**Module 9**

**Introduction**

**AWS Cloud Adoption Framework (AWS CAF)**

* Can help you manage migration through guidance
* Provide advice to your company to enable a quick and smooth migration to AWS
* Organizes guidance into six areas of focus, called perspectives
* Each perspective addresses distinct responsibility
* Business, People and Governance perspective focus on business capabilities
* Platform, Security and Operations perspective focus on technical capabilities

**Six core perspectives of the Cloud Adoption**

1. **Business Perspective**

* Ensures that the IT aligns with business needs and that IT investments link to key business results
* Used to create a strong business case for cloud adoption and prioritize cloud adoption initiatives.
* Ensure that your business strategies and goals align with your IT strategies and goals

**Common roles in the Business Perspective**

* Business Managers
* Finance Managers
* Budget Owners
* Strategy stakeholders

1. **People Perspective**

* Supports development of an organization-wide change management strategy for successful cloud adoption
* Use to evaluate organizational structures and roles, new skill and process requirements, and identify gaps. This help prioritize training, staffing and organizational changes

**Common roles in the People Perspective**

* Human resources
* Staffing
* Peoples Managers

1. **Governance Perspective**

* Focus on the skills and processes to align IT strategy with business strategy. This ensures that you maximize the business value and minimize risks
* Use to understand how to update the staff skills and processes necessary to ensure business governance in the cloud.
* Manage and measure cloud investments to evaluate business outcomes

**Common roles int the Governance Perspective**

* Chief Information Officer (CIO)
* Program managers
* Enterprise architects
* Business Analysts
* Portfolio Managers

1. **Platform Perspective**

* Includes principles and patterns for implementing new solutions on the cloud, and migrating on-premises workloads to the cloud
* Use a variety of architectural models to understand and communicate the structure of IT systems and their relationships.
* Helps you design, implement, and optimize your AWS infrastructure based on your business goals and perspective

**Common roles in Platform Perspective**

* Chief Technology Officer (CTO)
* IT Managers
* Solution Architects

1. **Security Perspective**

* Ensures that the organization meets security object for visibility, auditability, control, and agility
* Use the AWS CAF to structure the selection and implementation of security controls that meet the organizational needs
* Helps you to identify areas on non-compliance and plan ongoing security initiative

**Common roles in the Security Perspective**

* Chief Information Security Officer (CISO)
* IT security managers
* IT security analysts

1. **Operations Perspective**

* Helps you to enable, run, use, operate, and recover IT workloads to the level agreed upon with your business stakeholders
* Define how day-to-day, quarter-to-quarter, and year-to-year business is conducted.
* Helps these stakeholders define current operating procedures and identify the process changes and training needed to implement successful clous adoption

**Common roles in the Operation Perspective**

* IT Operations managers
* IT Support managers

**Migration Strategies**

**6 Strategies for Migration called 6 R’s**

**When migrating application to the cloud, six of the most common that you can implement:**

* Rehosting
* Replatforming
* Refactoring/re-architecting
* Repurchasing
* Retaining
* Retiring

1. **Rehosting**

* Known as “lift and shift” involves moving applications without changes
* In the scenario of a large legacy migration, in which the company is looking to implement its migration and scale quickly to meet a business case, the majority of applications are rehosted

1. **Replatforming**

* Known as “lift, thinker, and shift”
* Involves making a few clouds optimization to realize a tangible benefit.
* Optimization is archived without changing the core architecture of the application

1. **Refactoring/re-architecting**

* Also known as re-architecting involves reimaging how an application is architected and developed by using cloud native’s features
* Is driven by a strong business needs to add features, scale, or performance that would otherwise be difficult to achieve in the application’s existing environment

1. **Repurchasing**

* Involves moving from traditional license to a software-as-a-service model.
* For example, a business might choose to implement the repurchasing strategy by migrating from customer relationship management (CRM) system salesforce.com
* Involves moving to a different product
* Involves replacing an existing application with a cloud-based version, such as software found in AWS Marketplace

1. **Retaining**

* Consists of keeping applications that are critical for the business in the source environment.
* This might include applications that require major refactoring before they can be migrated, or , work that can be postponed until a later time.

1. **Retiring**

* Is the process of removing applications that are no longer needed

**AWS Snow Family**

* Is a collection of physical devices that help to physically transport up to exabytes of data into and out of AWS

**AWS Snow Family Members**

* **AWS Snowcone**
* Is a small, rugged, and secure edge computing and data transfer device
* It features 2 CPU’s, 4GB of memory, and 8TB of usable storage
* **AWS Snowball**
* Offers 2 types of optimizations

**Snowball Edge Storage Optimization**

* Devices are well suited for large-scale data migrations and recurring transfer workflows, in addition to local computing with higher capacity needs
* Storage: 80 TB of hard disk drive HDD capacity for block volumes and AWS S3 compatibility storage
* 1 TB of SATA solide state drive SSD for block volumes
* Compute: 40 vCPU, and 80 GIB of memory to support AWS EC2 sbe1 instance

**Snowball Edge Compute Optimized**

* Provides powerful computing resources for use cases such as machine learning, full motion video analysis, analytics, and local computing stacks
* Storage: 42-TB usable HDD capacity for AWS S3 compatible object storage or AWS EBS compatible block volumes and 7.68 TB of usable NVMe SSD capacity for AWS EBS compatible block volumes
* Commute: 52 vCPU, 208 GiB of memory, and an optional NVIDIA Tesla V100 CPU.
* **AWS Snowmobile**
* Is an exabyte-scale data transfer service used to move large amounts of data to AWS
* You can transfer up to 100 petabytes of data per snowmobile, a 45-foot long ruggedized, shipping container, pulled by a semi-trailer truck

**Innovate with AWS Services**

When examining how to use AWS Service, it is important to focus on the desired outcomes. The following conditions

* The current state
* The desired state
* The problems you are trying to solve

**Paths you might explore**

* **Serverless application**
* Refers to application that require you to provision, maintain, or administer servers.
* You don’t need to worry about fault tolerance or availability
* AWS Lambda is an example of a service you can use to run serverless applications
* **Artificial Intelligence**
* AWS offers variety of services powered by artificial intelligence (AI)
* Convert speech to text with Amazon Transcribe
* Discover patterns in text with Amazon Comprehend
* Identify potentially fraudulent online activities with Amazon Fraud Detector
* Build voice and text chatbots with Amazon Alex
* **Machine Learning**

AWS offers Amazon SagerMaker to remove the difficult work from the process and empower you to build, train and deploy ML model quickly