

Requirement analysis

Technology stack template

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| Date | 7.11.25 |
| Team ID | NM2025TMID00037 |
| Project name | Streamlining ticket assignment for efficient support operation |
| Maximum mark | 4 |

Technology Stack

The Technology Stack defines the set of tools, programming languages, frameworks, and platforms used to design, develop, and deploy the automated ticket assignment system.

It ensures scalability, performance, and smooth user experience across all modules.

1. Frontend (Client Side)

HTML5 / CSS3 : Structure and styling of the user interface.

JavaScript (ES6) : Adds interactivity and logic to the frontend.

React.js / Angular : Framework for building dynamic, single-page applications (SPAs).

Bootstrap / Tailwind CSS : Used for responsive and mobile-friendly UI design.

2. Backend (Server Side)

Node.js (Express.js) : Handles API requests, routing, and server-side logic.

Python (Flask / Django) : Optional backend for implementing AI/ML-based ticket assignment.

RESTful APIs : For communication between frontend and backend.

3. Database Layer

MySQL / PostgreSQL : For structured data storage (ticket, user, and agent details).

MongoDB (NoSQL) : For flexible, unstructured data like logs and analytics.

4. Cloud & Deployment

AWS / Microsoft : Azure Cloud platform for hosting backend and database.

Docker / Kubernetes : For containerization and smooth deployment.

GitHub / GitLab CI/CD : For version control and continuous integration.

5. Automation & Analytics Tool

Power BI / Tableau : Data visualization and reporting.

Python (Pandas, NumPy) : Performance analytics and algorithm tuning.

Chatbot (optional) : For automated replies to common customer queries.

6. Security & Testing Tools

JWT / OAuth2 : Secure user authentication and access control.

Postman : API testing and validation.

Selenium / Jest: Automation testing for frontend and backend.

Conclusion

The project “Streamlining Ticket Assignment for Efficient Support Operation” successfully demonstrates how automation can transform traditional customer support processes. By implementing an automated ticket assignment system, the project eliminates manual workload, reduces response time, and ensures balanced task distribution among agents.