

Linux cluster, high availability and load balancing



EP-61 3 Days (21 Hours)

Description

This course will allow you to understand the different types of Clusters under Linux and to implement a load balancing and high availability architecture.

Who is this training for ?

For whom

Experienced network and system administrators under Unix/Linux.

Prerequisites

Aucune

Training objectives

Training program

Clusters et qualité de service

- Types of Clusters and objectives to achieve.
- Problems and "trade off".
- The "Service Level Agreement", at the heart of the Cluster .

Gestion des données

- Data storage types.
- iSCSI and GNBD.
- The logical volume manager.
- The access file system competitor GFS.
- Practical work Implementation of data export with GNBD.

La virtualisation avec Xen

- Introduction to virtualization.
- The features of Xen.
- Network and storage management with Xen.
- Live migration of virtual machines and Xen hypervisor clustering.
- Practical work Creation and deployment of Xen virtual machines with virt-manager and Kickstart which will be the high availability and load balancing cluster nodes.

La haute disponibilité avec Cluster Manager

- Configuration of Cluster nodes.
- Managing a Cluster with Conga.
- Implementing "fencing" and agents.
- Practical work Installation and configuration of Cluster Manager on Cluster nodes with Conga.
- Configuration of fencing of Cluster nodes with the fencing agent for virtual machines.

La gestion des ressources du Cluster

- Network, data and processes.
- The resource manager: rgmanager.
- Mechanisms and failover criteria.
- Reflexes and Cluster administration procedures.
- Resource monitoring.
- Practical work Implementation of a high availability web server with the Cluster Manager resource manager and failover tests.

Répartition de charge avec LVS

- Introduction to the concept of load balancing.
- How LVS works: Linux Virtual Server.
- Load balancing algorithms.
- Hands-on work Modifying hypervisors and virtual machines to adapt to the network topology required for load balancing.

Mise en oeuvre de la répartition avec Piranha

- Redundancy of LVS.
- Creation of virtual services.
- Practical work Implementation of a web service in load balancing.
- Load sharing and LVS toggle tests.