Project Design Phase-II

Technology Stack (Architecture & Stack)

Team ID	PNT2022TMID06612
Date	18 October 2022
Project Name	Skill and Job Recommender
Maximum Marks	4 Marks

Technical Architecture

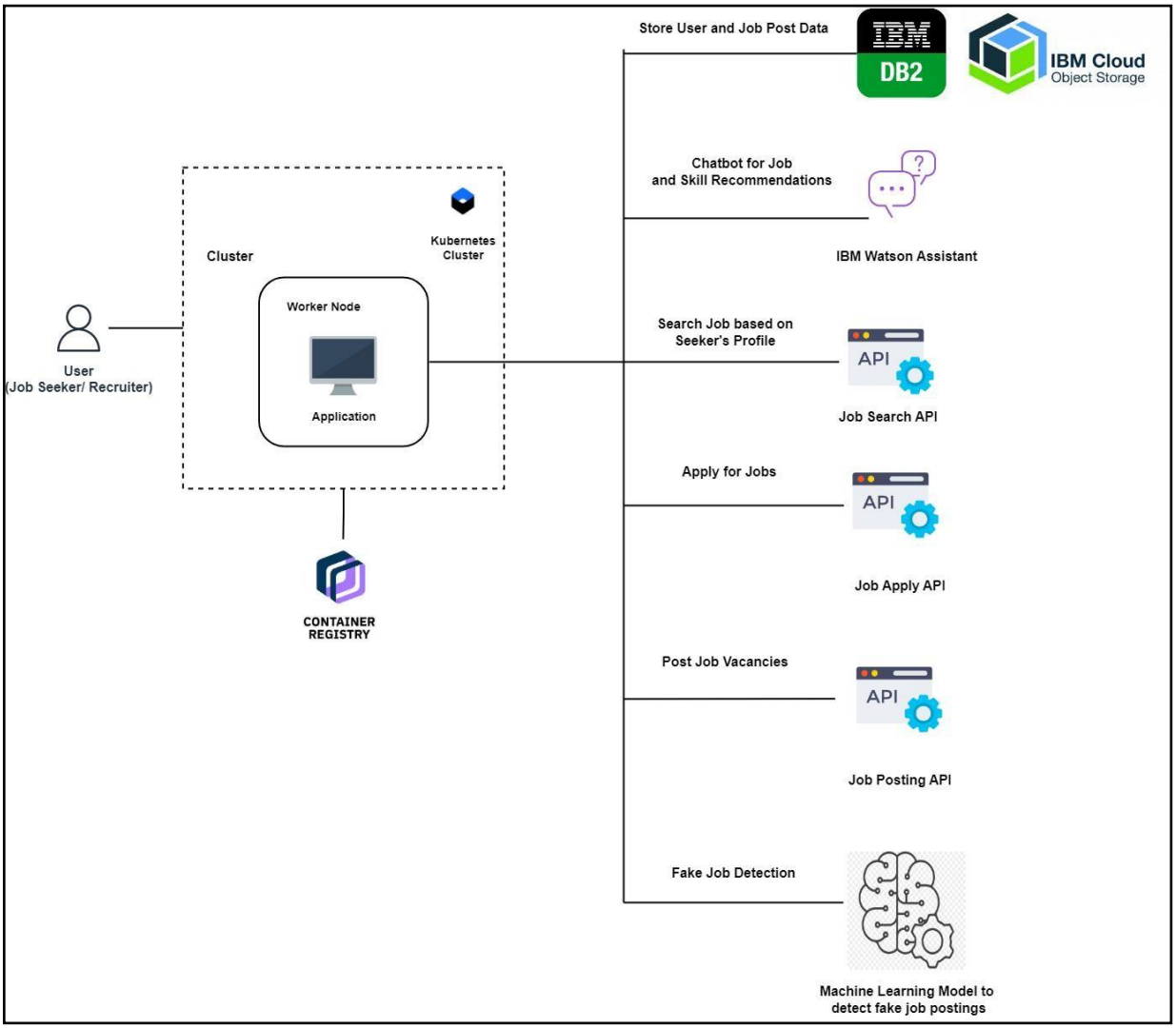

Table 1: Components & Technologies:

S. No	Component	Description	Technology
1.	Front-end	To provide the user interface	HTML, CSS, JavaScript, Bootstrap
2.	Back-end	To serve user requests	Python Flask
3.	Chatbot	To provide job and skill recommendations and to solve user queries related to job	IBM Watson Assistant
4.	Cloud Database	To store user data and job-related data	IBM DB2
5.	File Storage	To store user data like resumes and job posts	IBM Cloud Object Storage
6.	Machine Learning Model	To classify job postings as fake or real and remove fake job openings	Fake Job Detection Model
7.	Container Repository	To store container images	IBM Container Registry
8.	Cloud Server	To deploy the application	Kubernetes

Table 2: Application Characteristics:

S. No	Component	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	HTML, CSS, JavaScript, Bootstrap, Flask, Kubernetes, Docker
2.	Security Implementations	List all the security/access controls implemented, use of firewalls etc.	IBM DB2 - Native Encryption at rest IBM Cloud Object Storage - AES256 encryption with SHA256 hash
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Kubernetes IBM DB2
4.	Availability	Justify the availability of applications (e.g., use of load balancers, distributed servers etc.)	Kubernetes ● Employs load distribution to distributed servers. ● Cluster with no single point of failure can be implemented by a multi-master clusterwith multiple master nodes, each of which has access to the same worker nodes.

5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDNs) etc.	Kubernetes ● Adding master nodes can enhance the cluster's performance. ● Choosing better persistent storage hardware offers better throughput.