Azure Native Development - Training Curriculum

Prerequisites: Azure Fundamentals

S.No	Topics
1	**Azure Cloud Basics**
	• Cloud Computing basics • Cloud Service Models • Creating an Azure Account • Azure Pricing
2	**Azure Architecture**
	• Regions and Availability Zones • Understanding Azure resource hierarchy • Resource groups, Subscriptions and Management groups
3	**Implement IaaS solutions**
	• Provisioning a VM • VM Scale sets • Installing a software in VM • VM Availability Sets • Configure, validate, and deploy ARM templates
4	**Azure Networking Concepts:**
	• Overview of Networking in Azure • Need for Azure Virtual Networks • Load Balancer, Content Delivery Network • Need for Subnets

I. Azure Native development:

S.No	Topics
1	**Azure App Service**
	• Azure App Service introduction and its plans • Create an Azure App Service Web App • Enable diagnostics logging • Deploy code to a web app and deployment slots • Authentication and Authorization in App Service • Configure web app settings including SSL, API settings, and connection strings • Implement auto scaling
2	**Azure Functions**
	• Create and configure an Azure Function App • Implement input and output bindings • Implement function triggers by using data operations, timers, and webhooks • Testing, logging and hosting
3	**Azure Storage**
	• Develop solutions that use Azure Blob Storage • Develop solutions that use Azure Queue Storage • Implement storage policies and data lifecycle management
4	**API Management Service**
	• Create an APIM instance and implement APIs • Configure authentication for APIs • Implement inbound and outbound policies for APIs • Explain how API gateways can help manage calls to your APIs • Secure access to APIs by using subscriptions and certificates
5	**Azure Security**
	• Authenticate and authorize users by using the Microsoft Identity platform • Authenticate and authorize users and apps by using Azure Active Directory (Azure AD) • Create and implement shared access signatures • Implement solutions that interact with Microsoft Graph • Implement Managed Identities for Azure resources • Constant and Readonly

6	**Implement Containerized Solution:**
	• Write a docker file for a .net application. • Create and manage .net container images for solutions. • Publish an image to Azure Container Registry. • Run containers by using Azure Container Instance. • Create solutions by using Azure Container Apps. • Creating Micro services with AKS. • Container orchestration using Azure Kubernetes Service. • Creating Azure Pipelines and trigger Kubernetes orchestration.
7	**Azure Redis Cache and Key Vault**
	• Implement solutions that use Redis Cache • Implement Azure CDN endpoints and profiles • Secure app configuration data by using App Configuration or Azure Key Vault • Develop code that uses keys, secrets, and certificates stored in Azure Key Vault
8	**Develop message-based solutions**
	• Explain Service Bus Queues , Topics and Subscriptions • Send and receive message from a Service Bus queue • Create and manage Azure Queue Storage and messages by using .NET • Choosing message queue solution
9	**Develop event-based solutions**
	• Describe how Event Grid operates and how it connects to services and event handlers. • Explain how Event Grid delivers events and how it handles errors. • Implement authentication and authorization.
10	**Troubleshoot solutions by using Application Insights**
	• Describe how Application Insights works and how it collects events and metrics • Instrument an app for monitoring, perform availability tests, and use Application Map to help you monitor performance and troubleshoot issues
11	**Azure Logic Apps**
	• Deploy and run logic applications in Azure, locally, and on premises.
12	**Azure Databases:**
	• Implement solutions using Azure SQL Server and its Managed instance.

13	**Develop solutions that use Azure Cosmos DB**
	• Identify the key benefits provided by Azure Cosmos DB • Describe the elements in an Azure Cosmos DB account and how they're organized • Explain the different consistency levels and choose the correct one for your project • Explore the APIs supported in Azure Cosmos DB and choose the appropriate API for your solution • Describe how request units impact costs
14	**Azure DevOps**
	• Exploring CI/CD in Azure. • Exploring Infrastructure as a code in Azure. • Understanding Pipelines, Boards, Artifacts, Repos and other key concepts.