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| --- | --- |
| Date | 03 October 2022 |
| Team ID | PNT2022TMID27311 |
| Project Name | Project – Nutrition Assistant Application |
| Maximum Marks | 4 Marks |

**Technology Stack (Architecture & Stack)**

USER

IBM CLOUD



Register / Login



Display nutrients

BBM

/



EXTERNALAPI

Upload Food Image

Calculate and Display BMI value

**Table-1 :**

**Components & Technologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| 1. | User Interface | User interacts with Web UI | HTML, CSS, JavaScript |
| 2. | Application Logic-1 | Connect with Database and external API’s | Python Flask |
| 3. | Application Logic-2 | Calculate BMI value for the user | BMI Algorithm |
| 4. | Database | Data Type, Configurations etc. | MySQL |
| 5. | Cloud Database | Database Service on Cloud – used to store user details for registration and login, and track diet history | IBM DB2 |
| 6. | External API-1 | This API is used to find the name of the food, for which the image has been uploaded | Clarifai AI-Driven API |
| 7. | External API-2 | This API is used to find the recipe and Nutritional value present inside the food | Nutrition API ( Rapid API) |
| 8. | Infrastructure | Application Deployment to provide good performance and scalability | Kubernetes |

**Table-2:**

**Application Characteristics:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| 1. | Open-Source Frameworks | Usage of flask to connect database and external API | Python flask |
| 2. | Security Implementations | Provision of secured access to database | SSH |
| 3. | Scalable Architecture | Presentation tier: User Interface to login and upload food images  Application tier: Clarifai API , Nutrition API  Database tier: IBM cloud DB2 | HTML, CSS, JavaScript, Flask, Kubernetes, IBM DB2 |
| 4. | Availability | Clustering improves availability. This can be achieved with the help of Kubernetes cluster. | Kubernetes |
| 5. | Performance | By using cache and adding master nodes we can improve performance of the application | Kubernetes |