+33 (0)1 48 10 09 46
formation@ambient-it.net
140 Avenue Jean Lolive 93500 Pantin - France

Updated 05/06/2024

Sign up

Metal as a Service (MAAS) training

3 days (21 hours)

Presentation

MAAS, an acronym **for "Metal as a Service",** is a new large-scale deployment and provisioning tool created by Canonical. It is designed to automate the deployment and dynamic provisioning of very large-scale computing environments, particularly for Big Data and Cloud services.

MAAS enables you to create a data center from bare metal servers. It converts your hardware investment into a coherent, flexible and distributed data center in a minimum of time and effort. In effect, it transforms your bare metal servers into virtual machine instances in the cloud.

Our Metal as a Service (MAAS) training course will teach you how to manage large numbers of physical machines by grouping them into user-defined resource pools. This tool automatically supplies participating machines and makes them available for use. Unused machines can be returned to the allocated pool at any time.

Objectives

- Understanding bare metal server provisioning and its benefits
- Create a data center using bare metal servers
- Control server provisioning

Target audience

- System administrator
- Data Analyst
- DevOps specialist
- IT departments interested in a bare metal cloud platform solution

Prerequisites

Knowledge of Big Data, Devops or Cloud services

Our MAAS (Metal as a Service) training program

Introduction to MAAS

- What is MAAS
- How does MAAS work?
- Key components and benefits
- Combining key elements to preserve resources
- MAAS installation methods

Discover MAAS infrastructure

- Discover Infrastructure-as-a-Service (IaaS)
- Integration
  - Ansible
  - Chef
  - Puppet
  - SALT
  - Juju
- Coordinating applications and workloads
- Hardware and services deployment

MAAS features

- Web interface
- Supports Ubuntu, CentOS, Windows and RHEL installations
- Open source IP address management (IPAM)
- Full API/CLI support
- IPv6 support
- DHCP and DNS for other network devices
- DHCP relay integration
- VLAN and fabric support
- NTP for the entire infrastructure

Controllers

- Region controller and Rack controller
  - ICMI and PXE services
- Managing VM hosts and VMs
  - Configuring virtual bridges with libvirt
- Using the LXD

The Machines

- Configuring the machine's network interfaces with virtual bridges
- Creation of advanced RAID, bcache and LVM file system layouts
- IPMI
- Controller chassis CiscoUSC
- Machine management
- Machine deployment
- Machine customization

The images

- Importing images
- Building a MAAS image
- Creating an Ubuntu image
- Using image streams
- Local mirror image creation
- VMWare image management

Tags

- Tag management
- Using machine tags
- Using controler tags
- Using storage tags
- Using network tags

Operations

- Install Prometheus
- MAAS backup
- Securing MAAS
- User management
- MAAS search

MAAS with Kubernetes

- The benefits of bare metal K8s
- Spectro Cloud
- Creating a provider for Cluster API
- Building a cluster on a physical server

References

- API documentation

- Log files

Companies concerned

This 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 course: 60% Practical, 40% Theory. Training material distributed in digital format 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.