

Quant Developer

Using Aspnet Core 2.1, EF Core 2.1 (database first), .net Standard 2.03 and Microsoft .NET.Test.Sdk 15.8 please design an web API solution that:

- Can add, update, delete and query users to a database.
- Contains a unit test library which tests each of the available functions
- Runs as a console app

Extra:

The Users are broken in to two types: Managers and Clients. Managers will have an additional 'Position' property (Junior, Senior) and Clients will have an int 'Level' property. Each manager has many clients.

Enhance the database and code to support this structure and create apis to :

- Retrieve all Managers with their associated clients
- Retrieve all Clients including their Manager
- For a specified Manager username, retrieve a list of its clients

Existing sql server database table:

```
CREATE TABLE [Domain].[Users] (  
    [UserId]                INT IDENTITY (1, 1) NOT NULL,  
    [UserName]              NVARCHAR (200) NOT NULL,  
    [Email]                 NVARCHAR (1000) NULL,  
    [Alias]                 NVARCHAR (1000) NULL,  
    [FirstName]             NVARCHAR (1000) NULL,  
    [LastName]              NVARCHAR (1000) NULL  
    CONSTRAINT [PK_Domain.Users] PRIMARY KEY CLUSTERED ([UserId] ASC)
```

Feel free to use any programming languages or analysis tools and contact us if you need any clarifications.

Please submit your results as well as your code in the format of your choice within 3 days.