.NET Code Challenge

You are asked to implement an event sharing application API in this challenge. The features requested in the API are listed below.

- Users can create events or participate in events created by other users.
- An event has title, description, status, date, time, duration and quota properties.
- An event can exist in one of 3 states. These are published, finished and canceled.
- Users cannot participate in a canceled or finished event.
- When an event is completed, the status of the event should be set to finished automatically.
- An event can only be participated as much as the quota. When participating in events, you are expected to consider that two users can participate in the same event at the same time.
- When the start date of the event approaches, a notification should be sent to the users who participated in the event. You can set up a simple structure that mimics this process instead of a real notification mechanism. (Like printing user id and event id to the console)
- While implementing the notification feature, you are expected to set up an asynchronous event-based infrastructure.
- There should be endpoints in the API where CRUD operations of the events can be made.
- An event can only be edited or deleted by the user who created it.

Technical Requirements

- Use .NET 6 or higher versions.
- Use Entity Framework as OMR.
- Use SQL Server as database.
- Use RabbitMQ as message bus.
- Use design patterns whenever possible.
- Use REST.
- CQRS and mediator patterns are a plus.
- Dockerization is a plus.