Requirement Analysis Phase

Technology Stack Template

Date	06 November 2025
Team ID	F529277D47452DB9E7447BD087E08E5E
Project Name	Medical Inventory Management
Maximum Marks	4 Marks

1. Front-End (User Interface Layer)

Component	Technology	Purpose
Web Framework	**React.js / Angular / Vue.js**	Build responsive and interactive user interfaces
Styling	**CSS3, Bootstrap, Tailwind CSS**	Improve UI design and layout
Scripting	**JavaScript / TypeScript**	Front-end logic and dynamic behavior
API Communication	**Axios / Fetch API**	Handle API requests to the backend

2. Back-End (Application Layer)

Component	Technology	Purpose
Framework	**Node.js (Express)** / **Django (Python)** / **Spring Boot (Java)**	Handles business logic and routes
Authentication	**JWT / OAuth 2.0 /**	Secure user authentication

	Firebase Auth	and authorization
API Design	**RESTful APIs / GraphQL**	Enable communication between client and server

3. Database Layer

Component	Technology	Purpose
Relational Database	**MySQL / PostgreSQL / MS SQL Server**	Store structured medical inventory data
NoSQL Database (optional)	**MongoDB / Firebase Firestore**	Manage flexible or unstructured data
ORM / ODM	**Sequelize / Mongoose / Hibernate / Django ORM**	Simplify database queries and mapping

4. Cloud & Hosting

Component	Technology	Purpose
Cloud Platform	**AWS / Azure / Google Cloud / DigitalOcean**	Application hosting and scalability
Containerization	**Docker / Kubernetes**	Simplify deployment and scaling
Server Hosting	**Nginx / Apache**	Web server configuration

5. Data Analytics & Reporting

Component	Technology	Purpose

BI / Visualization	**Power BI / Tableau / Grafana / Chart.js**	Analyze stock, expiry trends, and usage
Reporting Tools	**Crystal Reports / JasperReports / PDFKit**	Generate printable inventory reports