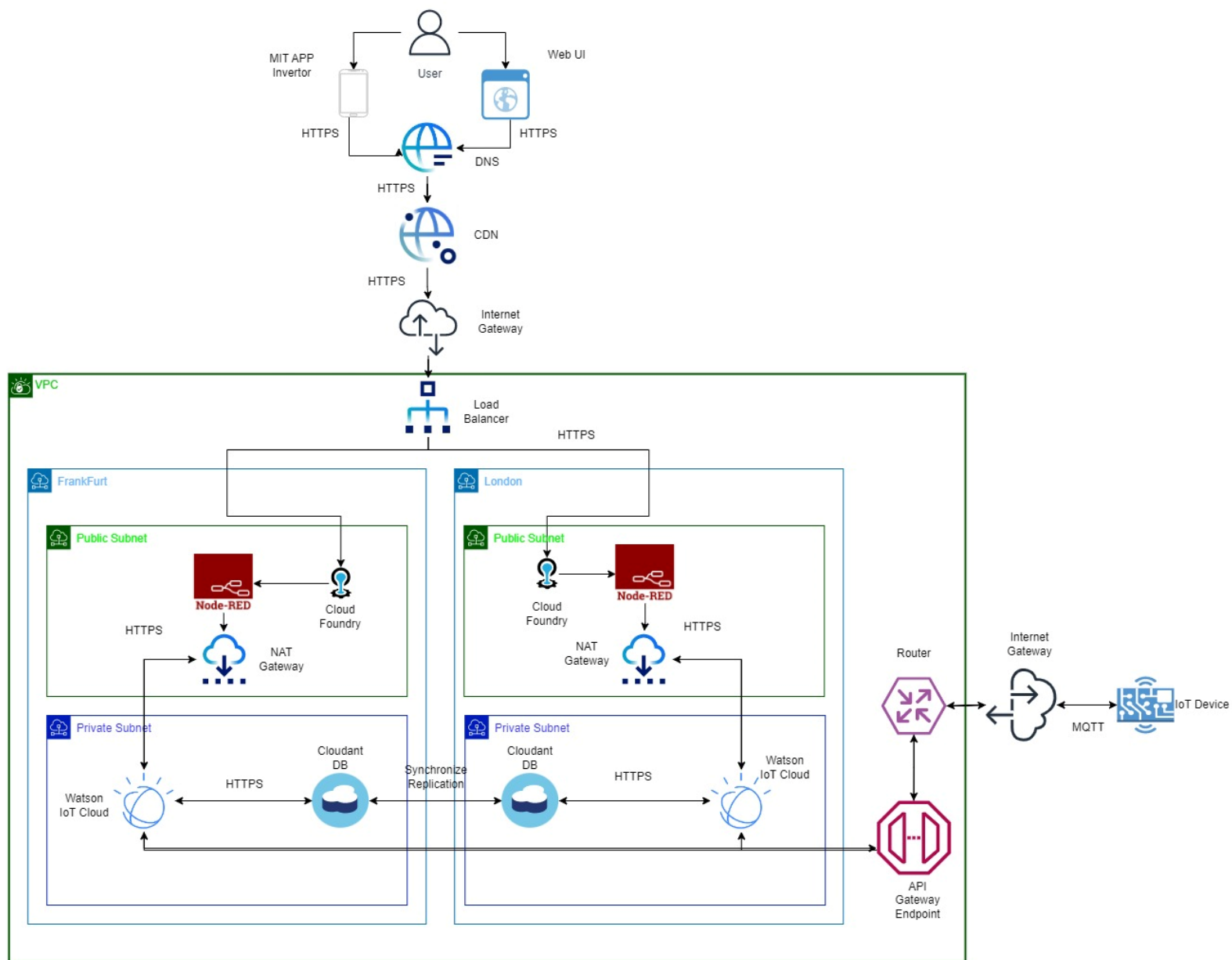


**Project Design Phase-II**  
**Technology Stack (Architecture & Stack)**

|               |   |
|---------------|---|
| Date          | 03 October 2022                                     |
| Team ID       | PNT2022TMID   |
| Project Name  | Smart Famer – IoT Enabled Smart Farming Application |
| Maximum Marks | 4 Marks   |

**Technical Architecture:**

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



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

| S.No | Component                       | Description  | Technology           |
|------|---------------------------------|--|----------------------|
| 1.   | User Interface                  | How user interacts with application<br>Web UI and Mobile App | NodeRed              |
| 2.   | Application Logic-1             | Logic for a process in the IoT Device to sense               | Python               |
| 3.   | Application Logic-2             | Logic for a process in the application                       | IBM Watson Assistant |
| 4.   | Cloud Database                  | Database Service on Cloud                                    | IBM Cloudant DB      |
| 5.   | External API-1                  | Purpose of External API used in the application              | IBM Weather API      |
| 6.   | Infrastructure (Server / Cloud) | Application Deployment on Cloud Server<br>Configuration      | Cloud Foundry.       |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description   | Technology   |
|------|--------------------------|---|--|
| 1.   | Open-Source Frameworks   | List the open-source frameworks used  | Python   |
| 2.   | Security Implementations | List all the security / access controls implemented,<br>use of firewalls etc.                       | Use API Gateway and Internet<br>Gateway as firewall Protection |
| 3.   | Scalable Architecture    | Every Cloud Services are hosted separately and<br>make is scalable separately                       | Public and Private Gateway                                     |
| 4.   | Availability             | Application is hosted on two regions for availability   | London and Frankfurt Region Data<br>Centres are used           |
| 5.   | Performance              | Used Content Delivery Network and API gateway<br>to scale millions of users and IoT Devices as well | IBM CDN and IBM API Gateway are<br>used                        |