

Red Hat Certified Specialist in Containers

Course Outline

1. Base Image and Instructions

- Understand and use **FROM** (base image).
- Understand and use **RUN** instruction.
- Understand and use **ADD** instruction.
- Understand and use **COPY** instruction.
- Know the difference between **ADD** and **COPY** instructions.
- Understand and use **WORKDIR** and **USER** instructions.

2. Security Topics

- Understand security-related topics.
- Differentiate between **CMD** vs. **ENTRYPOINT** instructions.
- Understand **ENTRYPOINT** instruction with parameters.

3. Port Exposure

- Understand when and how to expose ports from a Containerfile.

4. Environment Variables

- Understand and use environment variables inside images.
- Understand ENV instruction.

5. Container Volume

- Understand container volume.
- Mount a host directory as a data volume.
- Understand security and permissions requirements related to this approach.
- Understand lifecycle and cleanup requirements of this approach.

Manage Images

1. Registry Security

- Understand private registry security.
- Interact with various registries.
- Understand and use image tags.
- Push and pull images from and to registries.
- Backup an image with its layers and metadata vs. backup a container state.

Run Containers Locally Using Podman

1. Running Containers

- Run containers locally using Podman.
- Get container logs.
- Listen to container events on the container host.
- Use Podman inspect.
- Specify environment parameters.
- Expose public applications.
- Get application logs.
- Inspect running applications.

Run Multi-Container Applications with Podman

1. Application Stacks

- Create application stacks.
- Understand container dependencies.
- Work with environment variables.
- Work with secrets.
- Work with volumes.
- Work with configuration.

Troubleshoot Containerized Applications

1. Application Resources

- Understand the description of application resources.
- Get application logs.
- Inspect running applications.
- Connect to running containers.