### Task: Build an Advanced Task Management System

#### Description:

The assignment requires you to develop a comprehensive Task Management System using ASP.NET Core as the back-end, SQL Server as the database, and HTML, CSS, Bootstrap, and JavaScript as the front-end. The system should allow users to create, assign, track, and complete tasks with advanced features for collaboration, reporting, and user experience.

#### Requirements:

##### Authentication and Authorization:

* Implement a secure user authentication system using ASP.NET Core Identity.
* Include email verification, password recovery, and multi-factor authentication (MFA).

##### User Roles:

* Introduce three user roles:
  + Regular users
  + Team Leads
  + Administrators
* Each role has different levels of access and permissions.
  + Regular users can create and manage their tasks.
  + Team Leads can view and manage tasks for their assigned team members.
  + Administrators have access to all tasks and user management.

##### Task Management:

* Users should be able to create tasks with a title, description, due date, priority level, and attachments.
* Tasks can be assigned to specific users or teams and each task should have a status (e.g., To Do, In Progress, Completed).
* Include the ability to add comments to tasks.
* Implement task reminders and notifications via email or in-app.

##### Team Management:

* Implement a feature to create and manage teams.
* Users, including Team Leads, can be part of one or more teams.
* Tasks can be assigned to entire teams or individual members.

##### Database Design:

* Design a SQL Server database schema to store user information, tasks, comments, attachments, teams, and any other relevant data.
* Utilize Entity Framework (EF) Core for data access using a Code-First approach or Database-First approach.

##### Front-End:

* Build a responsive web interface using HTML5, CSS3, and Bootstrap for styling.
* Implement dynamic and interactive features using JavaScript and a front-end framework like React or Angular.

##### Advanced Task Tracking:

* Enhance the task tracking system to include task dependencies. A task can be marked as dependent on another task.
* Introduce a Gantt chart view to visualize task timelines and dependencies.
* Include Kanban board views for task management.

##### Dynamic Dashboard:

* Customize the user dashboard based on their role.
  + Regular users see a simplified task list.
  + Team Leads and Administrators have access to advanced filtering, reporting options, and team performance metrics.
* Include real-time updates for task status and notifications using SignalR.

##### Dynamic Forms: (Extra)

* Create dynamic forms for task creation/editing based on user roles.
* Different roles may have different sets of fields or options when creating tasks.

##### Audit Trail:

* Implement an audit trail system to log all significant actions (task creation, assignment changes, status updates) for compliance and accountability.
* Include a user activity log for administrators.

##### Reports and Analytics:

* Generate reports on task completion rates, team performance, and individual user productivity.
* Provide interactive charts and graphs for better visualization of data.
* Include export options for reports in formats like PDF and Excel.

##### Notifications and Reminders: (Extra)

* Implement a notification system for task assignments, due dates, and status changes.
* Allow users to set up reminders for upcoming tasks.

##### API Integration:

* Develop a RESTful API for the task management system to allow integration with other applications and services.
* Include endpoints for all major functionalities (task management, user management, team management).

##### Mobile Responsiveness:

* Ensure the web interface is fully responsive and works well on mobile devices.

##### Version Control and Deployment:

* Use Git for version control and host the project on GitHub.
* Optionally, deploy the application to a hosting service like Azure or AWS.

#### Deadline:

* The project must be completed within 7 days.