

CDP Private Cloud Base Installation**

Installation Overview

CDP Private Cloud Base is a modern platform for analytics and data management, optimized for on-premises deployments. It includes Cloudera Manager for managing the cluster and CDP Runtime, which comprises various data processing and analysis services.

Cloudera Manager Installation

Prerequisites: - Compatible Linux distribution (e.g., CentOS, Red Hat Enterprise Linux). - Sufficient hardware resources (CPU, Memory, Disk Space) based on cluster size. - Network access and proper DNS configuration.

Installation Process: 1. **Repository Setup:** - Configure the package repository. Download and install the Cloudera repository file. - Example: `bash wget [Cloudera Manager Repo URL] sudo rpm --install [Repo RPM]`

2. **Install Cloudera Manager Server:**

- Install the Cloudera Manager Server package using your package manager.
- Example:
`sudo yum install cloudera-manager-daemons cloudera-manager-server`

Hands-On Exercise: Installing Cloudera Manager Server

1. **Download and Install Cloudera Manager Server:**

- Follow the steps outlined in the installation process above.

2. **Database Setup:**

- Cloudera Manager requires a database. You can use embedded PostgreSQL or an external database.
- Configure the database and connect it to Cloudera Manager.

3. **Start Cloudera Manager Server:**

- Start the server using the command:
`sudo systemctl start cloudera-scm-server`

CDP Runtime Overview

CDP Runtime includes core Cloudera components like Hadoop, Spark, Hive, HBase, and more. It provides data processing, analytics, and machine learning capabilities.

Cloudera Manager Introduction

Cloudera Manager is an administrative tool for CDP. It offers an intuitive UI to manage the entire lifecycle of the cluster, including deployment, configuration, monitoring, and troubleshooting.

Instructor-Led Demo: Cloudera Manager

In a demo, an instructor can show: - How to navigate Cloudera Manager's interface. - Key functionalities like adding a new service, monitoring cluster health, and viewing logs.

Hands-On Exercise: Cluster Installation

1. **Access Cloudera Manager:**
 - Open a web browser and navigate to Cloudera Manager's web interface.
2. **Cluster Setup Wizard:**
 - Use the Cloudera Manager installation wizard to set up your cluster.
 - Specify hosts, select services (like HDFS, YARN, Spark), and configure each service.
3. **Install CDP Runtime:**
 - The wizard will guide you through installing the CDP Runtime components on your nodes.
4. **Validation and Testing:**
 - Once installation is complete, validate the setup by running service-specific tests. For example, run a simple Spark job to test the Spark installation.