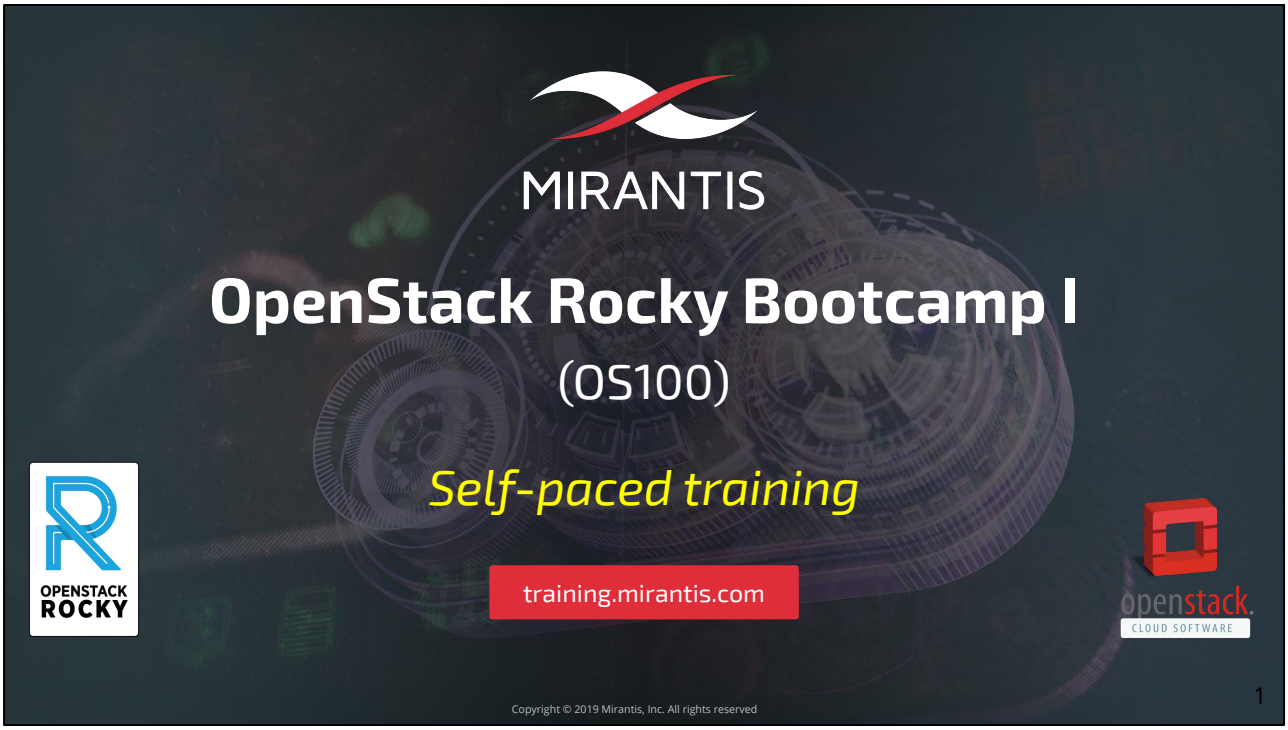

Welcome to Mirantis training!!

These slides introduce the self-paced OpenStack Rocky OpenStack Bootcamp I (OS100).

Introductions: Instructor

- Paul Quigley
  - pquigley@mirantis.com
- Joined Mirantis early 2019
- Technical Training/Curriculum Dev for @ 17 years
- Been 'in the cloud' since the *beginning*
  - non-OpenStack @ 2009
  - OpenStack since 2012

Objectives (1)

- Discuss OpenStack background and history
- Describe the architecture of an OpenStack cloud environment
- Define the key features of OpenStack
- Identify suitable use-cases for OpenStack

Objectives (2)

- Use the CLI and UI to gain hands-on experience with operating and managing OpenStack
  - Create and manage
    - Users, projects, roles, permissions, and ACLs
    - Images
    - Networks/subnetworks/routers
    - Load balancers
    - Block storage/volume services
  - Use the compute service to launch instances and manage quotas
  - Use the orchestration service to deploy instances
    - Including integration with telemetry services for autoscaling

Prerequisites

- Prerequisite knowledge
  - Basic experience with Linux command line
  - Understanding of virtualization, networking, and storage concepts is beneficial
- Lab prerequisites
  - Laptop with internet connection
  - Web browser (for example, Firefox or Chrome)
  - SSH client

Course structure

- Divided in to a number of instructor-led presentations (modules)
- Followed by hands-on lab exercises

- At the end of the course, there is a Comprehensive Practice (lab exercises) designed to test/reinforce your knowledge

Agenda (1)

- Introduction
- Module 1: Introduction to OpenStack
  - Lab: Explore the OpenStack environment
  - Lab: The Dashboard UI (Horizon)
  - Lab: The Image service (Glance)
- Module 2: OpenStack architecture - Request process flow
  - Lab: The Block Storage service (Cinder)
  - Lab: The identity service (Keystone)
- Module 2.5: Additional topics
- Module 3: Networking basics

Agenda (2)

- Module 4: OpenStack networking (Neutron) deep-dive
  - Neutron overview/architecture, ML2 plugin, L3-7 extensions, Neutron agents, Linux namespaces
    - Lab: The Networking service (Neutron)
  - LBaaS v2 (Octavia)
    - Lab: Load Balancer as a Service (Octavia)
  - Ingress/egress traffic, security groups, Metadata service, OVS
    - Lab: External network connectivity to VM
    - Lab: Neutron under the hood

Agenda (3)

- Module 5: Orchestration and Telemetry services
  - Lab: The Orchestration service (Heat)
- Lab: Comprehensive Practice