

## CLoud FUNDAMENTAL Course

این دوره اولین دوره مقدماتی به دنیای جذاب مایکروسافت آژور می باشد. این حوزه یکی از پرتقاضا ترین ها در جذب در بازار کار خارج از ایران می باشد.

### مروری بر دوره

دوره آژور فاندامنتال با کد آزمون AZ-900 یک دوره جذاب برای ورود به دنیای مایکروسافت آژور است که به عنوان یک دوره پیش نیاز برای ورود به دنیای بزرگ Microsoft Azure شناخته میشود. در این دوره شما با مقدمات و مفاهیم بسیار مهم مایکروسافت آژور آشنا میشوید و در سطح پایه کار کردن با محیط آژور را فرا میگیرید تا آمادگی لازم برای گذراندن دوره های تخصصی آژور در سطوح بالاتر را بر اساس رود مپ مد نظر خود بدست آورید.

دوره آژور فاندامنتال با کد آزمون AZ-900

دوره آژور فاندامنتال (AZ-900) یک دوره آموزشی است که به مباحث اصولی و بنیادین مرتبط با پلتفرم ابری مایکروسافت آژور (Microsoft Azure) می پردازد. این دوره به دانشجویان کمک می کند تا اصول و مفاهیم پایه ای را در خصوص استفاده از سرویس های ابری مایکروسافت آژور (Microsoft Azure) فرا بگیرند.

در دوره آژور فاندامنتال (AZ-900) ، شرکت کنندگان با مفاهیم و تکنولوژی های پشتیبانی شده توسط مایکروسافت آژور (Microsoft Azure) آشنا می شوند و نحوه استفاده از سرویس های مختلف ارائه شده توسط مایکروسافت آژور (Microsoft Azure) را درک خواهند کرد.

دوره آژور فاندامنتال (AZ-900) گام اول برای وارد شدن به سرویس های ابری مایکروسافت آژور (Microsoft Azure) است. با حضور در دوره آژور فاندامنتال (AZ-900) ، شرکت کننده قادر خواهد بود تا نحوه استفاده از منابع محاسبات، شبکه، ذخیره سازی و خدمات دیگر را در آژور یاد بگیرد.

دوره آژور فاندامنتال یک دوره آموزشی مناسب برای کسانی است که قصد ورود به دنیای کلاود مایکروسافت را دارند و با حضور در این دوره، شرکت کننده قادر خواهد بود تا مفاهیم پایه ای مرتبط با استفاده از مایکروسافت آژور (Microsoft Azure) را فرا بگیرد و بتواند در صورت نیاز به سرویس دهی در حوزه ابری ، با استفاده از آژور عمل نماید.

**این دوره طبق اعلام مایکروسافت و به صورت رسمی پیش نیاز دیگری ندارد و خود دوره آژور فاندامنتال (AZ-900) پیش نیاز دوره های بعدی مایکروسافت آژور است اما از نظر فنی قطعاً به دانش کلود پلاس نیاز خواهید داشت .**

### سرفصل ها

Cloud Computing and Vocabulary-01

Principle of economies of scale-02

CapEx vs OpEx and their differences-03

Consumption-based Model-04

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✉ P.Code: 27 45-039

- IaaS vs PaaS vs SaaS cloud service models–05
- Public, Private & Hybrid cloud deployment models–06
- Geographies Regions & Availability Zones–07
- Resources Resource Groups & Resource Manager–08
- Compute Services VMs VM Scale Set App Service Functions ACI AKS–09
- Networking Services Virtual Network VPN Gateway CDN Load Balancer App GW–10
- Azure Storage Services Blob Queue Table Files Disk and Storage Tiers–11
- Database Services Cosmos DB SQL Database Db for MySQL & PostgreSQL–12
- Azure Marketplace –13
- Azure IoT Services IoT Hub IoT Central Azure Sphere–14
- Azure Big Data & Analytics Services Synapse HDInsight Databricks–15
- Azure Artificial Intelligence (AI) Services Machine Learning Studio & Service –16
- Azure Serverless Computing Services Functions, Logic Apps, Event Grid–17
- Azure DevOps Solutions Azure DevOps DevTest Labs–18
- Azure Tools Azure Portal CLI PowerShell & Cloud Shell–19
- Azure Advisor–20
- (Azure Security Groups Network and Application Security Groups (NSG ASG–21
- User–defined Routes (UDR) with Route Tables–22
- Azure Firewall–23
- Azure DDoS Protection Distributed Denial of Service –24
- (Azure Identity Services Authentication Authorization & Active Directory (AD–25
- Azure Security Center–26

Azure Key Vault Secret Key and Certificate Management–27

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Azure Resource Locks–29

Azure Resource Tags–30

Azure Policy–31

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Cost Reduction Methods Reservations Hybrid Benefit Spot VM Pricing & TCO–36

Azure Cost Management–37

SLA and Composite SLA in Azure–38

Service Lifecycle in Azure Public Preview and General Availability–39

## مباحث :Cloud Plus

### Chapter 1

Introducing Cloud Computing Configurations and Deployments

Introducing Cloud Computing

Virtualization

Cloud Service Models

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Cloud Reference Designs and Delivery Models

Introducing Cloud Concepts and Components

Connecting the Cloud to the Outside World

Deciding Whether to Move to the Cloud

Selecting Cloud Compute Resources

Hypervisor Affinity Rules

Validating and Preparing for the Move to the Cloud

Choosing Elements and Objects in the Cloud

Internet of Things

(Machine Learning/Artificial Intelligence (AI

Creating and Validating a Cloud Deployment

The Cloud Shared Resource Pooling Model

Organizational Uses of the Cloud

Scaling and Architecting Cloud Systems Based

on Requirements

Understanding Cloud Performance

Delivering High Availability Operations

Managing and Connecting to Your Cloud Resources

(Is My Data Safe? (Replication and Synchronization

Understanding Load Balancers

Cloud Testing

Verifying System Requirements

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Correct Scaling for Your Requirements

Making Sure the Cloud Is Always Available

Remote Management of VMs

Monitoring Your Cloud Resources

(Writing It All Down (Documentation

Creating Baselines

Shared Responsibility Model

Chapter 2

### **Cloud Deployments**

Executing a Cloud Deployment

Understanding Deployment and Change Management

Cloud Deployment Models

Network Deployment Considerations

Service Level Agreements

Matching Data Center Resources to Cloud Resources

?What Are Available and Proposed Hardware Resources

Templates and Images

Physical Resource High Availability

Introducing Disaster Recovery

Physical Hardware Performance Benchmarks

Cost Savings When Using the Cloud

Energy Savings in the Cloud

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Shared vs. Dedicated Hardware Resources in a Cloud

Data Center

Microservices

Configuring and Deploying Storage

Identifying Storage Configurations

Storage Provisioning

Storage Priorities: Understanding Storage Tiers

Managing and Protecting Your Stored Data 95 Storage Security

Considerations

Accessing Your Storage in the Cloud

Performing a Server Migration

Different Types of Server Migrations

Addressing Application Portability

Workload Migration Common Procedures

Examining Infrastructure Capable of Supporting

a Migration

Managing User Identities and Roles

RBAC: Identifying Users and What Their Roles Are

?What Happens When You Authenticate

Understanding Federation

Single Sign-On Systems

Understanding Infrastructure Services

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**Security in the Cloud**

Cloud Security Compliance and Configurations

Establishing Your Company's Security Policies

Selecting and Applying the Security Policies to Your Cloud Operations

Some Common Regulatory Requirements

Encrypting Your Data

Remote Access Protocols

Automating Cloud Security

Security Best Practices

Access Control

Accessing Cloud-Based Objects

Cloud Service Models and Security

Cloud Deployment Models and Security

Role-Based Access Control

Mandatory Access Control

Discretionary Access Control

Multifactor Authentication

Single Sign-On

**Implementing Cloud Security**

Implementing Security in the Cloud



Data Classification

Segmenting Your Deployment

Implementing Encryption

Applying Multifactor Authentication

Regulatory and Compliance Issues During Implementation

Cloud Access Security Broker

Automating Cloud Security

Automation Tools

Techniques for Implementing Cloud Security

Security Services

Chapter 5

## **Maintaining Cloud Operations**

### **Applying Security Patches**

Patching Cloud Resources

Patching Methodologies

Patching Order of Operations and Dependencies

### **Updating Cloud Elements**

Hotfix

Patch

Version Update

Rollback

Workflow Automation

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Continuous Integration and Continuous Deployment  
Virtualization Automation Tools and Activities

### **Storage Operations**

Types of Backups  
Backup Targets  
Backup and Restore Operations

### **Chapter 6**

## **Disaster Recovery, Business Continuity, and Ongoing Maintenance**

### **Implementing a Disaster Recovery and Business**

Continuity Plan  
Service Provider Responsibilities and Capabilities  
Disaster Recovery Models and Techniques

### **Business Continuity**

Establishing a Business Continuity Plan  
Establishing Service Level Agreements

### **Cloud Maintenance**

Establishing Maintenance Windows  
Maintenance Interruptions to Operations  
Maintenance Automation Impact and Scope  
Common Maintenance Automation Tasks

### Chapter 7

### **Cloud Management**

Cloud Metrics  
Monitoring Your Deployment  
Cloud Support Agreements  
Standard Cloud Maintenance Responsibilities  
Configuration Management Applications and Tools

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- Change Management Processes
- Adding and Removing Cloud Resources
  - Determining Usage Patterns
    - Bursting
  - Migrating Between Cloud Providers
- Scaling Resources to Meet Requirements
  - Extending the Scope of the Cloud
- Understanding Application Life Cycles
  - Organizational Changes
  - Managing Account Provisioning
    - Account Identification
      - Authentication
      - Authorization
      - Lockout Policies
    - Password Complexity
  - Account Automation and Orchestration

## Chapter 8

### Cloud Management Baselines, Performance, and SLAs

- Measuring Your Deployment Against the Baseline
  - Object Tracking for Baseline Validation
- Applying Changes to the Cloud to Meet Baseline Requirements
  - Changing Operations to Meet Expected Performance/Capacity Requirements
  - Cloud Accounting, Chargeback, and Reporting

## Chapter 9

### Troubleshooting

#### Incident Management

- Incident Types
- Logging Incidents
- Prioritizing Incidents
- Preparation

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Templates  
Time Synchronization  
Workflow

Troubleshooting Cloud Capacity Issues

Capacity Boundaries in the Cloud  
Troubleshooting Automation and Orchestration  
Process and Workflow Issues

## Chapter 10

### Troubleshooting Networking and Security Issues and Understanding Methodologies

#### Troubleshooting Cloud Networking Issues

Identifying the Common Networking Issues in the Cloud  
Network Troubleshooting and Connectivity Tools  
Remote Access Tools

#### Troubleshooting Security Issues

Account Privilege Escalation  
Network Access Issues  
Authentication  
Authorization  
Federations  
Certificate Configuration Issues  
Device– Hardening Settings  
External Attacks  
Internal Attacks  
Maintain Sufficient Security Controls and Processes  
Network Access Tunneling and Encryption

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Troubleshooting Methodology  
Identifying the Problem  
Establishing a Theory  
Testing the Theory  
Creating and Implementing a Plan of Action  
Verifying the Resolution  
Documenting the Ordeal

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