

Submitted By

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Subject : Technical project test for the Sr. Software Engineer role at BPT Bangladesh Ltd.

Test Details:

- **Test Type:** Financial Management
- **Duration:** 2 days
- **Location:** remote location
- **Instructions:** Use the below technologies to build the technical project test

Frontend: HTML, CSS, Bootstrap, JavaScript, JSON, jQuery

Backend: ASP.Net MVC (.Net Framework 4.8), Web API, C#, SQL Server 2019

1. Key Features :

- a. Chart of Account (COA) Management
- b. Journal Entry
- c. Reports
 - a. Voucher Info
 - b. Trial Balance

2. Architecture

a. **Clean Architecture with CQRS :**

Clean Architecture with CQRS provides a highly scalable, maintainable, and organized structure for complex systems. Clean Architecture's layered approach, combined with CQRS's clear division of responsibilities between commands and queries, helps handle growing application complexity while promoting good software design practices.

b. CQRS :

CQRS is a pattern where the system is divided into two distinct paths:

- **Commands:** Operations that modify state (create, update, delete data).
- **Queries:** Operations that retrieve data without modifying it.

c. Mediator

3. Setup Instructions:

- a. Prerequisites (software, SDKs, tools needed).
 - a. Microsoft Visual Studio 2022
 - b. Entity Framework 4.5
 - c. .Net 5
 - d. Database: MS-SQL Server

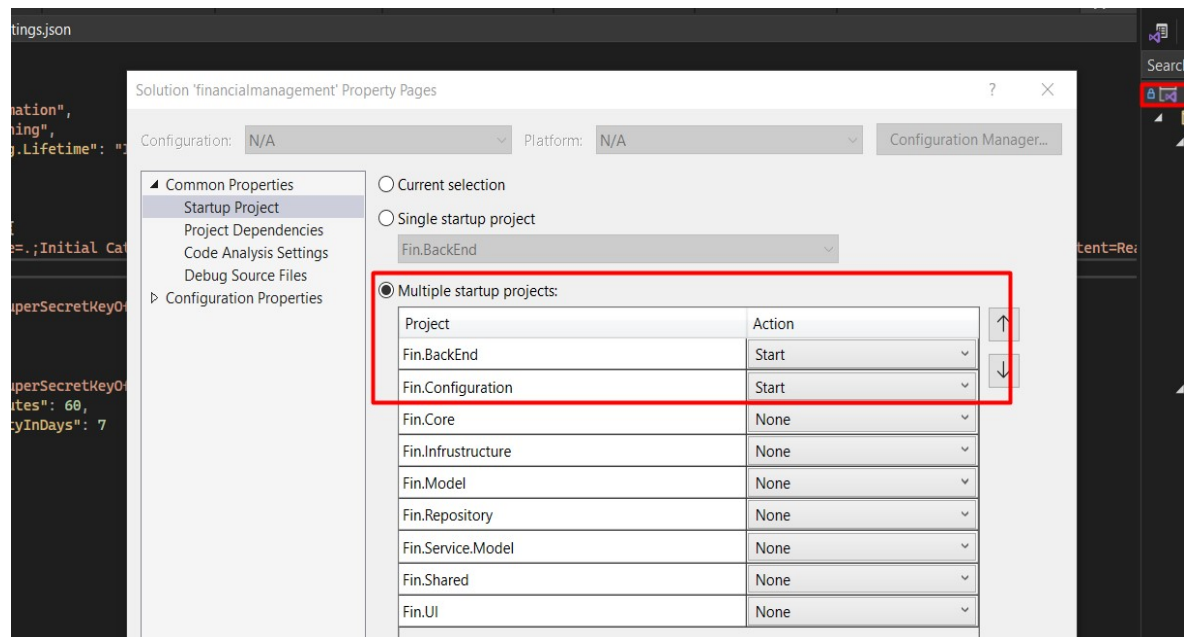
4. Setup Guide

- a. Edit or change the Database Connection at appsetting.json file from API (Backend Project)

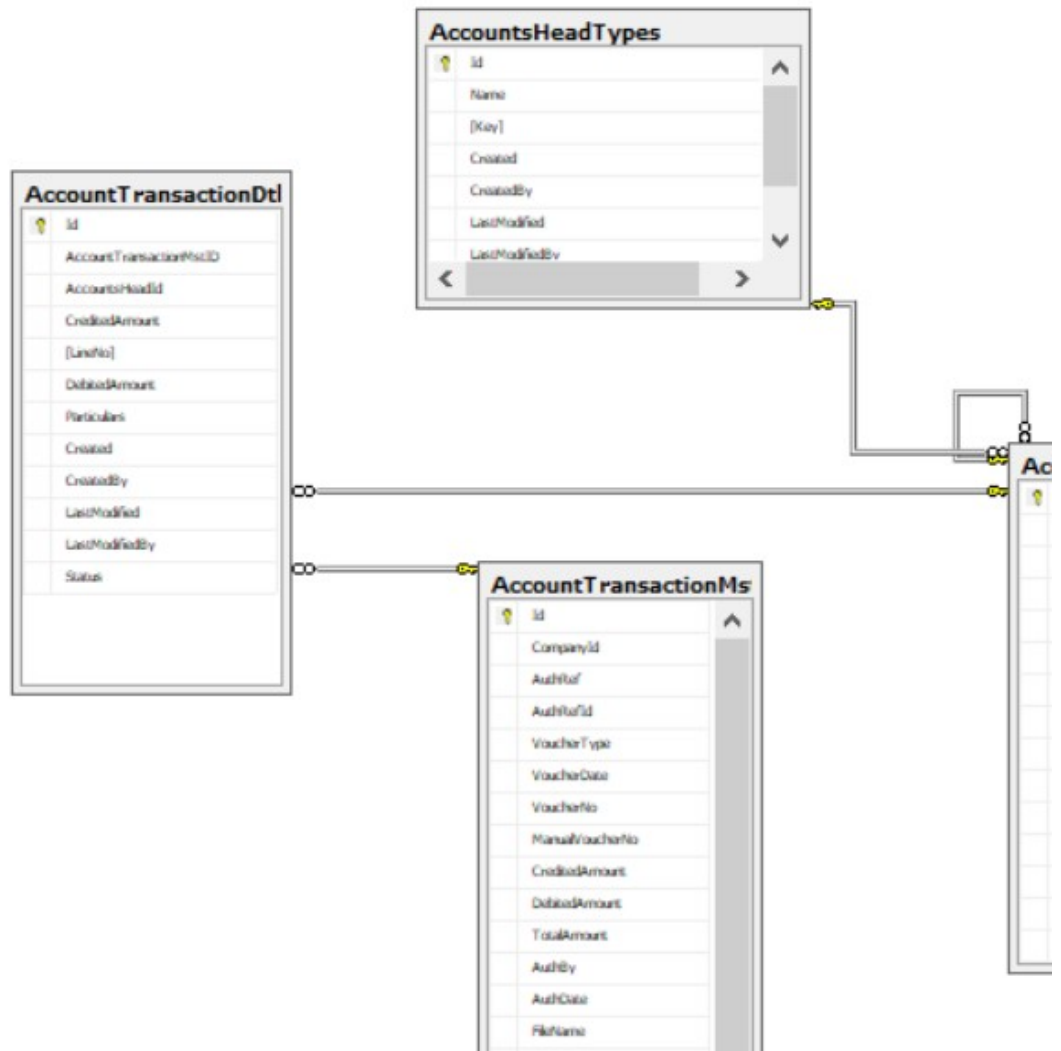
```
"Logging": {
  "LogLevel": {
    "Default": "Information",
    "Microsoft": "Warning",
    "Microsoft.Hosting.Lifetime": "Information"
  }
},
"AllowedHosts": "*",
"ConnectionStrings": {
  "Conn": "Data Source=.;Initial Catalog=CleanPOS;Integrated Security=True;Connect Timeout=30;Encrypt=False;TrustServerCertificate=False;ApplicationIntent=Re"
},
"AppSettings": {
  "Secret": "ThisIsASuperSecretKeyOfAtLeast32Charsrakibhasan@# $"
},
"JWT": {
  "Secret": "ThisIsASuperSecretKeyOfAtLeast32Charsrakibhasan@# $",
  "TokenValidityInMinutes": 60,

```

- b. Database Connection Check and Restore : command update-database in nugget manager Console or Restore Database
- c. Go to Solution Property and Select Multiple Startup Projects



5. Database Schema



GitHub Repository Link : <https://github.com/mdrakibhasan/FinanceManagement>