Google Cloud Engineer for Azure Professional

Course Duration: 32 Hours **Course code: GCEAP**

1. Course Overview

This course is designed for Microsoft Azure professionals who want to transition to Google Cloud Platform (GCP). It provides a comparative and practical understanding of GCP services by mapping them with equivalent Azure services. Learners will gain hands-on experience in deploying, managing, and securing applications on GCP while leveraging their existing Azure knowledge.

2. What you'll learn?

By the end of the course, you will be able to:

- Understand key differences and similarities between Azure and GCP
- Map Azure services to equivalent GCP services
- Deploy and manage cloud infrastructure on GCP
- Configure networking, compute, and storage resources
- Implement IAM and security best practices
- Use GCP tools for monitoring, logging, and automation
- Migrate workloads from Azure to GCP
- Prepare for GCP certification pathways

3. Target Audience

- Microsoft Azure Administrators
- Azure Developers and Architects
- Cloud Engineers transitioning to GCP
- DevOps Engineers working in multi-cloud environments

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4. Pre-Requisites

Before taking this course, you should have:

- Hands-on experience with Microsoft Azure
- Understanding of cloud computing concepts
- Familiarity with networking and virtualization
- Basic scripting knowledge (PowerShell/Python preferred)

5. Course content

Module 1: Course Introduction

- Course overview and objectives
- Why move from Azure to GCP
- Multi-cloud strategy overview

Module 2: Azure vs Google Cloud Fundamentals

- Cloud architecture comparison
- Regions, zones, and availability concepts
- Resource hierarchy (Azure vs GCP)
- Pricing and billing comparison

Module 3: Identity and Access Management (IAM)

- Azure AD vs Google IAM
- Roles and permissions comparison
- Service accounts vs managed identities
- Best practices for access control

Module 4: Compute Services Comparison

- Azure Virtual Machines vs Compute Engine
- Azure App Services vs App Engine / Cloud Run
- Instance configuration and management
- Autoscaling comparison

Module 5: Storage Services Comparison

- Azure Blob Storage vs Cloud Storage
- Disk storage comparison
- File storage services
- Data lifecycle management

Module 6: Networking Comparison

- Azure Virtual Network vs VPC
- Subnets, routing, and IP addressing
- Load balancing and traffic management
- Hybrid connectivity (VPN, Interconnect)

Module 7: Containers and Kubernetes

- Azure Kubernetes Service (AKS) vs GKE
- Container management
- Deployment strategies
- Managing workloads

Module 8: Databases and Data Services

- Azure SQL vs Cloud SQL
- Cosmos DB vs Firestore / Bigtable
- Data warehouse (Azure Synapse vs BigQuery)
- Data migration strategies

Module 9: Monitoring and Logging

- Azure Monitor vs Cloud Operations Suite
- Logging and metrics comparison
- Alerting and dashboards
- Troubleshooting

Module 10: DevOps and CI/CD

- Azure DevOps vs Cloud Build / Cloud Deploy
- Pipeline creation
- Automation and deployment strategies
- Artifact management

Module 11: Security and Compliance

- Azure Security Center vs Security Command Center
- Identity protection
- Data security and encryption
- Compliance frameworks

Module 12: Infrastructure as Code (IaC)

- ARM templates vs Terraform
- Deployment Manager
- Automating infrastructure
- Best practices

Module 13: Migration Strategies

- Planning cloud migration
- Tools for migration
- Rehosting, refactoring, replatforming
- Migration best practices

Module 14: Cost Optimization and Performance

- Pricing comparison
- Cost management tools
- Performance tuning
- Resource optimization

Module 15: Real-World Use Cases and Capstone Project

- Multi-cloud architecture scenarios
- Migrating an application from Azure to GCP
- Best practices and design patterns
- Final project and evaluation