleshoot and analyze your network
- **Exercise – Monitor a load balancer resource using Azure Monitor**

# Indus Tech Services

## Who We Are....

Indus Tech Services is an IT company that specializes in providing comprehensive training, consulting & implementation services for software solutions designed to address the diverse business challenges faced by organizations today. With a passion for technology and a deep understanding of business processes, Indus Tech is committed to empowering businesses to optimize their operations, boost productivity, and drive sustainable growth.

## Indus Tech Services and Microsoft Partnership

As a proud **Microsoft Partner**, **Indus Tech Services** is uniquely equipped to deliver top-tier training and certification programs designed to meet the evolving needs of today's workforce. Our partnership with Microsoft allows us to offer direct access to the latest tools, resources, and industry insights, ensuring that our courses are aligned with the most current technology trends. This collaboration enables us to provide unparalleled support to our students, helping them gain the skills and knowledge required to excel in their careers. By choosing Indus Tech Services, you're not just learning; you're gaining a competitive edge with Microsoft-backed expertise and certification.

## Why Choose Us...

From time to time, life serves up a profound nudge, urging us to step beyond our routines and make a difference in the world. Indus Tech Services emerged from one such compelling wake-up call. We are not just a company; we are a dedicated force with a belief in providing solutions to organizations, regardless of their size, and we infuse a human touch into everything we do.

## Our Expertise

With over 25 years of collective experience navigating the intricacies of daily business transactions, irrespective of geographical, cultural, time zone, or language barriers, our team has honed their expertise to meet any challenge head-on. This wealth of experience has armed our resources with an unparalleled understanding and skill set to tackle a broad spectrum of obstacles.

# Training

With two decades of unwavering commitment and a global footprint, our company is a true pioneer in the fields of linguistic, transactional, technical, and behavioural training for some of the world's largest corporate entities. Our unparalleled expertise has been refined through years of dedication and innovation, making us the go-to choice for businesses seeking transformative training solutions.

# Consulting

Our company has been at the forefront of providing world-class IT consulting services to organizations spanning the globe. With an extensive and proven track record, we have honed our expertise to meet the ever-evolving technological needs and challenges faced by businesses, regardless of their scale or industry.

# Implementation

Our experience covers a broad spectrum of IT implementation services, including system integration, software deployment, network architecture, cloud migration, and infrastructure setup. We understand that the successful execution of IT projects is pivotal to an organization's growth and efficiency. Therefore, we bring a depth of knowledge and a commitment to delivering results that set us apart.

To know more contact us at info@industechservices.com or call us at +91 - 99961 61170.