

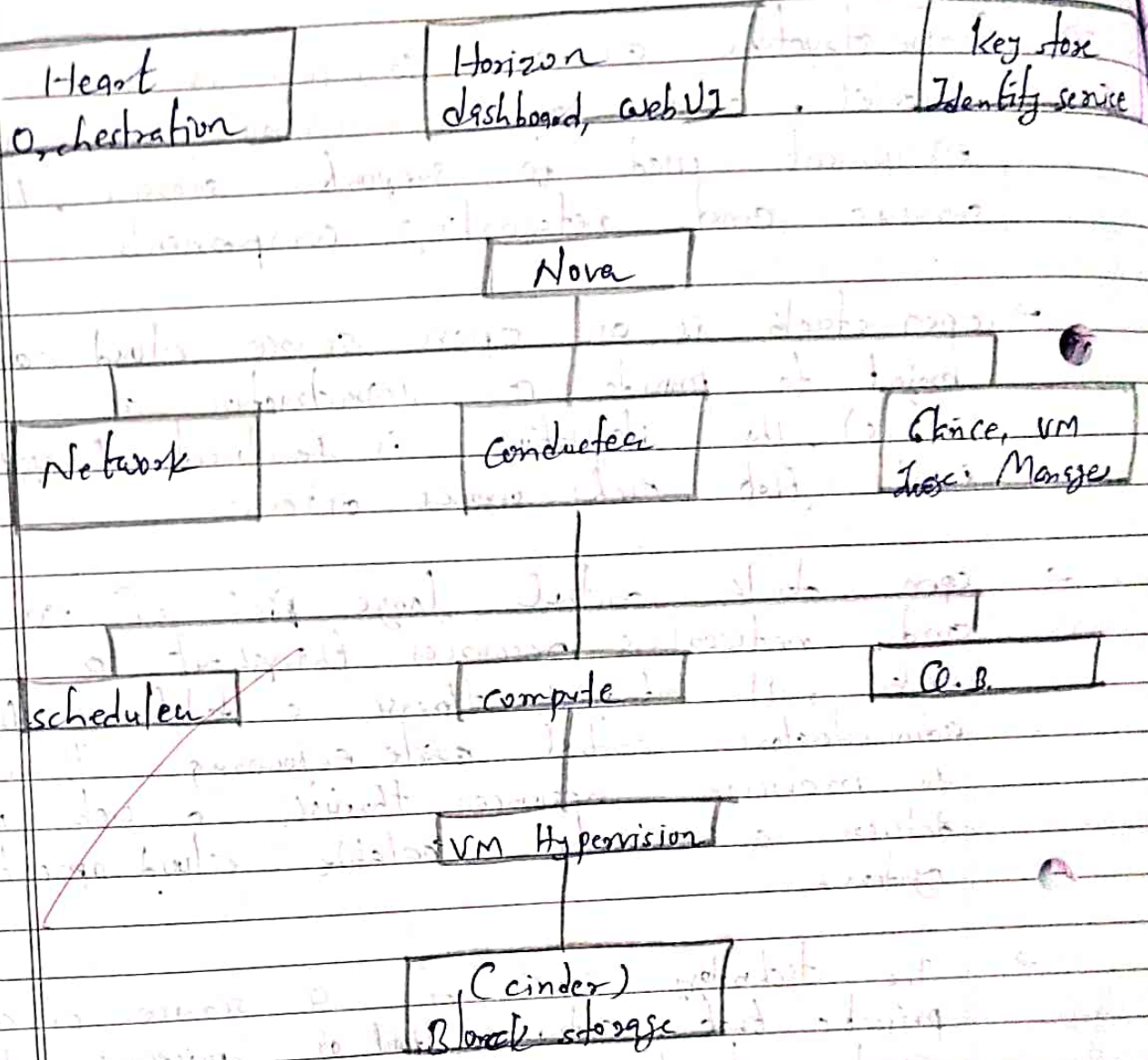
Assignment - 3

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Q.1] Open source IaaS software.

- ⇒ Infrastructure as a Service is a service model, where an organization out sources the equipment used to support storage, Hardwares, servers and networking components.
- open-stack is an open source cloud computing project to provide an Infrastructure as a service (IaaS). This integration is facilitated through public APIs that each services offshore.
 - open stack control large Pool of compute, storage and networking resources throughout a data center, all managed through a dashboard that gives administrators control while empowering their users to provision resources through a web interface delivers a massively scalable cloud operating system.
 - The technology consists of a service of connected projects that control a pool of processing, storage and networking resource throughout a data center. all managed through a dashboard that gives admin control while empowering it's users to provision resources through a web interface.

OpenStack main service & components



Q2) Open Source PaaS Software

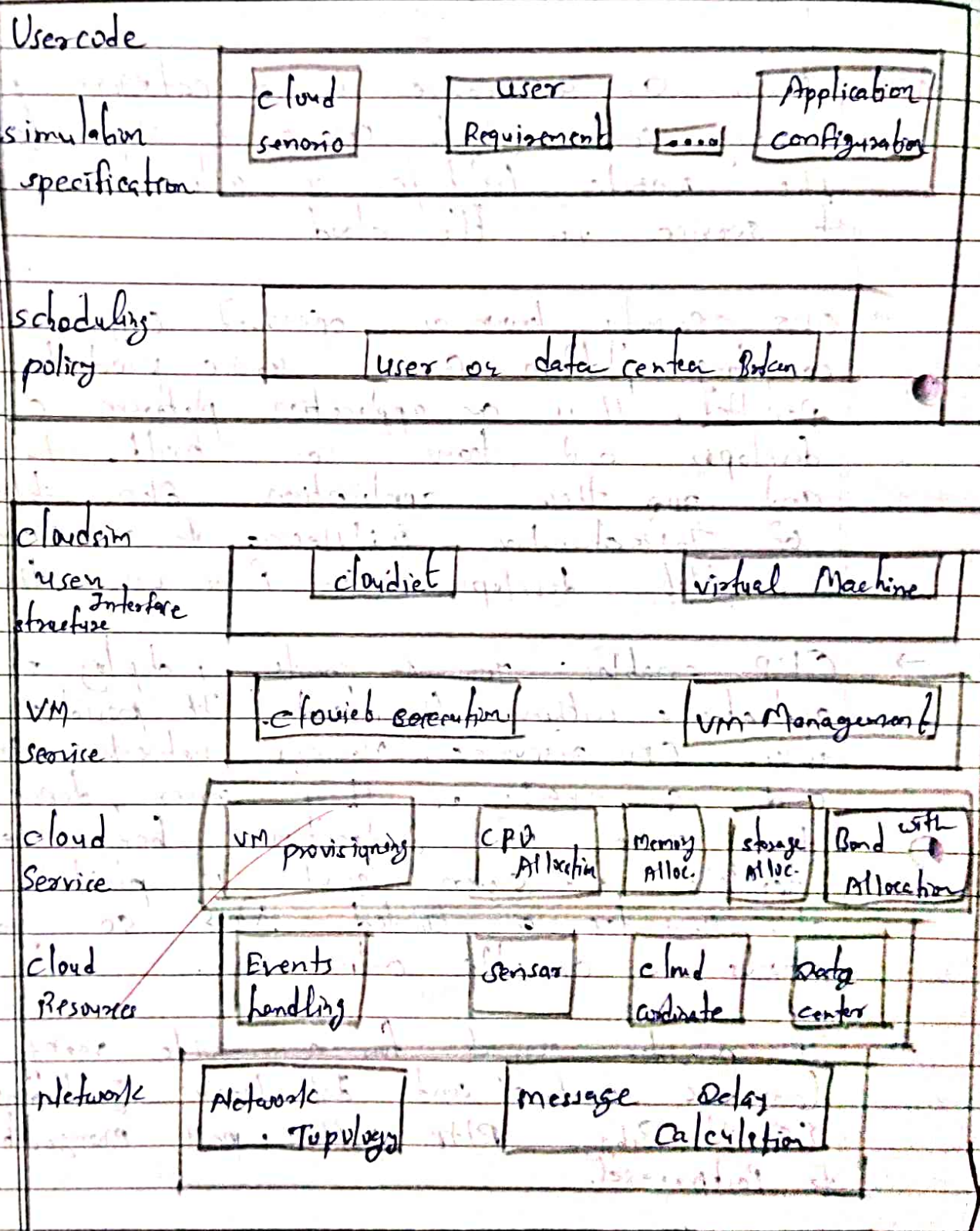
Any platform as a service is a category of cloud computing service which offers a way to support the compute lifecycle of delivery web applications & service via the cloud.

→ OKD (originally known as openshift Origin) is a PaaS computing platform as a service product from Red Hat. It is an application platform where application developers and teams can build, test, deploy and run their application. OKD takes care of infrastructure, middleware & management so that developers can focus on their app.

→ OKD enables you to create, deploy and manage applications within the cloud. It provides dark space, CPU resources, Memory, network connectivity and an Apache or Java server, depending on the type of application being deployed & template file system layout is provided. OKD also generates a limited DNS so your application is accessible online.

→ It provides support for a wide variety of language runtime and dot languages including Java, Etc., Ruby, PHP, python, perl, MongoDB, MySQL & PostgreSQL.

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cloud sim Gas simulation Engine

1.3) open source SaaS Software

2) SaaS is a distribution Model where in third Party trusted within the responsibility or liability application and make them available for customers with the help of internet.

→ Cloudify is an open source cloud orchestration framework. It helps in the customization of the entire lifecycle of an application, in the upper cloud enables users to deploy the application in two ways.

- 1) By opting for CLI only
- 2) By opting for the Cloudify managers.

Application Configuration are defined through blueprint that are developed on YAML or configuration files. These blueprints have complete information regarding the application's life cycles starting from installation to its monitoring.

→ Features

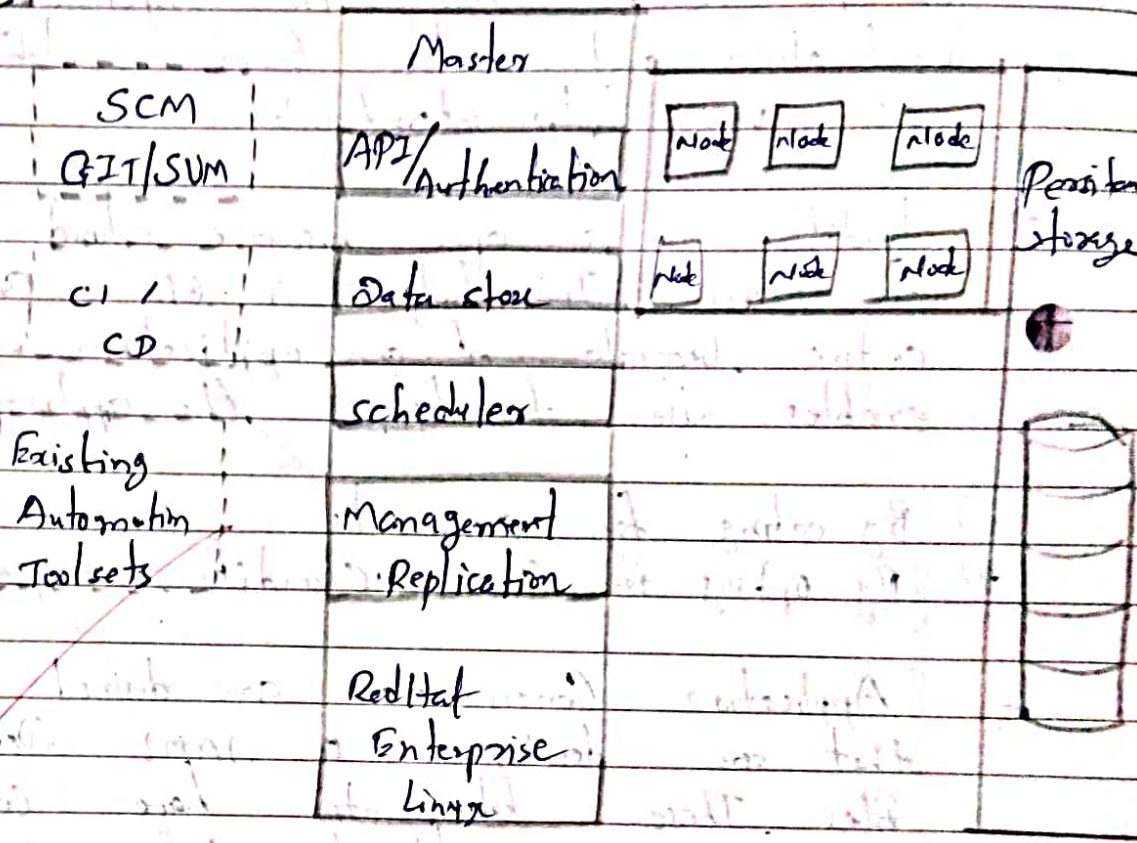
- Local Blueprints
- It governs & manages
- Blueprinting modeling
- TOSCA Orchestration
- Built-in node type.

02

OKD Architecture

Developers

Routing layer



Source layer

Physical and virtual private public

Q5

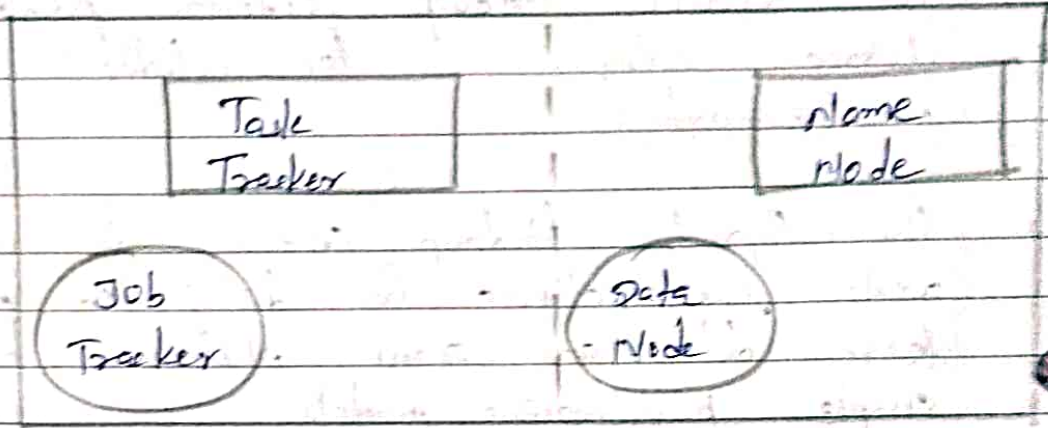
open Source Distributed system software.

- The Apache Hadoop software project develops open source software for reliable, scalable, distributed computing.
- The Apache Hadoop software library is a framework that allows for distributed processing of large data sets across clusters of computers using simple programming models.
- It is designed to scale up from single server to thousands of machines each offering local computation & storage. Rather than rely on hardware to deliver high-availability, the library itself is designed to detect and handle failures at the application layer, so delivering highly available service on top of a cluster of computers each of which may be prone to failures.
- Hadoop Common: The common utilities that support the other Hadoop modules.
- # Hadoop Distributed File System: HDFS is a distributed file throughput access to application data.
- Hadoop YARN is a framework for job scheduling and cluster resource management.

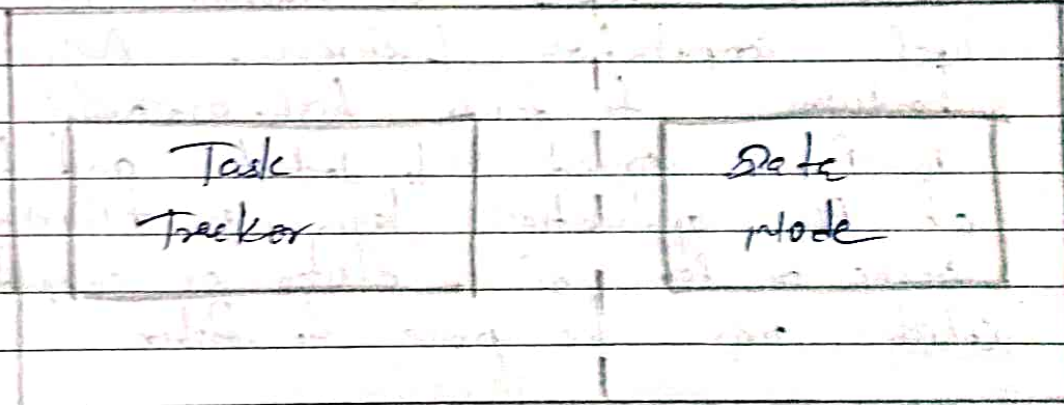
Map Reduce layer

HDFS layer

Master



Slave



- Hadoop MapReduce: A YARN based system for parallel processing of large data sets
- Hadoop Core: A object store for Hadoop

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