AWSC-7 - ADVANCED ARCHITECTING ON AWS

Categoria: **Amazon Web Services**

INFORMAZIONI SUL CORSO

Durata:	Categoria:	Qualifica Istruttore:	Dedicato a:	Produttore:
3 Giorni	Amazon Web Services	Docente Senior (min. 5 anni)	Analista	PCSNET

OBIETTIVI

In this course, you will learn to:

- Review the AWS Well-Architected Framework to ensure understanding of best cloud design practices by responding to poll questions while following a graphic presentation
- Demonstrate the ability to secure Amazon Simple Storage Service (Amazon S3) virtual private cloud (VPC) endpoint connections in a lab environment
- Identify how to implement centralized permissions management and reduce risk using AWS Organizations organizational units (OUs) and service control policies (SCPs) with AWS Single Sign-On
- Compare the permissions management capabilities of OUs, SCPs, and AWS SSO with and without AWS Control Tower to determine best practices based on use cases
- Discuss AWS hybrid network designs to address traffic increases and streamline remote work while ensuring FIPS 140-2 Level 2, or Level 3 security compliance
- Explore the solutions and products available to design a hybrid infrastructure, including access to 5G networks, to optimize service and reduce latency while maintaining high security for critical on-premises applications
- Explore ways to simplify the connection configurations between applications and high-performance workloads across global networks
- Demonstrate the ability to configure a transit gateway in a lab environment
- Identify and discuss container solutions and define container management options
- Build and test a container in a lab environment
- Examine how the AWS developer tools optimize the CI/CD pipeline with updates based on near-real-time data
- Identify the anomaly detection and protection services that AWS offers to defend against DDoS attacks
- Identify ways to secure data in transit, at rest, and in use with AWS Key Management Service (AWS KMS) and AWS Secrets Manager
- Determine the best data management solution based on frequency of access, and data query and analysis needs
- Set up a data lake and examine the advantages of this type of storage configuration to crawl and query data in a lab environment
- Identify solutions to optimize edge services to eliminate latency, reduce inefficiencies, and mitigate risks
- Identify the components used to automate the scaling of global applications using geolocation and traffic control
- Deploy and activate an AWS Storage Gateway file gateway and AWS DataSync in a lab environment
- Review AWS cost management tools to optimize costs while ensuring speed and performance
- Review migration tools, services, and processes that AWS provides to implement effective cloud operation models based on use cases and business needs
- Provide evidence of your ability to apply the technical knowledge and experience gained in the course to improve

business practices by completing a Capstone Project

PREREQUISITI

We recommend that attendees of this course have:

- Knowledge and experience with core AWS services from the Compute, Storage, Networking, and AWS Identity and Access Management (IAM) categories
- Attended the Architecting on AWS classroom training OR
- Achieved the AWS Certified Solutions Architect – Associate certification OR
- Have at least 1 year of experience operating AWS workloads

CONTENUTI

Module 1: Reviewing Architecting Concepts

- Group Exercise: Review Architecting on AWS core best practices
- Lab 1: Securing Amazon S3 VPC Endpoint Communications

Module 2: Single to Multiple Accounts

- AWS Organizations for multi-account access and permissions
- AWS SSO to simplify access and authentication across AWS accounts and third-party services
- AWS Control Tower
- Permissions, access, and authentication

Module 3: Hybrid Connectivity

- AWS Client VPN authentication and control
- AWS Site-to-Site VPN
- AWS Direct Connect for hybrid public and private connections
- Increasing bandwidth and reducing cost
- Basic, high, and maximum resiliency
- Amazon Route 53 Resolver DNS resolution

Module 4: Specialized Infrastructure

- AWS Storage Gateway solutions
- On-demand VMware Cloud on AWS
- Extending cloud infrastructure services with AWS Outposts
- AWS Local Zones for latency-sensitive workloads
- Your 5G network with and without AWS Wavelength

Module 5: Connecting Networks

- Simplifying private subnet connections
- VPC isolation with a shared services VPC
- Transit Gateway Network Manager and VPC Reachability Analyzer
- AWS Resource Access Manager
- AWS PrivateLink and endpoint services
- Lab 2: Configuring Transit Gateways

Module 6: Containers

-Container solutions compared to virtual machines
-Docker benefits, components, solutions architecture, and versioning
-Container hosting on AWS to reduce cost
-Managed container services: Amazon Elastic Container Service (Amazon ECS) and Amazon Elastic Kubernetes Service (Amazon EKS)
-AWS Fargate
-Lab 3: Deploying an Application with Amazon ECS on Fargate

Module 7: Continuous Integration/Continuous Delivery (CI/CD)

-CI/CD solutions and impact
-CI/CD automation with AWS CodePipeline
-Deployment models
-AWS CloudFormation StackSets to improve deployment management

Module 8: High Availability and DDoS Protection

-Common DDoS attacks layers
-AWS WAF
-AWS WAF web access control lists (ACLs), real-time metrics, logs, and security automation
-AWS Shield Advanced services and AWS DDoS Response Team (DRT) services
-AWS Network Firewall and AWS Firewall Manager to protect accounts at scale

Module 9: Securing Data

-What cryptography is, why you would use it, and how to use it
-AWS KMS
-AWS CloudHSM architecture
-FIPS 140-2 Level 2 and Level 3 encryption
-Secrets Manager

Module 10: Large-Scale Data Stores

-Amazon S3 data storage management including storage class, inventory, metrics, and policies
-Data lake vs. data warehouse: Differences, benefits, and examples
-AWS Lake Formation solutions, security, and control
-Lab 4: Setting Up a Data Lake with Lake Formation

Module 11: Large-Scale Applications

-What edge services are and why you would use them
-Improve performance and mitigate risk with Amazon CloudFront
-Lambda@Edge
-AWS Global Accelerator: IP addresses, intelligent traffic distribution, and health checks
-Lab 5: Migrating an On-Premises NFS Share Using AWS DataSync and Storage Gateway

Module 12: Optimizing Cost

-On-premises and cloud acquisition/deprecation cycles
-Cloud cost management tools including reporting, control, and tagging
-Examples and analysis of the five pillars of cost optimization

Module 13: Migrating Workloads

-Business drivers and the process for migration
-Successful customer practices

- The 7 Rs to migrate and modernize
- Migration tools and services from AWS
- Migrating databases and large data stores
- AWS Schema Conversion Tool (AWS SCT)

Module 14: Capstone Project

- Use the Online Course Supplement (OCS) to review use cases, investigate data, and answer architecting design questions about Transit Gateway, hybrid connectivity, migration, and cost optimization

INFO

Esame: SAP-C02 - AWS Certified Solutions Architect Professional
Materiale didattico: Materiale didattico in formato digitale
Costo materiale didattico: incluso nel prezzo del corso a Calendario
Natura del corso: Operativo (previsti lab su PC)