DO120
Introduction to Red Hat OpenShift Service on AWS (ROSA)

## Course description

**Learn how to deploy, access, and perform basic customizations to a ROSA cluster.**

This course teaches Platform Operators how to provision managed clusters by using Red Hat OpenShift Service on AWS (ROSA) and how to perform basic day-2 customizations on these clusters to onboard application developers and applications.

## Recommended training

- All students must be knowledgeable of Amazon Web Services (AWS), including operating and managing AWS compute, storage, and network resources.
- For students that are new to Red Hat OpenShift it is recommended that you learn the fundamental skills of managing Red Hat OpenShift clusters, before taking DO120, from the following courses:
    - Red Hat OpenShift I: Containers & Kubernetes (DO180)
    - Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (DO280)
- Students with previous experience managing Kubernetes clusters are advised to take DO180 and DO280 before taking DO120 or at least acquire foundational skills operating Red Hat OpenShift clusters by using the following free resources from Red Hat:
    - Red Hat Developer Sandbox for OpenShift
    - OpenShift and Kubernetes learning from Red Hat Developer
    - Containers, Kubernetes and Red Hat OpenShift Technical Overview (DO080)
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## Technology considerations

- Internet access is required to access AWS cloud services using the AWS console and the AWS CLI. It is also required to access the Red Hat Hybrid Cloud Console and associated Red Hat cloud services.
- Students must possess an active AWS account with permission to activate services from the AWS Marketplace and an associated payment method for the AWS resources consumed by ROSA clusters.
- Students must possess an active Red Hat customer portal account or a free Red Hat Developer program membership.

## Outline for this course

**Provision a Red Hat OpenShift Service on AWS (ROSA) Cluster**

Create a Red Hat OpenShift Service on AWS (ROSA) cluster accessible through the internet.

- **Introduction to Managed OpenShift Clusters**
- Describe the relationship between the customer team and the cloud vendor's SRE team to administer managed OpenShift clusters.
- **Prerequisites to Create a ROSA Cluster**
- Prepare an AWS account and a management workstation to create a ROSA cluster.
- **Create a ROSA Cluster**

- Create an internet-accessible ROSA cluster by using the CLI.
- **Access a ROSA Cluster as Administrator**
- Create OpenShift cluster administrator credentials to access a managed cluster by using the OpenShift CLI, OpenShift Web Console, and Kubernetes CLI.

**Configure a Red Hat OpenShift Service on AWS (ROSA) Cluster**

Configure a Red Hat OpenShift Service on AWS (ROSA) cluster to be used for development purposes.

- **Configure Developer Self-service for a ROSA Cluster**
- Configure an identity provider that enables developers to access a managed cluster and self-service projects to deploy unprivileged applications.
- **Connect a ROSA Cluster to Red Hat Services**
- Connect a managed cluster to Red Hat cloud services and enumerate the benefits.
- **Configure Additional Storage Classes**
- Connect applications to the EBS volume types that match their cost and performance requirements.
- **Create Dedicated Node Pools**
- Add node pools to run applications by using different EC2 instance types.
- **Configure Node Autoscaling**
- Autoscale a node pool based on application load.
- **Configure Log Forwarding**
- Forward cluster and pod logs to AWS CloudWatch.