

**Project Design Phase-II  
Technology Stack (Architecture & Stack)**

Date	19 October 2023
Team ID	NM2023TMID07227
Project Name	Aquatic Insights: Cognos -Powered Water Portability Analysis
Maximum Marks	4 Marks

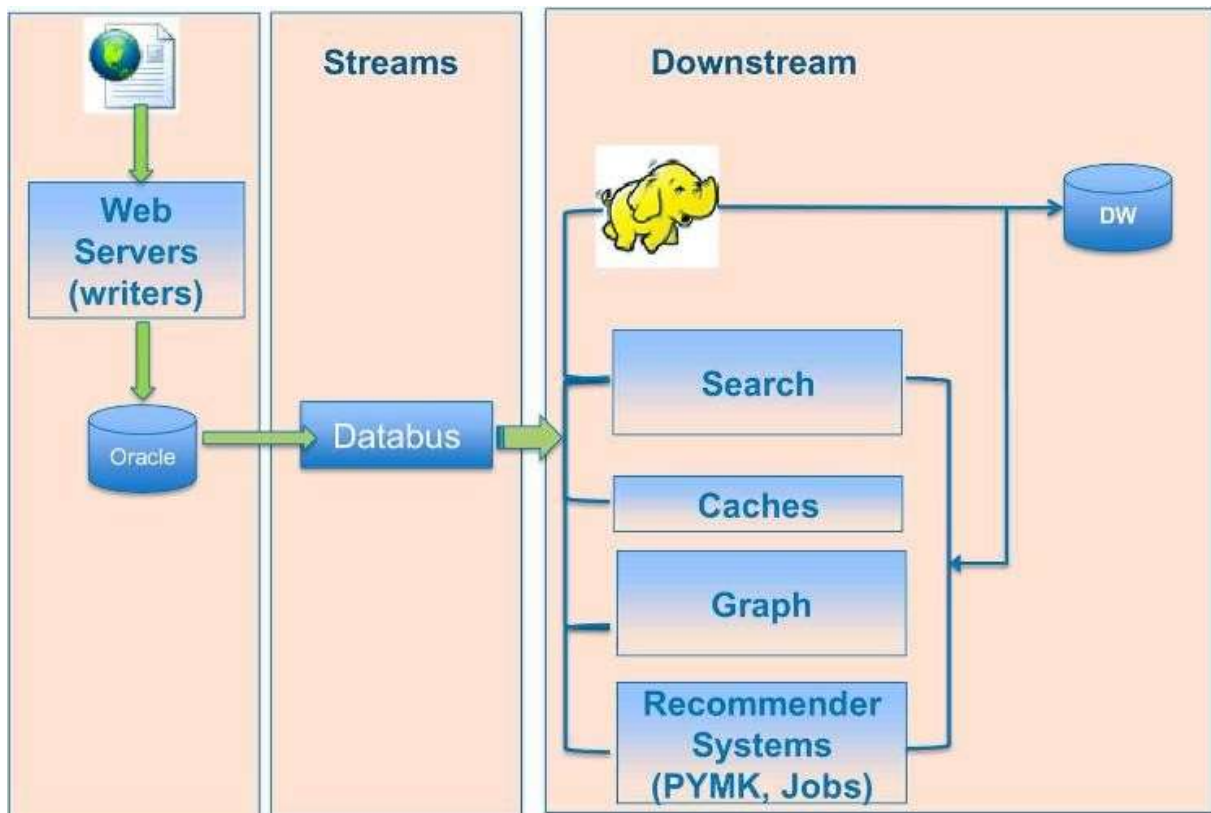
**Technical Architecture:**

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

**Guidelines:**

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning modls (if applicable)

**Diagram:**



**Table-1 : Components & Technologies:**

<b>S.No</b>	<b>Component</b>	<b>Description</b>	<b>Technology</b>
1.	Front-End Application	User interface for the web application	HTML, CSS, JavaScript / Angular Js /React Js etc.
2.	Back-End Server	Server-side logic and API endpoints	Node.js, Express
3.	Database	Storage and retrieval of user	PostgreSQL
4.	User Authentication	User login and authentication	OAuth 2.0
5.	Web Scraping	Data extraction from LinkedIn profiles	python, Selenium
6.	Data Processing	Analyzing and processing the scraped data	Python, Pandas, NumPy
7.	Data Visualization	Displaying trends and insights	D3.js, Chart.js, Plotly
8.	API Integration	Integration with external data sources	RESTful APIs
9.	Hosting and Deployment	Deployment of the application and database	AWS, Heroku, Docker
10.	Security Measures	Security protocols and measures	HTTPS, JWT, OAuth best practices
11.	Mobile Optimization)	Mobile responsiveness and design optimization:	Responsive Web Design

**Table-2: Application Characteristics:**

<b>S. No</b>	<b>Characteristics</b>	<b>Description</b>	<b>Technology</b>
1.	Scalability	Ability to handle a growing user base and data	Load balancing, cloud services (AWS, Heroku)
2.	Performance	Responsiveness and efficiency of the application	Front-end optimization, back-end optimizations
3.	Security	Measures to protect user data and application	Encryption, OAuth, secure APIs
4.	User Experience (UX)	Design and usability for a positive user experience	Responsive web design, user interface design
5.	Reliability	Dependability and consistent performance	Error handling, redundancy, failover mechanisms

