

Project Title: Calculating Family Expenses using ServiceNow

Category: ServiceNow System Administrator

Skills Required: IoT Open Hardware Platforms, Data Structures

1. Objective

The objective of this project is to develop a simple family expense tracking system using the ServiceNow platform. It helps users record, categorize, and analyze their daily and monthly expenses efficiently.

2. Tools & Technologies Used

- ServiceNow
- JavaScript (for scripting)
- Data Structures
- IoT Hardware (optional extension for auto expense entry)
- GitHub (for documentation and code storage)

3. Features Implemented

- Add new expense records
- Categorize expenses (food, transport, utilities, etc.)
- Set monthly budget limits
- View reports and summaries
- Manage data using ServiceNow tables and forms

4. Steps Followed (with Screenshots)

Creation of New Update Set

1. Go to All >> In the filter search for Local Update set > click on New.
2. Enter the Details as:
Name : Family Expenses
3. Then click on Submit and Make current.

Creation of Family Expenses Table

1. Go to All > In the filter search for Tables > click on New.
2. Enter the Details:

Label : Family Expenses

Name : Auto-Populated

New menu name : Family Expenditure

The screenshot shows the ServiceNow Form Design interface. At the top, there are several tabs: 'Student', 'Family Expenses | Table | Service', 'Form Design', and 'Project upload checklist'. Below the tabs, the main title is 'Table - Family Expenses'. The table has a single column named 'u_family_expenses' with a string type and a max length of 800. The table is global and part of the 'Family Expenses' application.

Column	Type	Reference	Max length	Default value	Display
Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
Updated	Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Created by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Amount	Integer	(empty)	800		false
Created	Date/Time	(empty)	40		false

3. Go to the Header and right click there >> click on Save.

Creation of Columns(FIELDS)

1. Near Columns Double click near insert a new row.

2. Give the details as:

Column label : Number

Type : String

3. Double click on insert a new row again

4. Give the details as:

Column label : Date

Type : Date

5. Double click on insert a new row again

6. Give the details as:

Column label : Amount

Type : Integer

7. Double click on insert a new row again

8. Give the details as:

Column label : Expense Details

Type : String

Max length : 800

9. Go to the Header and right click there>> click on Save.

Making Number Field an Auto-Number

1. Double click on the Number Field/Column.
2. Go down and double click on Advanced view
3. In Default Value:

Use dynamic default : check the box

Dynamic default value : Get Next Padded Number

4. Click on Update.

5. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance

6. Click on New.

7. Enter the below Details:

Table : Family Expenses

Prefix : MFE

The screenshot shows the ServiceNow interface for configuring a number prefix. The top navigation bar includes tabs for Student, MFE | Number | ServiceNow, Form Design, and Project upload checklist. The main title is 'Number - MFE'. The form fields are as follows:

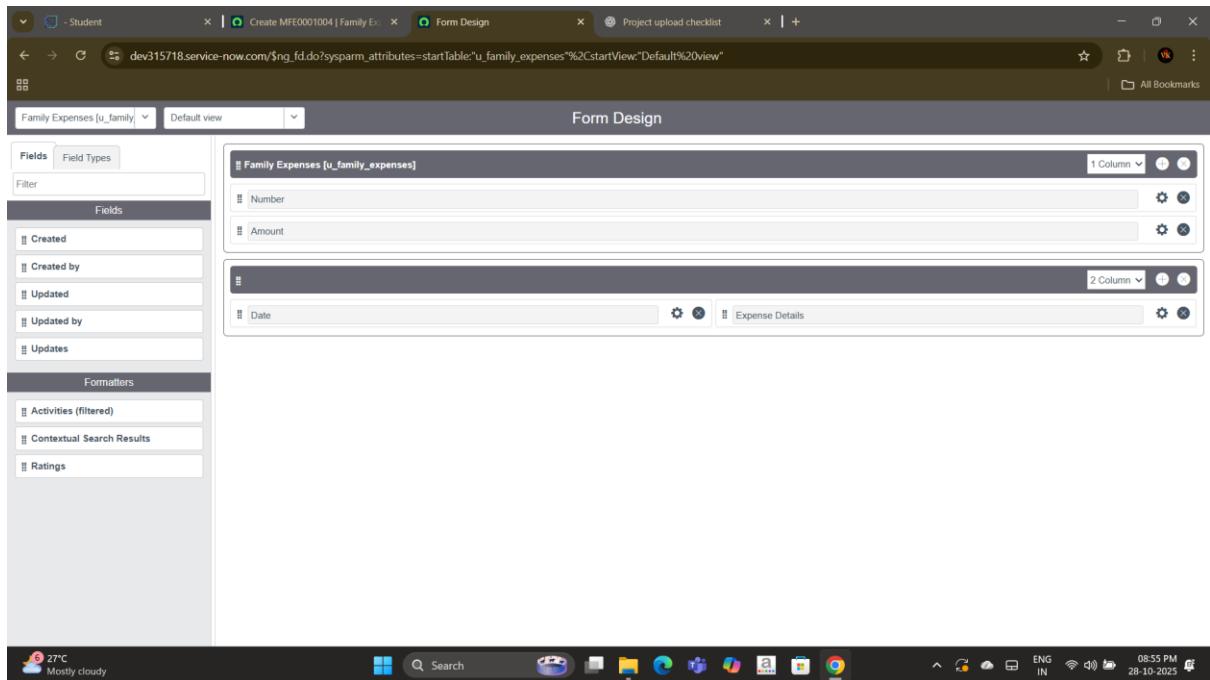
* Table	Family Expenses
Prefix	MFE
* Number	1.000
Application	Global
Number of digits	7

At the bottom of the form are 'Update' and 'Delete' buttons. Below the form, the ServiceNow footer displays weather information (27°C, Mostly cloudy), a taskbar with various icons, and system status (ENG IN, 08:54 PM, 28-10-2025).

9. Click on Submit.

Configure the Form

1. Go to All >> In the filter search for Family Expenses >> Open Family Expenses
2. Click on New
3. Go to the Header and right click there>> click on Configure >> Select Form Design
4. Customize or Drag Drop the form as per your requirement.



5. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
6. Make Date, Amount Mandatory Field by clicking on the gear icon and checking Mandatory
7. Click on Save.

Creation of Daily Expenses Table

1. Go to All > In the filter search for Tables > click on New.
2. Enter the Details:

Label : Daily Expenses

Name : Auto-Populated

Add Module to menu : Family Expenditure

The screenshot shows the ServiceNow Form Design interface. At the top, there are tabs for 'Student', 'Daily Expenses | Table | Service', and 'Form Design'. The main title is 'Table - Daily Expenses'. Below the title, it says 'A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes.' There are fields for 'Label' (set to 'Daily Expenses') and 'Name' (set to 'u_daily_expenses'). The 'Application' dropdown is set to 'Global'. A 'Remote Table' button is also present. Below this, there are tabs for 'Columns', 'Controls', and 'Application Access', with 'Columns' being the active tab. The 'Table Columns' section shows a list of fields with their details:

Column label	Type	Reference	Max length	Default value	Display
Created	Date/Time	(empty)	40		false
Updated by	String	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Updates	Integer	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Created by	String	(empty)	40		false

At the bottom of the interface, there is a weather widget showing '27°C Mostly cloudy', a search bar, and various system icons.

3. Go to the Header and right click there>> click on Save.

Creation of Columns(FIELDS)

1. Near Columns Double click near insert a new row.

2. Give the details as:

Column label : Number

Type : String

3. Double click on insert a new row again

4. Give the details as:

Column label : Date

Type : Date

5. Double click on insert a new row again

6. Give the details as:

Column label : Expense

Type : Integer

7. Double click on insert a new row again

8. Give the details as:

Column label : Family Member Name

Type : Reference

Max length : 800

9. Double click on insert a new row again

10. Give the details as:

Column label : Comments

Type : String

Max length : 800

The screenshot shows the ServiceNow Form Design interface for the 'Table - Daily Expenses' form. The 'Columns' tab is selected. A table lists the columns with their properties:

Column label	Type	Reference	Max length	Default value	Display
Comments	String	(empty)	800	false	
Created	Date/Time	(empty)	40	false	
Expense	Integer	(empty)	40	false	
Date	Date	(empty)	40	false	
Updated by	String	(empty)	40	false	
Sys ID	Sys ID (GUID)	(empty)	32	false	
Updates	Integer	(empty)	40	false	
Updated	Date/Time	(empty)	40	false	
Family Member Name	String	(empty)	800	false	
Created by	String	(empty)	40	false	
Number	String	(empty)	40	false	
Insert a new row...					

At the bottom of the interface, there are buttons for Delete, Update, and Delete All Records. The status bar at the bottom shows the weather (27°C, Mostly cloudy), system information (ENG IN), and the date/time (07:15 PM 28-10-2025).

11. Go to the Header and right click there>> click on Save.

Making Number Field an Auto-Number

1. Double click on the Number Field/Column.
2. Go down and double click on Advanced view
3. In Default Value:

Use dynamic default : check the box

Dynamic default value : Get Next Padded Number

4. Click on Update.

Dictionary Entry - Number

Type: String

Column label: Number

Column name: u_number

Max length: 40

Attributes:

Default Value tab selected.

The Default value specifies what value the field has when first displayed.

Use dynamic default: checked

Dynamic default value: Get Next Padded Number

5.

6. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance

7. Click on New.

8. Enter the below Details:

Table : Daily Expenses

Prefix : DFE

Number - DFE

Table: Daily Expenses

Prefix: DFE

Number: 1,000

Application: Global

Number of digits: 7

Update | Delete

Related Links
Show Counter

9. Click on Submit.

Configure the Form

1. Go to All >> In the filter search for Daily Expenses >> Open Daily Expenses
2. Click on New
3. Go to the Header and right click there >> click on Configure >> Select Form Design
4. Customize or Drag Drop the form as per your requirement.

The screenshot shows two instances of the ServiceNow Form Design interface. Both instances have the URL `dev315718.service-now.com/$ng_fd.do?sysparm_attributes=startTable:"u_daily_expenses">%2CstartView:"Default%20view"`.

Top Window (Form Design):

- Fields:** Number, Date.
- Properties for Number Field:**
 - Label: Number
 - Name: u_number
 - Type: String
 - Default: javascript.getNextObjNumberPadded();
 - Mandatory:
 - Read Only:
- Choices:** Create choices.

Bottom Window (Form Design):

- Fields:** Number, Date, Comments, Expense, Family Member Name.
- Properties for Family Member Name Field:**
 - Label: Family Member Name
 - Name: u_family_member_name
 - Type: String
 - Default:
 - Max length: 800
 - Mandatory:
 - Read Only:

5. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
6. Make Date, Family Member Name Mandatory Field by clicking on the gear icon and checking Mandatory

7. Click on Save.

Creation of Relationship between Family Expenses and Daily Expenses tables

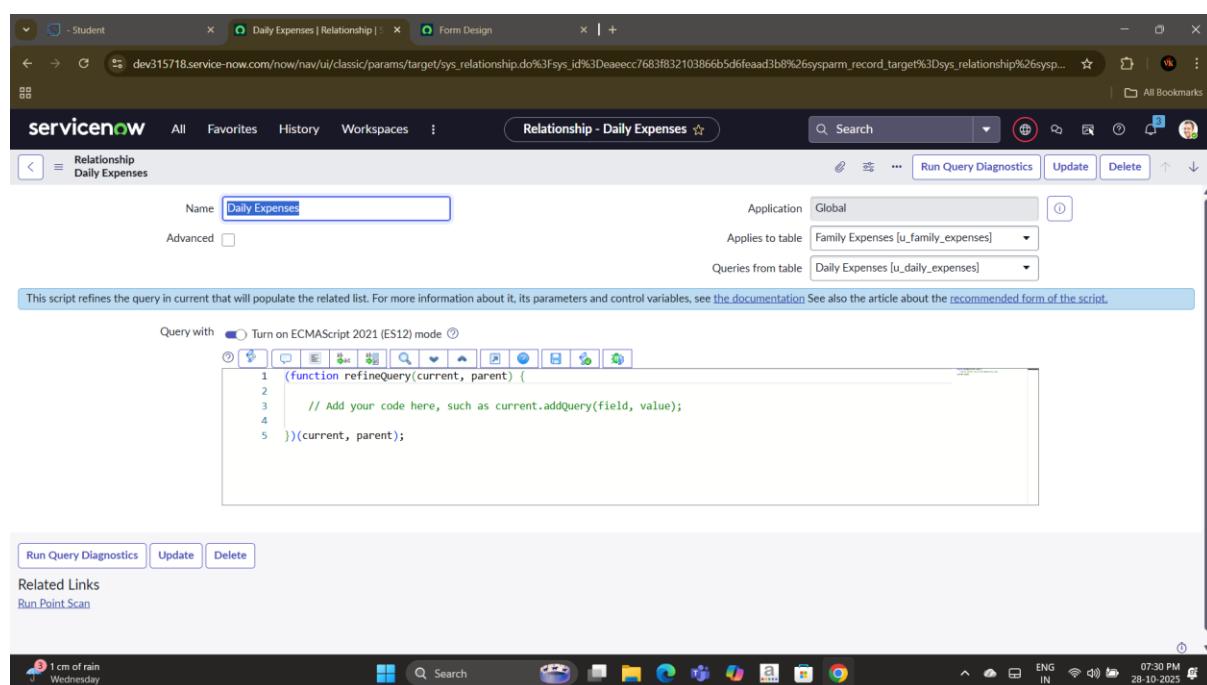
1. Go to All >> In the filter search for Relationships >> Open Relationships
 2. Click on New.
 3. Enter the details:

Name : Daily Expenses

Applies to table : Select Family Expenses

Daily Expenses : Select Daily Expenses

4. Click Save.



Configuring Related List on Family Expenses

1. Go to All >> In the filter search for Family Expenses >> Open Family Expenses
 2. Click on New
 3. Go to the Header and right click there>> click on Configure >> Select Related Lists
 4. Add Daily Expenses to the Selected Area.
 5. Click on Save

Configuring related lists on Family Expenses form

Available

Selected

View name: Default view

Related Links

- Show versions
- Related list performance diagnostics



Creation of Business Rules

1. Go to All >> In the filter search for Business Rules.
2. Under System Definition Select Business Rules then click on New.
3. Enter the Details:

Name : Family Expenses BR

Table : Select Daily Expenses

Check Advanced

New Record | Business Rule | ServiceNow

Business Rule - New Record

Name: Family Expenses BR

Table: Daily Expenses [u_daily_expenses]

Application: Global

Active:

Advanced:

When to run: before

Order: 100

Insert:

Update:

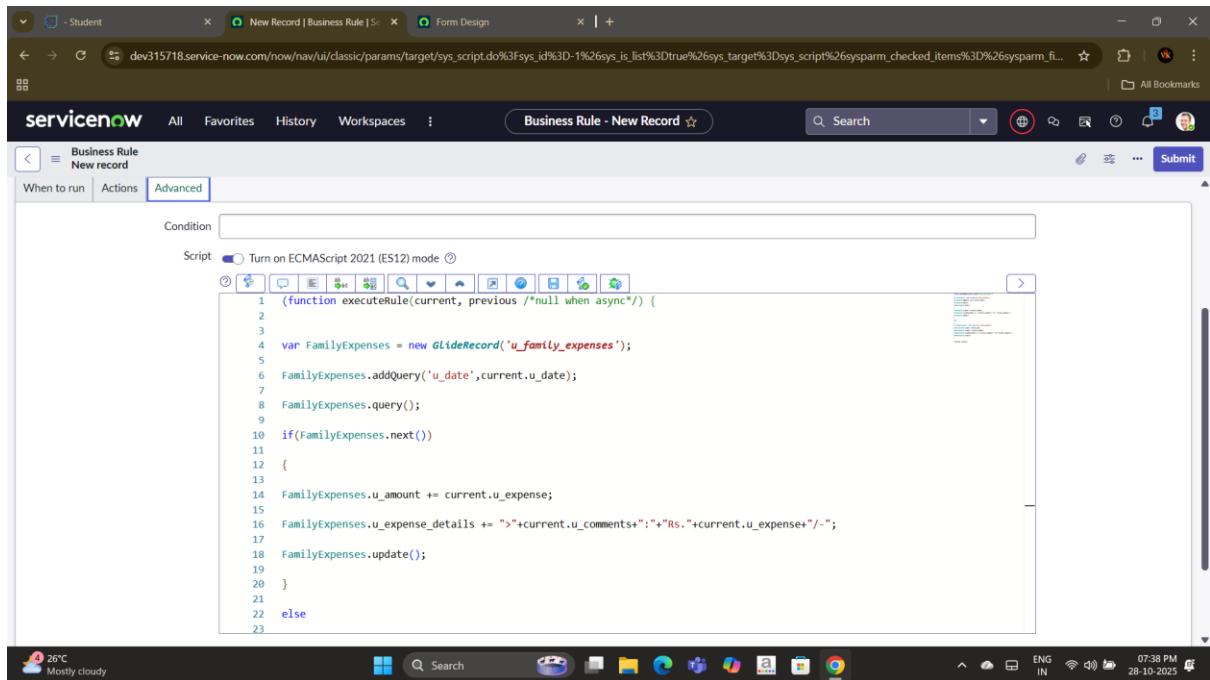
Delete:

Query:

Filter Conditions: Add Filter Condition, Add OR Clause

-- choose field --, -- oper --, -- value --

4. In when to run Check Insert and Update



5. In Advance(we write the code): Write the below code >>

```
(function executeRule(current, previous /*null when async*/) {
```

```
var FamilyExpenses = new GlideRecord('u_family_expenses');

FamilyExpenses.addQuery('u_date',current.u_date);

FamilyExpenses.query();

if(FamilyExpenses.next())

{

FamilyExpenses.u_amount += current.u_expense;

FamilyExpenses.u_expense_details += ">" + current.u_comments + ":" + "Rs." + current.u_expense + "-";

FamilyExpenses.update();

}

else

{

var NewFamilyExpenses = new GlideRecord('u_family_expenses');

NewFamilyExpenses.u_date = current.u_date;

NewFamilyExpenses.u_amount = current.u_expense;
```

```

NewFamilyExpenses.u_expense_details +=
">" + current.u_comments + ":" + "Rs." + current.u_expense + "-";

NewFamilyExpenses.insert();

}

})(current, previous);

```

6. Go to the Header and right click there>> click on Save.

Configure the Relationship

1. Go to All >> In the filter search for Relationships >> Open Relationships.
2. In that, open Daily Expenses Relationship.
3. For Applies to table : Select Family Expenses.
4. In Query with : write the below Query.

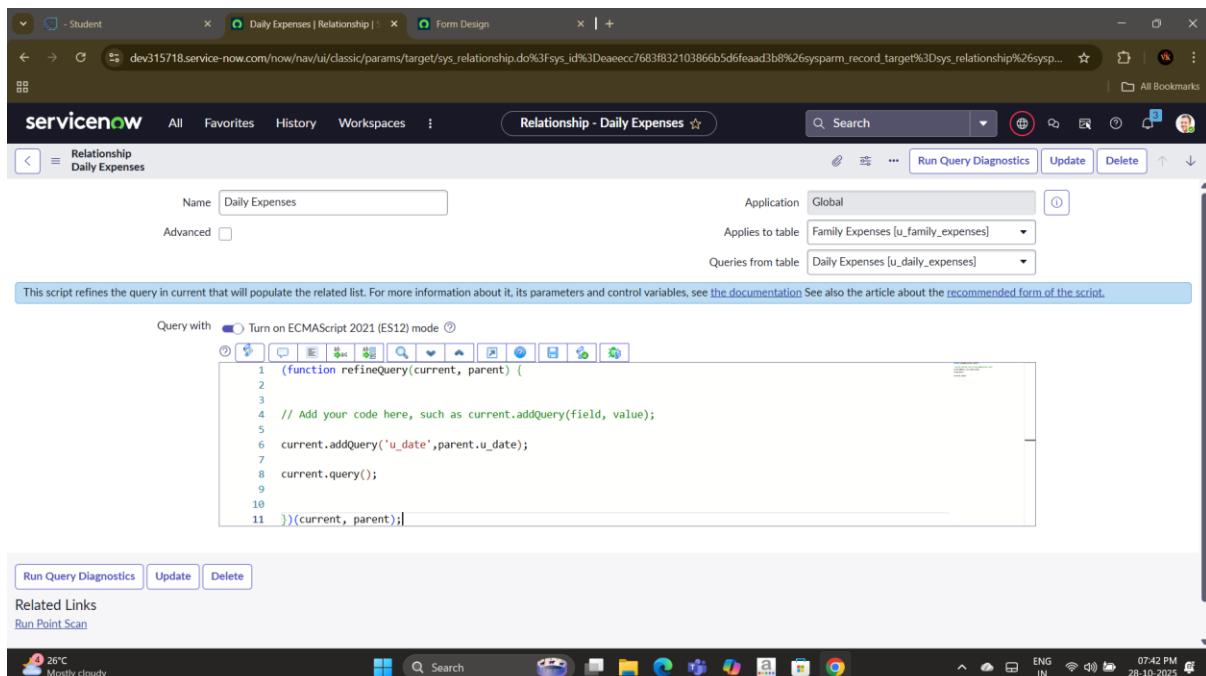
```

(function refineQuery(current, parent) {

    // Add your code here, such as current.addQuery(field, value);
    current.addQuery('u_date', parent.u_date);
    current.query();

})(current, parent);

```



5. Click on Update.

5. Output / Result

The system successfully records family expenses and displays categorized reports that help users manage their budget effectively.

6. GitHub Repository

👉 <https://github.com/thenameisvk/family-expense-tracker-servicenow>

7. Application Links

- developer.servicenow.com
- <https://dev315718.service-now.com>

8. Conclusion

The project demonstrates how ServiceNow can be used to create a practical application for managing and tracking family expenses. It enhances decision-making and promotes financial awareness.