INDEX

S. No.	Title of Skill Activity	Date of Allocation	Date of Submission	Sign of Faculty
1.	Banking usecases related to Communication Network :	25/02/2022	25/02/2022	
2.	Application Of Electronic Payment System in Banks	08/03/2022	12/03/2022	
3.	Application Of Data Communie -ation Network & SWIFT	08/03/2022	12/03/2022	
4.	Role of Tech Upgradation & its impact on Banks	15/04/2022	15/04/2022	
5.	Application of Security Tools in Banking Sector	22/04/2022	22/04/2022	

SKILL ACTIVITY NO: 1

(To be filled by the Student)

Date: 25/02/2022

Title:

Banking UseCases related to Communication Network

1. What is the purpose of this activity ? (Explain in 3 – 4 lines)

The purpose of this activity is to research about :-

- What communication architecture Bank's Branches uses in their office?
- which network topology they prefer for their Networking setup such as Routers, Switches, Servers?
- Which Thin OS they deploy on their server's for Running banking applications?
- Concept of Converged Networks & Technology behind it?

All above usecases needs to be find out. & that's the main/core purpose behind this practical activity.

2. Step performed in this activity (Explain in 5 – 6 lines)

Steps performed in this activity are as follows:

Step1: First we visited our Nearest Bank Branch.

Step2: Their we take permission on the behalf of our college.

Step3: After that, we requested to Branch Manager Mam, ~~for~~ to grant permit for analysing Tech Infrastruture of their own branch.

Step4: Then, we talk to 2 engineer
- SRE Engineer → Main Job Role is to analyze all the stuff Related to Operations part.
- Network Admin
  - It's main job Role is Software Based & managing Cisco Routers & switches.
  - All pc internet Access.

Step5: Finally, this ended our visit successfully in respective Branch.

TECH STACK BANK BRANCHES ARE USING MOSTLY:-

We have decided to make an analysis of the well known Indian Banks FinTechs products to show what tech stack they are using for communication Network as well as Application Development.

(i) HDFC Bank:

↳ Frameworks: Ruby on Rails & Gatsby.js

JavaScript Libraries & Functions: jQuery, jQuery UI, AngularJS, React.js

Web Hosting Providers Amazon AWS EC2 Infrastructure, AWS S3, CDN

Caching: Rack Cache

Analytics & Tracking: Hotjar (using Heat Map, user activity recording)
Optimizely (A/B Testing),
Google Analytics.

WAN MANAGEMENT APPROACHES USED BY BIG BANKS:→

(i) WAN Management via the carries: Banks often use telecom carriers to provide network management for their WANs. Most telecom carriers offer an option that includes a router for termination of MPLS circuits, Internet access circuits etc.

Pros: Least experience option

Cons: Minimal support.

(ii) WAN Management via Core Providers: Core providers also provide a Network Management option for our Bank's WAN. Most banks that use this strategy like the convenience of using a single provider for both core processing & WAN Connectivity. This option provides a single point of contact as well as a single bill for our Bank's solution.

Pros: Single Bill, Single point of contact

Cons: Most expensive option, limited carrier choice, limited flexibility.

3. What resources / materials / equipments / tools did you use for this activity ?

1. Resources:→ https://safesystems.com/cisco
   ↳ Banks Branch employees.
2. ↳ https://www.openstack.org
3. ↳ https://www.mckinsey.com/business-functi
4. ↳ https://www.openstack.org/docs/summits/boston-2021/
5. Tools:• Laptop/Desktop-PC
   • Windows 10(OS)
   • Chrome Web Browser
   ↳ Vehicle, Bank Branch
6.
7.
8.

4. What skills did you acquire ?

1. W5HH about Communication Networks (Basics of) ↳ eg: LAN, WAN, MAN, PAN etc.
2.
3. How multiple Banks are using different topologies for their Infrastructure. (eg: HDFC)
4.
5. How WAN management takes place with the help of cisco? Servers & Switches
6.
7. Role of Public Service & Private Service Cloud Providers.
8. Management.

5. Time taken to complete the activity ? 02:00 (hours)

Signature of Student

WAN Management via a Managed Services Provider (MSP):

Many banks opt to use 3rd party MSP's to manage their WAN connections. Many Telecom carriers offers unmanaged circuits (i.e. they offer a circuit only option that doesn't include a managed router). The MSP manages the overall solution to varying degrees, based on the vendor's product. Similarly, MSPs are responsible for the overall health & management of the WAN solution.

Pros: Best support, competitive pricing, multiple carrier options

Cons: Multiple bills, multiple contacts.

OWN

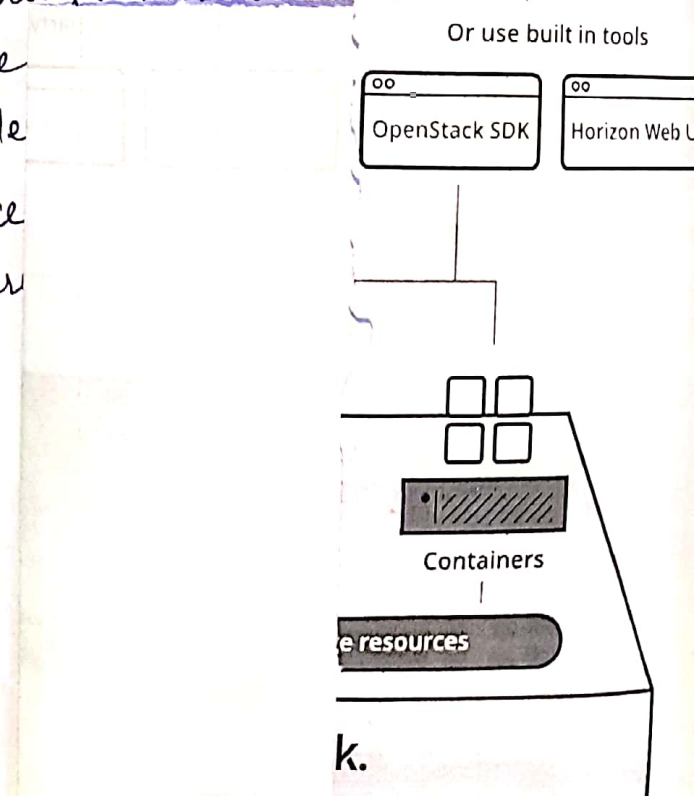
OPENSTACK – THE NEW OPENSOURCE CLOUD WAY

↳ Openstack is a set of software components that provide common services for cloud infrastructure. It is the most widely deployed open source cloud software in the world. Cloud infrastructure for Virtual Machines, Bare Metal & containers → It controls large pools of compute, storage & Networking Resources all managed through APIs or a dashboard.

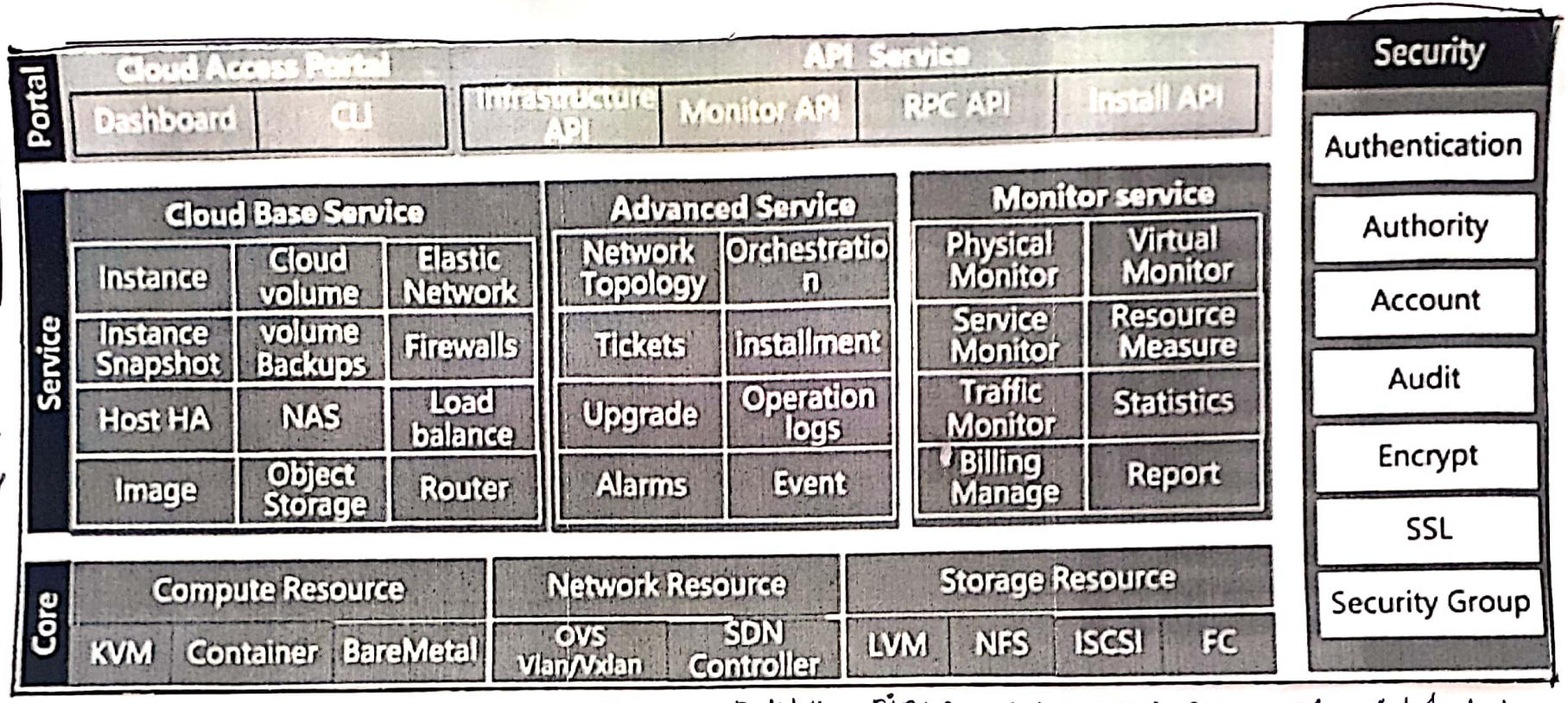
↳ Beyond standard infrastructure-as-a Service functionality, additional components provide orchestration, fault management & service management amongst other services to ensure High availability of user applications.

↳ Services Offered By Openstack Cloud Platform:

- ↳ For computing: NOVA
- ↳ For Networking: NEUTRON
- ↳ For Block Storage: CINDER
- ↳ For IAM: KEYSTONE
- ↳ For Image: GLANCE
- ↳ For Dashboard: HORIZON



REAL WORLD USE CASE OF CIB Fintech Company



Above Diagram Represents, How CIB Fintech Company Build the FIRST and LARGEST Chinese Financial Industry Cloud with Openstack.

In Dec 2020, CIB Fintech Company was founded by CIB, Kingdom Technology & Global Infotech & Newland. It built the first Chinese Financial Industry cloud with OPENSTACK, "Finland Cloud" which undertakes the part of IT solution service of 'Bank link Platform' mainly providing financial cloud computing services for its co-operative partners such as commercial banks, medium banks village banks & non-bank financial institutions. So far, Fintech Cloud's Openstack Environment Has 400 Nodes & planned about 2000 more Nodes.