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

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| Date | 03 October 2022 |
| Team ID | Leveraging Data Analysis For Optimal  Marketing Campaign Success |
| Project Name | NM2023TMID07102 |
| 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/**](https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/)

A diagram of a cloud computing system

Description automatically generated

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 models (if applicable)

# Table-1 : Components & Technologies:

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| **1** | **Data Source** | **IBM Db2** | **Relational Database** |
| **2** | **Data Analysis and Visualization** | **IBM Cognos Analytics** | **Business Intelligence (BI) Tool** |
| **3** | **Data Integration** | **IBM Db2 Connect** | **Data Integration Software** |
| **4** | **Data Security** | **RBAC, Data Encryption** | **Security Mechanisms** |
| **5** | **Reporting and Dashboarding** | **IBM Cognos Dashboards** | **Reporting and Dashboarding Tool** |
| **6** | **Data Quality Assurance** | **Data Cleaning and Transformation Tools** | **ETL Tools (e.g., Informatica)** |
| **7** | **Project Management** | **Project Management Software (e.g., Jira, Trello)** | **Project Management Tools** |
| **8** | **Data Storage** | **IBM Db2** | **Relational Database** |
| **9** | **Compliance and Data Privacy** | **GDPR Compliance Tools and Policies** | **Compliance Software** |
| **10** | **Marketing Campaign Management** | **Marketing Automation Tools (e.g., HubSpot, Marketo)** | **Marketing Software** |
| **11** | **Customer Feedback Collection** | **Feedback Forms, Surveys** | **Data Collection Tools** |
| **12** | **Customer Support** | **CRM Software (e.g., Salesforce, Zendesk)** | **Customer Relationship Management (CRM) Software** |
| **13** | **Collaboration and Communication** | **Team Collaboration Tools (e.g., Slack, Microsoft Teams)** | **Collaboration Tools** |
| **14** | **Budget Management** | **Financial Software (e.g., QuickBooks, Xero)** | **Financial Software** |
| **15** | **IT Infrastructure** | **Server and Network Infrastructure** | **IT Infrastructure** |
| **16** | **User Training** | **Training Materials, Workshops** | **Training Resources** |
| **17** | **Data Backup and Recovery** | **Data Backup Systems** | **Backup and Recovery Solutions** |
| **18** | **Data Monitoring** | **Data Monitoring Tools** | **Monitoring Software** |
| **19** | **Analytics Tools** | **Advanced Analytics Tools (e.g., Python, R)** | **Analytics Software** |
| **20** | **Marketing Tools** | **Digital Marketing Software (e.g., Google Ads, Facebook Ads)** | **Marketing Software** |

**Table-2: Application Characteristics:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| **1** | **Scalability** | **The application should be able to scale with growing data and user demands.** | **Scalable Architecture** |
| **2** | **Performance** | **The application must provide fast data analysis and reporting.** | **Performance Optimization** |
| **3** | **Security** | **Data security and privacy are critical aspects of the application.** | **Security Features** |
| **4** | **User-Friendly** | **The application should be intuitive for users with varying technical backgrounds.** | **User-Friendly Interface** |
| **5** | **Real-Time Insights** | **Users should have access to real-time marketing campaign insights.** | **Real-Time Processing** |
| **6** | **Data Accuracy** | **The application must ensure data accuracy for informed decision-making.** | **Data Validation** |
| **7** | **Integration Capabilities** | **The application should integrate seamlessly with various data sources and tools.** | **Integration APIs** |
| **8** | **Compliance** | **Compliance with data privacy regulations like GDPR is essential.** | **Compliance Features** |
| **9** | **Collaboration** | **Users should be able to collaborate and share insights within the application.** | **Collaboration Tools** |
| **10** | **Mobility** | **The application should be accessible on mobile devices for on-the-go analysis.** | **Mobile Compatibility** |