

Course AZ-300T03-A: Understanding Cloud Architect Technology Solutions

About this course

This course teaches IT professionals how operations are done in parallel and asynchronously. And, how your whole enterprise system must be resilient when failures occur, and just as importantly, how deployments can be automated and predictable. By using the Azure Application Architecture Guide and Azure reference architectures as a basis, you will understand how monitoring and telemetry are critical for gaining insight into the system.

You will dive into the cloud design patterns that are important, such as partitioning workloads where a modular application is divided into functional units that can be integrated into a larger application. In such cases, each module handles a portion of the application's overall functionality and represents a set of related concerns.

Also, load balancing where the application traffic, or load, is distributed among various endpoints by using algorithms. Load balancers allow multiple instances of your website to be created so they can behave in a predictable manner. In Azure, it is possible to use virtual load balancers, which are hosted in virtual machines, if a company requires a very specific load balancer configuration.

Also, transient fault handling which helps define the primary differences between developing applications on-premises and in the to handle transient errors. Transient errors are errors that occur due to temporary interruptions in the service or to excess latency.

Lastly, a discussion of hybrid networking that provides an overview of site-to-site connectivity, point-to-site connectivity, and the combination of the two.



Course Outline

Module 1: Selecting Compute and Storage Solutions

This module includes the following topics: • Azure Architecture Center • Cloud design patterns • Competing consumers pattern • Cache-aside pattern As well as sharding patterns to divide a data store into horizontal partitions, or shards. Each shard has the same schema but holds its own distinct subset of the data.

After completing this module, students will be able to:

- Design and Connectivity Patterns

Module 2: Hybrid Networking

This module includes the following topics: • Site-to-site connectivity • Point-to-site connectivity • Combining site-to-site and point-to-site connectivity • Virtual network-to-virtual network connectivity As well as connecting across cloud providers for failover, backup, or even migration between providers such as AWS.

After completing this module, students will be able to:

- Hybrid Networking

Module 3: Measuring Throughput and Structure of Data Access

This module includes the following topics: • DTUs – Azure SQL Database • RUs – Azure Cosmos DB • Structured and unstructured data • Using structured data stores

After completing this module, students will be able to:

- Address Durability of Data and Caching
- Measure Throughput and Structure of Data Access