

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

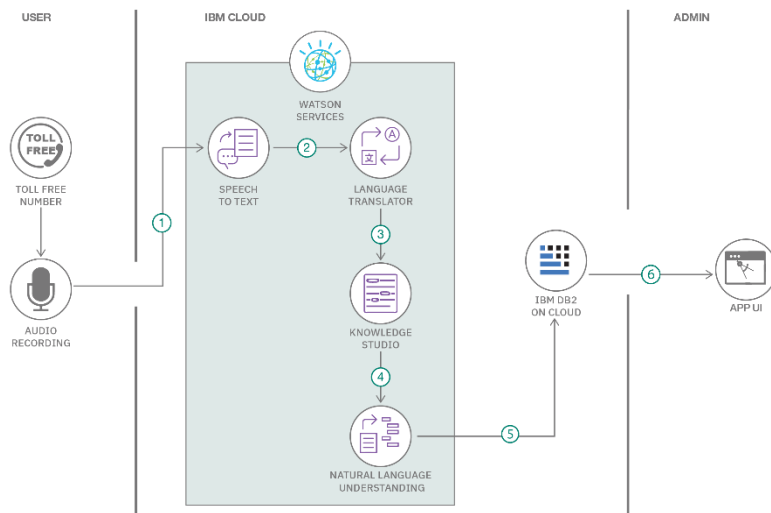
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|---------------|--|
| Date          | 31 January 3035                                    |
| Team ID       | LTVIP2026TMIDS72705                                |
| Project Name  | TransLingua – AI-Powered Multi-Language Translator |
| Maximum Marks | 4 Marks  |

### Technical Architecture:

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

**Example: Order processing during pandemics for offline mode**

**Reference:** <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>



### Guidelines:

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

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

| S.No | Component                       | Description   | Technology   |
|------|---------------------------------|---|--|
| 1.   | User Interface                  | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.                                     | HTML, CSS, JavaScript / Angular Js / React Js etc.             |
| 2.   | Application Logic-1             | Logic for a process in the application  | Java / Python  |
| 3.   | Application Logic-2             | Logic for a process in the application  | IBM Watson STT service   |
| 4.   | Application Logic-3             | Logic for a process in the application  | IBM Watson Assistant   |
| 5.   | Database                        | Data Type, Configurations etc.  | MySQL, NoSQL, etc.   |
| 6.   | Cloud Database                  | Database Service on Cloud   | IBM DB2, IBM Cloudant etc.                                     |
| 7.   | File Storage                    | File storage requirements   | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8.   | External API-1                  | Purpose of External API used in the application   | IBM Weather API, etc.  |
| 9.   | External API-2                  | Purpose of External API used in the application   | Aadhar API, etc.   |
| 10.  | Machine Learning Model          | Purpose of Machine Learning Model   | Object Recognition Model, etc.                                 |
| 11.  | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud<br>Local Server Configuration:<br>Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc.                         |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description  | Technology  |
|------|--------------------------|--|---|
| 1.   | Open-Source Frameworks   | List the open-source frameworks used                                       | Technology of Opensource framework                  |
| 2.   | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |

| S.No | Characteristics       | Description   | Technology      |
|------|-----------------------|---|-----------------|
| 3.   | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services)  | Technology used |
| 4.   | Availability          | Justify the availability of application (e.g. use of load balancers, distributed servers etc.)                            | Technology used |
| 5.   | Performance           | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | Technology used |

#### References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>