

Updated on 16/04/2024

Sign up

Rancher training

3 days (21 hours)

Presentation

Rancher Labs is a software company working on operating system-level virtualization tools, more commonly known as Linux Containers. Founded in 2014, Rancher Labs has introduced two main tools:

Rancher, a container management platform for Docker container systems, and RancherOS, a Linux operating system distribution simplified to host these same containers.

As with all our training courses, this one will cover the latest version of the tool, i.e. [Rancher 2.8](#) (on 16/04/2024, date of writing).

Objectives

- Requirements for managing Rancher 2 (based on Kubernetes)
- How to configure Rancher 2 to run on different ports (other than the default 80 and 443)
- Running Rancher 2 with an input controller on the same machine
- Linking your Ingress to an external service
- Migrate existing services from Rancher v1.6.x to Rancher v2.0.x

Target audience

- Developers
- Architects
- System administrators
- DevOps

Prerequisites

- Knowledge of Kubernetes or have taken our [Kubernetes](#) training course
- How to create and run Docker containers
- Basic knowledge of a Unix system

Technical requirements

- Kubernetes installed
- A 64-bit x86 Linux operating system

Rancher training program

Architecture

- Docker
- Kubernetes
 - etcd database
 - Master nodes
 - Worker nodes
- Rancher
 - Rancher API server
 - User management
 - Authorization
 - Projects
 - Nodes
- Controllers and cluster agents
 - Configure cluster and project access control policies
 - Cluster supply by call
 - Docker machine drivers required.
 - Kubernetes engines such as RKE and GKE.
 - Workload management
 - Application of the roles and links defined in the global policies of each division
 - Communication between clusters and Rancher server
 - Events
 - Statistics
 - Node info

Quick start guides

- Deploying Rancher Server
 - Amazon AWS Quick start
 - DigitalOcean quick start
 - Quick start Vagrant
 - Manual quick start
- Workload deployment
 - Workload with Ingress Quick Start
 - Workload with NodePort Quick Start

Installation

- Node requirements
- Choosing a version
- Single node installation
- High-availability (HA) installation
- Port requirements
- Advanced options
- Operation on ARM64

Upgrades and downgrades

- Modernizing a Rancher
 - Upgrades
- Link to the unsuccessful Rolling Back upgrade
 - Single node setbacks
 - Back to high availability

Backups and disaster recovery

- Rancher server backups
- Backing up breeders who launched Kubernetes clusters
- Rancher server restorations
- Restoring Rancher-launched Kubernetes clusters

Global configuration

- First connection
- Authentication
- Authorization
- Pod security policies
- Supply pilots

Provisioning Kubernetes clusters

- Kubernetes cluster node components
- Engraved knots
- Control plane nodes
- Worker nodes
 - Kubelets
 - Workloads
- Creating a cluster in a Rancher
- Clustering options
 - Hosted Kubernetes cluster
 - A Rancher has launched Kubernetes
 - Nodes hosted by an infrastructure provider
 - Custom knots
 - Import an existing cluster

Cluster administration

- Interacting with clusters
 - Rancher unemployment insurance
 - kubectl
 - Rancher's kubectl shell
 - Remote terminal connection
 - Rancher API
- Switching from one cluster to another
- Cluster management on ranches
- Tool configuration
 - Alerts
 - Notifiers
 - Logging
 - Monitoring

Project administration

- Add users to projects
- Project editing
- Resource quotas
- Namespaces
- Tool configuration
- How to use Istio in your project

Working on projects

- Workloads
- Horizontal scale for pods
- Load balancing and inputs
- Service discovery
- Pipelines
- SSL Certificates
- ConfigMaps
- Secrets
- Registers

Catalogs and applications

- Integrated global catalogs
- Customized catalogs
- Multicloud applications
- Project applications
- Global DNS

Rancher CLI

- Download Rancher CLI
- Requirements

- CLI authentication
- Project selection
- Controls

System tools

- Download system tools
- Using system tools
- Logs
- Use
- Possibilities
- Statistics

User settings

- API keys
- Node template management
- Credential management in the cloud
- User preferences

Comparison v1.6.x to 2.0.x

- Migration
- Which uses? What's best?

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical training: 60% Practical, 40% Theory. Training material distributed in

to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.