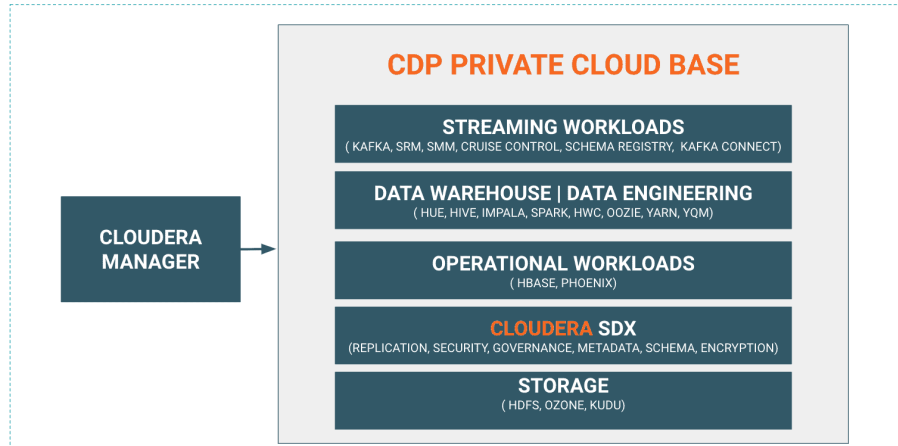# Cloudera Manager Installation**

Figure 1: CDP

Cloudera Manager is a core component of the Cloudera Data Platform (CDP), providing a centralized administrative interface for managing the cluster. The installation process involves several key steps.

Prerequisites

Before installing Cloudera Manager, ensure the following prerequisites are met:

1. **Operating System:** A supported Linux distribution (e.g., CentOS, Red Hat Enterprise Linux).
2. **Hardware Resources:** Ensure sufficient CPU, memory, and disk space. The requirements vary based on the size and usage of the cluster.
3. **Network Configuration:** Proper DNS setup, with a fully qualified domain name (FQDN) for each host in the cluster.
4. **Database:** Cloudera Manager requires a database. Supported databases include PostgreSQL, MySQL, Oracle, and MariaDB.

Installation Steps

1. Prepare Your System

- **Update System Packages:**

  ```
  sudo yum update
  ```

- **Install Java Development Kit (JDK):** Cloudera Manager and CDP components require JDK. Install Oracle JDK or OpenJDK.
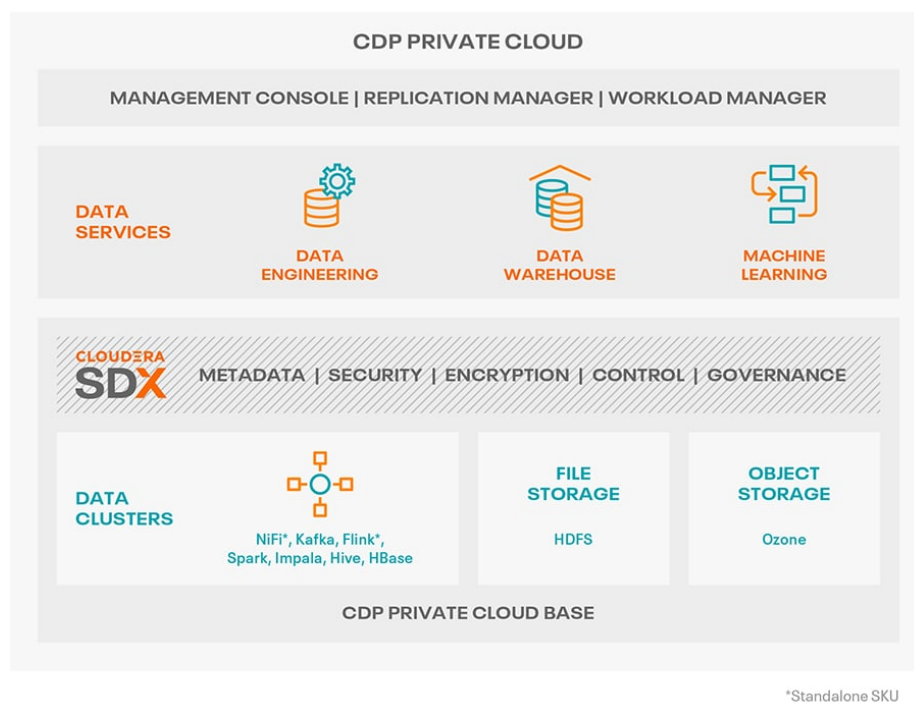
  ```
  sudo yum install java-1.8.0-openjdk
  ```

Figure 2: CDP

2. **Set Up Cloudera Repository**

   - **Download the Cloudera Manager Repository File:**

     ```
     wget [Cloudera Manager Repository URL]
     ```

   - **Install the Repository:**

     ```
     sudo rpm --install [Cloudera Manager Repo RPM]
     ```

3. **Install Cloudera Manager Server**

   - **Install Cloudera Manager Server Packages:**

     ```
     sudo yum install cloudera-manager-daemons cloudera-manager-server
     ```

4. **Configure Database for Cloudera Manager**

   - **Use Embedded PostgreSQL or External Database:**
     - For a quick setup, you can use the embedded PostgreSQL database that comes with Cloudera Manager.
     - For production environments, it's recommended to use an external database.
   - **Configure the Database:**
     - If using an external database, configure the Cloudera Manager database properties:
       * Edit the configuration file `/etc/cloudera-scm-server/db.properties`.
       * Set the database type, host, name, user, and password.

5. **Start Cloudera Manager Server**

   - **Start the Server:**

     ```
     sudo systemctl start cloudera-scm-server
     ```

   - **Verify the Server is Running:** Check the status of the Cloudera Manager Server.

     ```
     sudo systemctl status cloudera-scm-server
     ```

6. **Access Cloudera Manager Web Interface**

   - Open a web browser and navigate to the Cloudera Manager's web interface using the server's IP address or hostname.
   - URL format: `http://<server_ip_address_or_hostname>:7180`
   - The first time you access Cloudera Manager, you will be guided through a setup wizard.

Best Practices

1. **Backup Configuration Files:** Always backup configuration files before making changes.
2. **Secure the Database:** If using an external database, ensure it is secured and backed up regularly.
3. **Monitor the Server:** Regularly check the Cloudera Manager server logs for any errors or warnings.
4. **Update Regularly:** Keep your Cloudera Manager and CDP components updated to the latest versions for new features and security improvements.
5. **Plan Your Installation:** Before installing, plan your cluster architecture, considering factors like redundancy, failover, and load balancing.