# Team Plan – Hotel Reservation System

## 1. Team Composition (4 Members)

| Role | Member | Responsibilities |
|------|--------|------------------|
| **Team Lead / Backend Developer** | Member 1 | - Lead overall architecture & coding standards<br>- Design and implement ASP.NET Core Web API<br>- Handle business logic (reservations, room availability, pricing)<br>- Integrate with SQL Server database<br>- Manage deployment and CI/CD |
| **Frontend Developer** | Member 2 | - Design and implement ASP.NET Core MVC (Razor pages / Blazor) or Angular/React UI<br>- Develop customer-facing pages (search, booking, payments)<br>- Develop admin dashboard (room management, reservations)<br>- Ensure responsive and accessible design |
| **Database Engineer** | Member 3 | - Design database schema (ERD, relationships)<br>- Write SQL scripts, stored procedures, indexing<br>- Ensure data integrity and normalization<br>- Handle migrations and performance optimization<br>- Backup & restore strategy |
| **QA Engineer / DevOps** | Member 4 | - Write test cases (unit, integration, system tests)<br>- Automate testing (xUnit, Selenium)<br>- Set up CI/CD pipelines (GitHub Actions, Azure DevOps)<br>- Monitor performance and security<br>- Manage deployment environment (Docker/Kubernetes optional) |

## 2. Project Timeline (Phased Approach – 8 Weeks Example)

| Phase | Duration | Tasks | Responsible |
|-------|----------|-------|-------------|
| **1. Requirements & Planning** | Week 1 | - Finalize SRS<br>- Define use cases, user stories<br>- Identify tech stack & tools<br>- Create ERD & UML diagrams | Team Lead + All |
| **2. Database & Backend Setup** | Week 2–3 | - Create SQL Server schema<br>- Build core models (User, Room, Reservation, Payment)<br>- Implement APIs (search, booking, cancellation)<br>- Unit testing backend | Backend + Database |

| Phase | Duration | Tasks | Responsible |
|-------|----------|-------|-------------|
| **3. Frontend Development** | Week 3–5 | - Build customer-facing pages (search, booking)<br>- Build admin dashboard<br>- Integrate APIs with UI<br>- Styling & responsive design | Frontend |
| **4. Payment & Authentication** | Week 5–6 | - Implement user authentication (Identity / JWT)<br>- Integrate payment gateway (Stripe/PayPal)<br>- Secure API endpoints | Backend + Frontend |
| **5. Testing & QA** | Week 6–7 | - Write test cases<br>- Conduct integration testing<br>- Fix bugs & optimize performance | QA |
| **6. Deployment & Documentation** | Week 8 | - Deploy on Azure/AWS<br>- Prepare user manual<br>- Final presentation & training | Team Lead + QA |

## 3. Tools & Environment

- **Version Control**: GitHub / GitLab
- **Project Management**: Jira / Trello / Azure DevOps Boards
- **Backend**: ASP.NET Core Web API
- **Frontend**: ASP.NET Core MVC (or Blazor)
- **Database**: Microsoft SQL Server
- **Testing**: xUnit, Selenium
- **Deployment**: Azure App Service / Docker Containers

## 4. Communication Plan

- **Daily Stand-ups**: 15 min sync (progress + blockers).
- **Weekly Sprint Review**: Demo features completed.
- **Tools**: Slack / Microsoft Teams + GitHub Issues for tracking.

Hotel Reservation System - Team Plan Gantt Chart