SoftPlus IT Programming Aptitude Test for Appointment 2023

Login System

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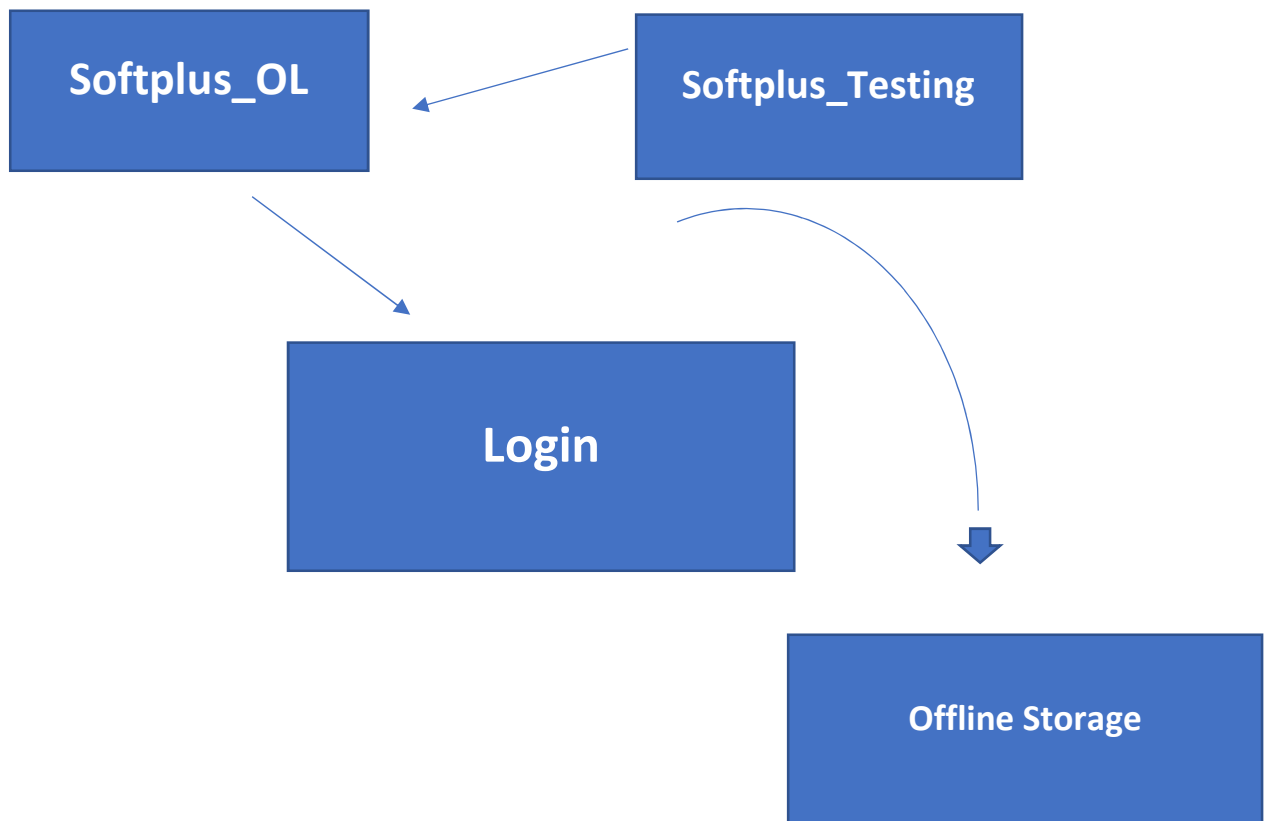
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Introduction:

This is a test project of a login system based on Microsoft SQL Server and ASP .NET. For frontend part we have used raw HTML code to design login page. Here we are maintaining two Database for the system. Also, we have created an offline storage for DB.

Project architecture:

```
┌─────────────────┐              ┌─────────────────┐
│                 │ ◄─────────── │                 │
│   Softplus_OL   │              │ Softplus_Testing│
│                 │              │                 │
└─────────────────┘              └─────────────────┘
         │                                │
         ▼                                │
┌──────────────────────┐                  │
│                      │                   │
│        Login         │                   ▼
│                      │          ┌──────────────────────┐
└──────────────────────┘          │                      │
                                  │   Offline Storage    │
                                  │                      │
                                  └──────────────────────┘
```

Installation guide:

To install this project, we need to install MS SQL server and Visual studio to your workstation. Need to create your own windows server in your PC or Laptop and then connect with your MS SQL server and visual studio to test the project.

For creating MSI Package we have to install a new project via WIX or MSIX package.

Configuration Guide:

At you have toe restore those two DB in MS SQL Server. Then you have to write a store procedure

```sql
CREATE PROCEDURE GetConnectionString
    @Username NVARCHAR(50),
    @Password NVARCHAR(50)
AS
BEGIN
    SET NOCOUNT ON;

    DECLARE @ConnectionString NVARCHAR(MAX)

    IF EXISTS (
        SELECT 1
        FROM Softplus_OL.dbo.InternetUsers
        WHERE Username = @Username AND Password = @Password
    )
    BEGIN

        SET @ConnectionString = 'Server=YourServerName;Database=Softplus_Testing;User
Id=' + @Username + ';Password=' + @Password + ';'


        SELECT @ConnectionString AS ConnectionString
    END
    ELSE
    BEGIN

        SELECT 'Invalid username or password' AS ErrorMessage
    END
END
```

Then you have to open the Visual Studio and create a web form project in ASP .Net. Then the rest of the codes are in project file for connection and login design.

After that you have to write a store procedure to save data in two table.

```sql
CREATE PROCEDURE InsertDataIntoTables
    @MasterDetailData dbo.MasterDetailInfoType READONLY,
    @DetailData dbo.DetailInfoType READONLY
AS
BEGIN

    INSERT INTO tbl_MasterDetailInfo (MasterInfoID, MasterInfoName)
    SELECT MasterInfoID, MasterInfoName
    FROM @MasterDetailData;


    INSERT INTO tbl_DetailInfo (DetailInfoID, MasterInfoID, ItemSize, Quantity)
    SELECT DetailInfoID, MasterInfoID, ISZ.ItemSize, Quantity
    FROM @DetailData D
    INNER JOIN tbl_ItemSize ISZ ON D.ItemSizeID = ISZ.ItemSizeID;
END




CREATE TYPE MasterDetailInfoType AS TABLE
(
    MasterInfoID INT,
    MasterInfoName NVARCHAR(255)
);

CREATE TYPE DetailInfoType AS TABLE
(
    DetailInfoID INT,
    MasterInfoID INT,
    ItemSizeID INT,
    Quantity INT
);
```

And then write the connection code for DB.

After that there is a connection code in project file also the offline storage code.

Lastly Install the MSI Package.

User Guide:

For the end user the process is very simple just enter your login ID and password.

Conclusion:

This is just a basic login system for a technical test but in real life work is more competitive. But you can get a clear idea of a login system and SQL table.