

## Project Planning Phase

### Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

|               |   |
|---------------|---|
| Date          | 08 February 2026  |
| Team ID       | LTVIP2026TMIDS81581   |
| Project Name  | IntelliSQL: Intelligent SQL Querying with LLMs Using Gemini Pro |
| Maximum Marks | 5 Marks   |

### Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

| Sprint   | Functional Requirement (Epic) | User Story Number | User Story / Task                                | Story Points | Priority | Team Members |
|----------|-------------------------------|-------------------|--|--------------|----------|--------------|
| Sprint-1 | Authentication & DB Setup     | USN-1             | User registration and login module               | 3            | High     | 4            |
| Sprint-1 | Authentication & DB Setup     | USN-2             | Secure database connection (MySQL/PostgreSQL)    | 5            | High     | 4            |
| Sprint-1 | Authentication & DB Setup     | USN-3             | Display database schema and tables               | 5            | Low      | 4            |
| Sprint-1 | UI Development                | USN-4             | Dashboard for entering natural language queries  | 7            | Medium   | 4            |
| Sprint-2 | NL to SQL Engine              | USN-5             | Convert natural language to SQL using Gemini Pro | 8            | High     | 4            |
| Sprint-2 | Query Processing              | USN-6             | Validate generated SQL queries                   | 5            | High     | 4            |
| Sprint-2 | Query Execution               | USN-7             | Execute SQL and display results                  | 5            | High     | 4            |

| Sprint   | Functional Requirement (Epic) | User Story Number | User Story / Task                               | Story Points | Priority | Team Members |
|----------|-------------------------------|-------------------|---|--------------|----------|--------------|
| Sprint-2 | Error Handling                | USN-8             | Provide meaningful error messages               | 2            | Medium   | 4            |
| Sprint-3 | Optimization                  | USN-9             | Optimize generated SQL queries                  | 6            | Medium   | 4            |
| Sprint-3 | Visualization                 | USN-10            | Display results in charts/graphs                | 6            | Medium   | 4            |
| Sprint-3 | History Feature               | USN-11            | Maintain query history                          | 4            | Low      | 4            |
| Sprint-3 | Security                      | USN-12            | Prevent SQL injection and secure execution      | 4            | High     | 4            |
| Sprint-4 | Testing                       | USN-13            | Unit and integration testing                    | 6            | High     | 4            |
| Sprint-4 | Performance Testing           | USN-14            | Test system with large datasets                 | 5            | Medium   | 4            |
| Sprint-4 | Deployment                    | USN-15            | Deploy application on cloud/local server        | 5            | High     | 4            |
| Sprint-4 | Documentation                 | USN-16            | Prepare technical documentation and user manual | 4            | Medium   | 4            |

### Project Tracker, Velocity & Burndown Chart: (4 Marks)

| Sprint   | Total Story Points | Duration | Sprint Start Date | Sprint End Date (Planned) | Story Points Completed (as on Planned End Date) | Sprint Release Date (Actual) |
|----------|--------------------|----------|-------------------|---------------------------|---|------------------------------|
| Sprint-1 | 20                 | 7 Days   | 20 Feb 2025       | 26 Feb 2025               | 20  | 26 Feb 2025                  |

| Sprint   | Total Story Points | Duration | Sprint Start Date | Sprint End Date (Planned) | Story Points Completed (as on Planned End Date) | Sprint Release Date (Actual) |
|----------|--------------------|----------|-------------------|---------------------------|---|------------------------------|
| Sprint-2 | 20                 | 7 Days   | 28 dec 2025       | 06 Mar 2026               | 20  | 06 Mar 2025                  |
| Sprint-3 | 20                 | 7 Days   | 08 jan 2025       | 14 Mar 2026               | 20  | 14 Mar 2025                  |
| Sprint-4 | 20                 | 7 Days   | 16 Feb 2026       | 22 mar 2026               | 20  | 22 Mar 2025                  |

### Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

### Burndown Chart:

The Burndown Chart represents remaining story points versus time. Each sprint starts with 20 story points. Points reduce daily as tasks are completed, reaching zero by the sprint end date.

## Reference:

<https://www.atlassian.com/agile/project-management>

<https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software>

<https://www.atlassian.com/agile/tutorials/epics>

<https://www.atlassian.com/agile/tutorials/sprints>

<https://www.atlassian.com/agile/project-management/estimation>

<https://www.atlassian.com/agile/tutorials/burndown-charts>