

CS221

Integrating ROSA Applications with AWS Services

Integrate applications on ROSA with AWS services while keeping a good security posture.

Course Description

- Integrate applications deployed on ROSA with AWS services in a way that cluster administrators and platform engineers retain control of credentials and roles required by applications to access AWS services instead of exposing those credentials to application developers.

Course content summary

- Integrate with external container registries such as ECR and Quay.io to deploy applications from private image repositories
- Configure storage classes to enable application access to different EBS volume types
- Configure storage classes and security contexts to enable application access to shared EFS storage volumes
- Configure pod identity using STS/IRSA to enable application access to AWS services such as database (Aurora), integration (SQS), and object storage (S3)
- Provision AWS services for applications using the AWS Controllers for Kubernetes (ACK)
- Federate and query application metrics (application workload monitoring) with Amazon Managed Prometheus Service
- Aggregate and query structured application logs with Amazon CloudWatch
- Configure custom domains and TLS certificates for secure public access to applications

Audience for this course

- **Primary:** ROSA Administrators, Platform Engineers, Cloud Administrators, System Administrators and other infrastructure-related IT roles who are responsible for providing and supporting infrastructure for applications deployed on AWS
- **Secondary:** Enterprise Architects, Site Reliability Engineers, DevOps Engineers, and other application-related IT roles who are responsible for designing infrastructure for applications deployed on AWS

Recommended training

- **CS220 - Create and Configure Production Red Hat OpenShift on AWS (ROSA) Clusters** or equivalent experience: “I know how to create and access a private ROSA cluster”
- AWS administration at the level of either **AWS Certified SysOps Administrator - Associate** or **AWS Certified Solutions Architect - Associate**, or equivalent experience: “I know how to manage AWS infrastructure services”
- Basic knowledge of OpenShift from **DO080 Technical Overview**: “I know basic concepts of OpenShift and containers”

- It is recommended that learners also enroll in the [Red Hat Certified OpenShift Administration certification courses](#) in addition to taking CS220 and CS221

Outline for this course

Deploy Applications From External Registries

Deploy applications on Red Hat OpenShift Service on AWS (ROSA) from private container image repositories in external centralized container image registries.

Provide Amazon Storage Volumes for Applications

Configure Amazon Elastic Block Storage (EBS) or Amazon Elastic File System (EFS) volumes that meet the cost, performance, and sharing requirements of their applications.

Configure Application Access to AWS Services

Configure applications for access to shared AWS services by using Kubernetes service accounts, and provision dedicated AWS services by using Kubernetes custom resources.

OpenShift and AWS Application Observability

Configure ROSA clusters to forward application logs to Amazon CloudWatch and application metrics to Amazon Managed Service for Prometheus.

Custom Domains for ROSA Applications

Expose applications to internet users with secure URLs by using human-readable DNS domains.

As a result of attending this course, students can integrate applications deployed on a private ROSA cluster in a way that cluster administrators and platform engineers retain control of credentials and roles required by applications to access AWS services, instead of exposing those credentials to application developers.