

CHAPTER 3

SYSTEM DESIGN

3.1 Table Description

Login Table:

The Figure 3.1 refers to the Login table. This table is used to store the login details of College Staff and Students.

The screenshot displays the SQL Server Enterprise Designer interface for the Login table. The top pane shows the table design with columns: Email_id (varchar(30), Primary Key, Clustered), Password (varchar(30)), and an empty row. The bottom pane shows the T-SQL script for creating the table.

Name	Data Type	Allow Nulls	Default
Email_id	varchar(30)	<input type="checkbox"/>	
Password	varchar(30)	<input checked="" type="checkbox"/>	
		<input type="checkbox"/>	

Keys (1)
<unnamed> (Primary Key, Clustered: Email_id)
Check Constraints (0)
Indexes (0)
Foreign Keys (0)
Triggers (0)

```
1 CREATE TABLE [dbo].[Login] (  
2     [Email_id] VARCHAR (30) NOT NULL,  
3     [Password] VARCHAR (30) NULL,  
4     PRIMARY KEY CLUSTERED ([Email_id] ASC)  
5 );  
6  
7  
8
```

Figure 3.1: Login Table for FRDM

Clg_Staff Table:

The Figure 3.2 refers to the College Staff Table. This table is used to store the details of College Staff.

The screenshot displays the SQL Server Enterprise Designer interface for the College_Staff table. The top pane shows the table design with columns: EID (varchar(20), Primary Key, Clustered), Name (varchar(20)), Branch (varchar(10)), Designation (varchar(20)), PhoneNo (varchar(20)), and Email_id (varchar(30)). The bottom pane shows the T-SQL script for creating the table, including a foreign key constraint to the Login table.

Name	Data Type	Allow Nulls	Default
EID	varchar(20)	<input type="checkbox"/>	
Name	varchar(20)	<input type="checkbox"/>	
Branch	varchar(10)	<input type="checkbox"/>	
Designation	varchar(20)	<input type="checkbox"/>	
PhoneNo	varchar(20)	<input type="checkbox"/>	
Email_id	varchar(30)	<input type="checkbox"/>	
		<input type="checkbox"/>	

Keys (1)
PK_College_Staff (Primary Key, Clustered: EID)
Check Constraints (0)
Indexes (0)
Foreign Keys (1)
FK_College_Staff_ToTable (Email_id)
Triggers (0)

```
1 CREATE TABLE [dbo].[College_Staff] (  
2     [EID] VARCHAR (20) NOT NULL,  
3     [Name] VARCHAR (20) NOT NULL,  
4     [Branch] VARCHAR (10) NOT NULL,  
5     [Designation] VARCHAR (20) NOT NULL,  
6     [PhoneNo] VARCHAR (20) NOT NULL,  
7     [Email_id] VARCHAR (30) NOT NULL,  
8     CONSTRAINT [PK_College_Staff] PRIMARY KEY CLUSTERED ([EID] ASC),  
9     CONSTRAINT [FK_College_Staff_ToTable] FOREIGN KEY ([Email_id]) REFERENCES [Login]([Email_id])  
10 );  
11
```

Figure 3.2: College Staff Table for FRDM

Student Table:

Figure 3.4 refers to the Student table. This table is used to store the details of Student.

Name	Data Type	Allow Nulls	Default	
USN	varchar(20)	<input type="checkbox"/>		
Name	varchar(20)	<input type="checkbox"/>		
Branch	varchar(10)	<input checked="" type="checkbox"/>		
Semester	int	<input checked="" type="checkbox"/>		
PhoneNo	varchar(20)	<input checked="" type="checkbox"/>		
Email_id	varchar(30)	<input type="checkbox"/>		
		<input type="checkbox"/>		

Keys (1) PK_Student (Primary Key, Clustered: USN) Check Constraints (0) Indexes (0) Foreign Keys (1) FK_Student_ToTable (Email_id) Triggers (0)
--


```

1 CREATE TABLE [dbo].[Student] (
2     [USN] VARCHAR (20) NOT NULL,
3     [Name] VARCHAR (20) NOT NULL,
4     [Branch] VARCHAR (10) NULL,
5     [Semester] INT NULL,
6     [PhoneNo] VARCHAR (20) NULL,
7     [Email_id] VARCHAR (30) NOT NULL,
8     CONSTRAINT [PK_Student] PRIMARY KEY CLUSTERED ([USN] ASC),
9     CONSTRAINT [FK_Student_ToTable] FOREIGN KEY ([Email_id]) REFERENCES [Login]([Email_id])
10 );
11

```

Figure 3.4: Student Table for FRDM

Charity_Category Table:

The Figure 3.5 refers to the Charity Category table. This table is used to store data of different categories of Charity.

Name	Data Type	Allow Nulls	Default	
Ctgy_ID	varchar(15)	<input type="checkbox"/>		
Category	varchar(20)	<input type="checkbox"/>		
		<input type="checkbox"/>		

Keys (1) PK_Regional_Category (Primary Key, Clustered: Ctgy_ID) Check Constraints (0) Indexes (0) Foreign Keys (0) Triggers (0)

```

1 CREATE TABLE [dbo].[Regional_Category] (
2     [Ctgy_ID] VARCHAR (15) NOT NULL,
3     [Category] VARCHAR (20) NOT NULL,
4     CONSTRAINT [PK_Regional_Category] PRIMARY KEY CLUSTERED ([Ctgy_ID] ASC)
5 );
6
7
8
9
10

```

Figure 3.5: Charity Category Table for FRDM

Donor_Recipient Table:

The Figure 3.6 refers to the donor recipient table. This table is used to store the details of the Donor recipients available in the database.

Name	Data Type	Allow Nulls	Default	
Ctgy_ID	varchar(15)	<input type="checkbox"/>		
CNo	varchar(15)	<input type="checkbox"/>		
Name	varchar(50)	<input type="checkbox"/>		
State	varchar(20)	<input type="checkbox"/>		
Story	varchar(MAX)	<input type="checkbox"/>		
Description	varchar(MAX)	<input type="checkbox"/>		
Raised_Money	int	<input type="checkbox"/>		
Current_Supporters	int	<input type="checkbox"/>		
Total_Required_Amt	int	<input checked="" type="checkbox"/>		
Indispensable_Items	varchar(50)	<input checked="" type="checkbox"/>		
Status	varchar(30)	<input type="checkbox"/>		

Keys (1) PK_Donor_Recipient (Primary Key, Clustered: CNo)				
Check Constraints (0)				
Indexes (0)				
Foreign Keys (1) FK_Donor_Recipient_ToTable (Ctgy_ID)				
Triggers (0)				


```

1 CREATE TABLE [dbo].[Donor_Recipient] (
2     [Ctgy_ID]          VARCHAR (15) NOT NULL,
3     [CNo]              VARCHAR (15) NOT NULL,
4     [Name]             VARCHAR (50) NOT NULL,
5     [State]            VARCHAR (20) NOT NULL,
6     [Story]            VARCHAR (MAX) NOT NULL,
7     [Description]      VARCHAR (MAX) NOT NULL,

```

Figure 3.6: Donor Recipient Table for FRDM

Donation_Amount Table:

The Figure 3.7 refers to the Donation amount table. This table is used to store the details of amount donated by Staff and Students.

Name	Data Type	Allow Nulls	Default	
DNo	varchar(15)	<input type="checkbox"/>		
Email_id	varchar(30)	<input type="checkbox"/>		
CNo	varchar(15)	<input type="checkbox"/>		
Donated_Amt	int	<input type="checkbox"/>		
Mode_of_Payment	varchar(30)	<input checked="" type="checkbox"/>		
Card_No	varchar(30)	<input checked="" type="checkbox"/>		

Keys (1) PK_Donation_Amount (Primary Key, Clustered: DNo)				
Check Constraints (0)				
Indexes (0)				
Foreign Keys (2) FK_Donation_Amount_ToTable_1 (CNo) FK_Donation_Amount_ToTable (Email_id)				
Triggers (0)				


```

1 CREATE TABLE [dbo].[Donation_Amount] (
2     [DNo]              VARCHAR (15) NOT NULL,
3     [Email_id]         VARCHAR (30) NOT NULL,
4     [CNo]              VARCHAR (15) NOT NULL,
5     [Donated_Amt]      INT NOT NULL,
6     [Mode_of_Payment] VARCHAR (30) NULL,
7     [Card_No]          VARCHAR (30) NULL,
8     CONSTRAINT [PK_Donation_Amount] PRIMARY KEY CLUSTERED ([DNo] ASC),
9     CONSTRAINT [FK_Donation_Amount_ToTable_1] FOREIGN KEY ([CNo]) REFERENCES [dbo].[Donor_Recipient] ([CNo]),
10    CONSTRAINT [FK_Donation_Amount_ToTable] FOREIGN KEY ([Email_id]) REFERENCES [dbo].[Login] ([Email_id])
11 );

```

Figure 3.7: Donor Amount Table for FRDM

Donation_Item Table:

The Figure 3.8 refers to the Donation Item table. This table is used to store the details of different items donated by Staff and Students.

Name	Data Type	Allow Nulls	Default	
Email_id	varchar(30)	<input type="checkbox"/>		
CNo	varchar(15)	<input type="checkbox"/>		
Donated_Item	varchar(50)	<input type="checkbox"/>		
No_of_Items	int	<input type="checkbox"/>		
DNum	varchar(15)	<input checked="" type="checkbox"/>	((0))	
		<input type="checkbox"/>		

Keys (0)
Check Constraints (0)
Indexes (0)
Foreign Keys (2)
FK_Donation_Item_ToTable (Email_id)
FK_Donation_Item_ToTable_1 (CNo)
Triggers (0)

```

1 CREATE TABLE [dbo].[Donation_Item] (
2     [Email_id]    VARCHAR (30) NOT NULL,
3     [CNo]        VARCHAR (15) NOT NULL,
4     [Donated_Item] VARCHAR (50) NOT NULL,
5     [No_of_Items] INT NOT NULL,
6     [DNum]       VARCHAR (15) DEFAULT ((0)) NULL,
7     CONSTRAINT [FK_Donation_Item_ToTable] FOREIGN KEY ([Email_id]) REFERENCES [dbo].[Login] ([Email_id]),
8     CONSTRAINT [FK_Donation_Item_ToTable_1] FOREIGN KEY ([CNo]) REFERENCES [dbo].[Donor_Recipient] ([CNo])
9 );
10
11

```

Figure 3.8: Donation Item Table for FRDMS