

Red Hat Certified OpenShift Application Developer

Course Outline

1. Create and Work with OpenShift Projects

- Understand how to create and manage multiple projects within OpenShift.

2. Deploy Applications

- Single and Multi-Container Applications: Deploy applications with one or more containers.
- Application Health Monitoring: Implement monitoring to ensure application performance.

3. Git Integration

- Understand basic Git usage.
- Use Git for deploying applications within OpenShift.

4. OpenShift Internal Registry

- Configure the internal registry for specific use cases and requirements.

5. Manage Applications

- Use the web console to manage applications effectively.
- Deploy multi-container applications through the console.

6. Helm Charts

- Create and utilize Helm charts for application deployment.
- Customize deployments using Kustomize.

7. Container Images

- Image Creation: Understand how to create container images based on pre-built images.
- Image Builds and Configurations: Work with image build configurations.
- Custom Builder Workflows: Use custom workflows for image creation.
- Publishing: Publish images to the OpenShift image registry.

8. Troubleshooting

- Diagnose and resolve minor deployment and build issues.
- Use logs and monitoring tools to identify problems in the build and deployment process.

9. Image Streams

- Create and manage custom image streams for application deployment.
- Trigger updates based on changes to image streams.
- Debug issues related to application deployment.

10. Configuration Maps and Secrets

- Configuration Maps: Create and utilize config maps to inject data into applications.
- Secrets: Create and manage secret resources securely.

11. Source-to-Image (S2I) Framework

- Build and deploy applications using the S2I framework.
- Customize existing S2I builder images as needed.

12. Build Hooks and Triggers

- Create build hooks that execute scripts during the build process.

- Test and confirm the operation of hooks.

13. Application Builds

- Manage and trigger application builds effectively.

14. OpenShift Templates

- Create and use OpenShift templates in JSON or YAML format.
- Work with multi-container templates and add custom parameters.

15. OpenShift Pipelines

- Understand the CI/CD process within OpenShift.
- Work with Tekton custom resource definitions (CRDs) to define CI/CD pipelines.
- Design, define, and troubleshoot CI/CD workflows.
- Configure and trigger pipeline workflows for applications.

16. Operators

- Understand and utilize Operators to manage applications.
- Create applications using installed Operators for enhanced functionality.