

## **CALCULATING FAMILY EXPENSES USING SERVICENOW**

Team ID	LTVIP2025TMID29232
PROJECT NAME	Calculating Family Expenses using ServiceNow
FACULTY MENTOR(S) NAME	Shaik Mohammed Ashraf Hussain

**Category :** ServiceNow

### **Overview:**

This project helps users calculate and manage family expenses using ServiceNow. It provides a form-based UI to enter expenses, store them in a table, and view summary reports.

### **Tools And Technologies Used:**

- ServiceNow

- App Engine Studio
- ServiceNow Tables
- Flow Designer
- GitHub
- Google Drive

**Project Description:**

The project aims to develop a comprehensive expense calculation system using ServiceNow. This system will enable users to track and manage family expenses efficiently. It will include features such as expense categorization, budget setting, real-time tracking, and reporting capabilities. Utilizing ServiceNow's robust platform, the project will ensure seamless integration, user-friendly interface, and scalability to accommodate varying family sizes and financial complexities. The end goal is to empower users with the tools they need to make informed financial decisions and promote financial well-being within the family unit.

## **Step-1: Setting Up ServiceNow Instance**

## Setting Up ServiceNow Instance

1. Sign up for a developer account on the ServiceNow Developer site "<https://developer.servicenow.com>".
2. Once logged in, navigate to the "Personal Developer Instance" section.
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.
5. You'll receive an email with the instance details once it's ready.
6. Log in to your ServiceNow instance using the provided credentials.
7. Now you will navigate to the ServiceNow.

Activate Windows

Go to Settings to activate Windows.

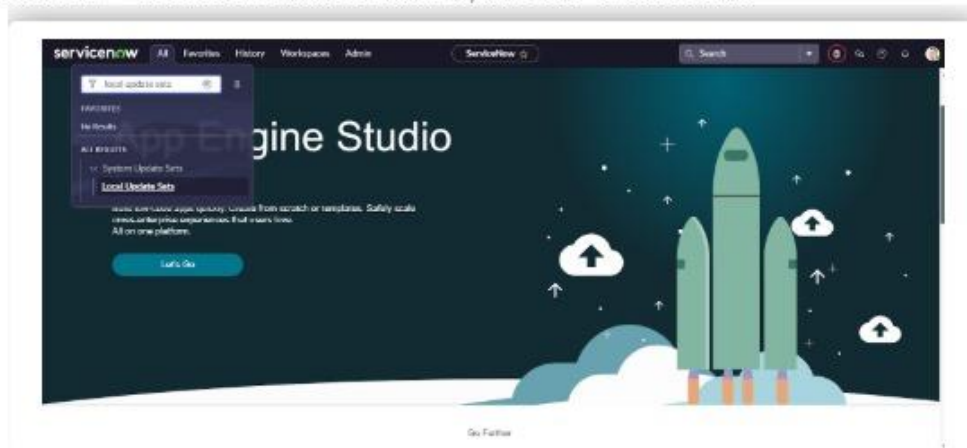
**Reference:**

[https://drive.google.com/file/d/1IV23Z033a1hBTWdByRN\\_VVOZLpyK6bl0/view?usp=drive\\_sdk](https://drive.google.com/file/d/1IV23Z033a1hBTWdByRN_VVOZLpyK6bl0/view?usp=drive_sdk)

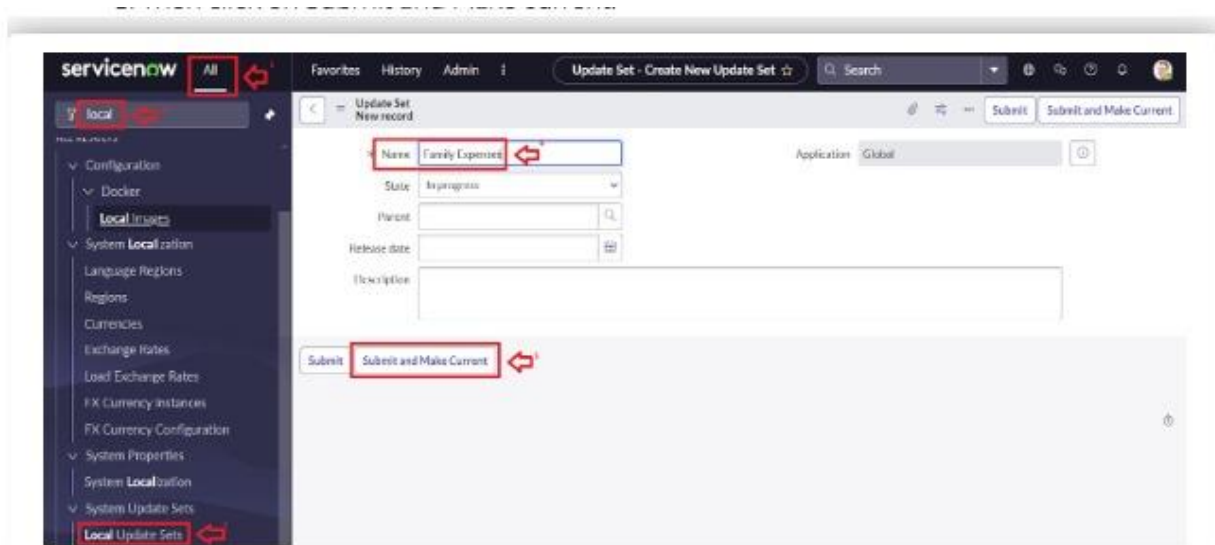
**Creation of New Update Set:**

## 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.



**Reference:**

<https://drive.google.com/file/d/1JB5sCyAEsDVBKyefu2G2NP9nssjO4SiB/view?usp=drivesdk>

**Creation of Table(Family Expenses):**

- **Creation of Family Expenses Table:**



## 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 a form for creating a new table. The 'Label' field is filled with 'Family Expenses' and the 'Name' field is filled with 'Auto-Populated'. The 'Application' dropdown is set to 'Global'. The 'Remote table' checkbox is checked. The 'Create module' checkbox is checked. The 'Create mobile module' checkbox is checked.

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

**Reference:** <https://drive.google.com/file/d/1JD0uQucn43EjfxN4M1ZR-fTISI-opEk8/view?usp=drivesdk>

**Creation of Columns(Fields):**

## 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.

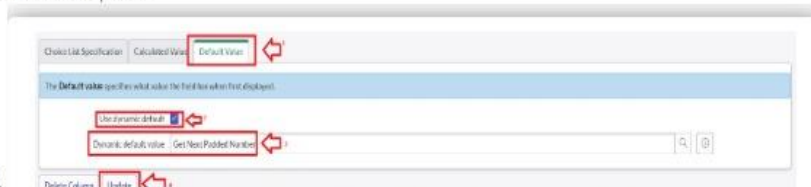
**Reference:**

[https://drive.google.com/file/d/1JE1VLWAoUXtzsKSwjm3Rp4ZYS5l9q5Bj/view?usp=drive\\_sdk](https://drive.google.com/file/d/1JE1VLWAoUXtzsKSwjm3Rp4ZYS5l9q5Bj/view?usp=drive_sdk)

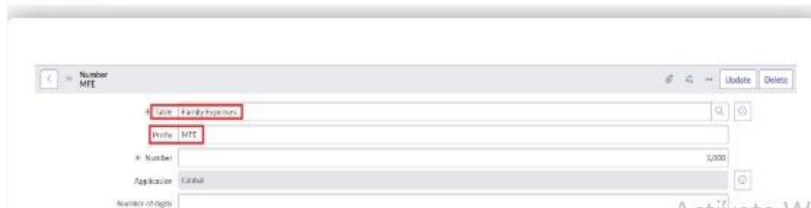
- **Making Number Field An Auto-Number:**

## 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. Click on Update.
6. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
7. Click on New.
8. Enter the below Details:  
Table : Family Expenses  
Prefix : MFE



9. Click on Submit.

Activate Windows  
Go to Settings to activate W

**Reference:**

<https://drive.google.com/file/d/1JSLOatT6ESjsHlLaefEISKsj25tjArt/view?usp=drivesdk>

- **Configure the Form:**

## 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.

The screenshot displays the configuration interface for the 'Family Expenses' form. It consists of two main sections. The top section, titled 'Family Expenses [v\_family\_expenses]', is set to '2 Columns' and contains three fields: 'Number', 'Date', and 'Amount'. Each field has a gear icon for configuration. The bottom section, titled 'Expense Details', is set to '1 Column' and contains a single field labeled 'Expense Details', also with a gear icon for configuration.

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.

## Reference:

<https://drive.google.com/file/d/1JXwYaUz5Y0H-D6miY03taRI9m1RA3SGG/view?usp=drivesdk>

**Creation of Table(Daily Expenses):**

- **Creation of Daily Expenses Table:**



## 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

Label : Daily Expenses

Name : u.daily.expenses

Extends table

Application : Global

Create module ☒

Create module module ☒

Add module to menu : Family Expenditure

Application Menu

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

### Reference:

[https://drive.google.com/file/d/1Ji5FFwWWzg8EbjImQpaFrO\\_K7UQuWrwA/view?usp=drivesdk](https://drive.google.com/file/d/1Ji5FFwWWzg8EbjImQpaFrO_K7UQuWrwA/view?usp=drivesdk)

- **Creation of Columns(Fields):**

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

**Reference:**

<https://drive.google.com/file/d/1JoZAof12Jf2KiSO6GQuqwMYyDdyIgi6c/view?usp=drivesdk>

- **Making Number Field An Auto-Number:**

## 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.

Default Value

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

☒ Use dynamic default

Dynamic default value: Get Next Padded Number

Update

- 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 : Family Expenses  
Prefix : MFE

Number New record

Table: Daily Expenses

Prefix: MFE

Number: 1,000

Application: Global

Number of digits: 7

Submit

Activate Windows  
Go to Settings to activate Windows.

Reference:

[https://drive.google.com/file/d/1K0nrKrN9e-IstR\\_dJE25sVDSBEpw9TEb/view?usp=drivesdk](https://drive.google.com/file/d/1K0nrKrN9e-IstR_dJE25sVDSBEpw9TEb/view?usp=drivesdk)

- **Configure The Form:**

## 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.



The screenshot shows a form configuration window for 'Family Expenses [u\_family\_expenses]'. The form is divided into two columns. The first column contains a 'Number' field. The second column contains 'Date' and 'Amount' fields. Each field has a gear icon for configuration. Below the main form, there is a section titled 'Expense Details' with a '1 Column' layout and a gear icon for configuration.

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.

## Reference:

<https://drive.google.com/file/d/1K5v7WZskd3fJZdrgURuremALK4A8FmyL/view?usp=drivesdk>

### **Creation of Relationship:**

- **Creation of Relationship Between Family Expenses And Daily Expenses Tables:**

#### **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.

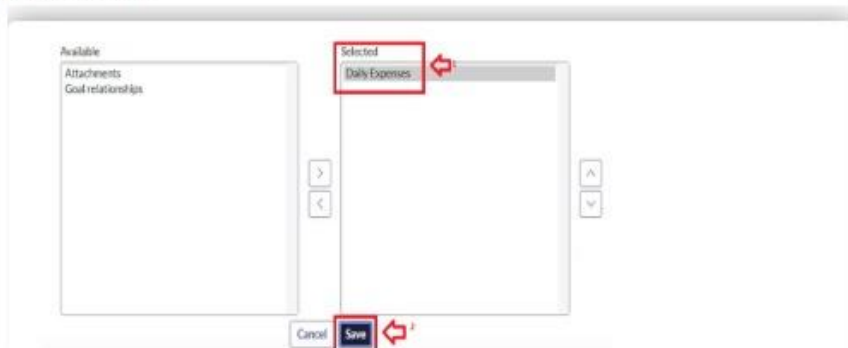


Reference: [https://drive.google.com/file/d/1KXz7T-I28FlsbG13ycVQ6Df8u7\\_c0bU/view?usp=drivesdk](https://drive.google.com/file/d/1KXz7T-I28FlsbG13ycVQ6Df8u7_c0bU/view?usp=drivesdk)

**Configuring Related List On Family Expenses:**

## 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



**Reference:**

[https://drive.google.com/file/d/1K\\_KuwR\\_hiAqyO5WQCO818u0gg1K0oII4/view?usp=drivesdk](https://drive.google.com/file/d/1K_KuwR_hiAqyO5WQCO818u0gg1K0oII4/view?usp=drivesdk)

**Creation of Business Rules:**

## 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

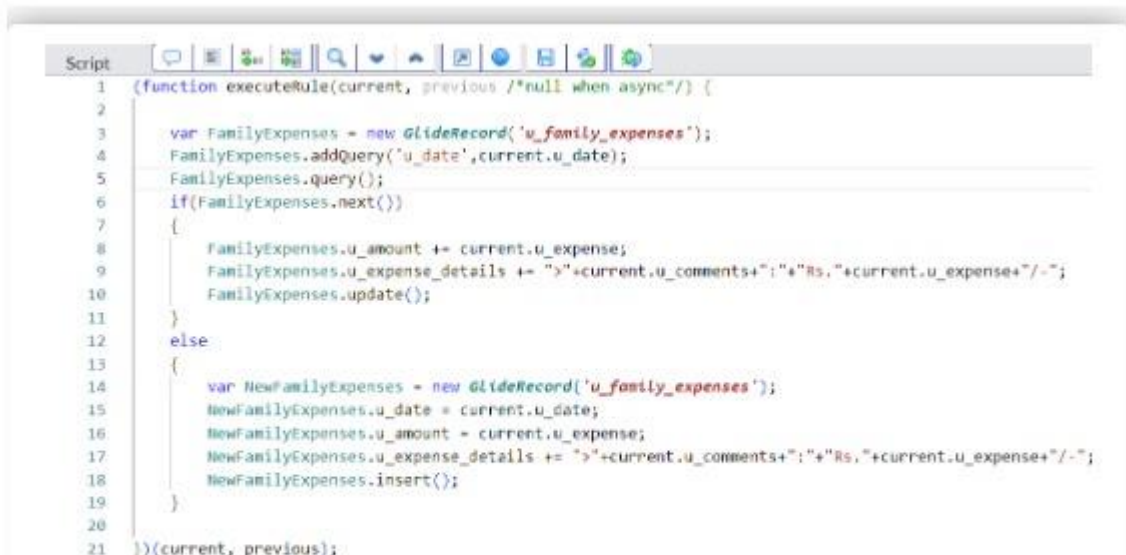
The screenshot shows the 'Business Rule' configuration window. At the top, it says 'Business Rule' and 'New record'. Below this is a descriptive text: 'A rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. Use business rules to automatically change values in form fields when the specified conditions are met.' The form contains several fields: 'Name' with the value 'Family Expenses BR', 'Table' with the value 'Daily Expenses [a\_daily\_expenses]', 'Application' with the value 'Global', 'Active' with a checked checkbox, and 'Advanced' with a checked checkbox. Red boxes highlight the 'Name', 'Table', and 'Advanced' fields, with red arrows pointing to them from the right.

4. In when to run Check Insert and Update

The screenshot shows the 'When to run' configuration section of the Business Rule form. It has a tabbed interface with 'When to run' and 'Advanced' tabs. The 'When to run' tab is active. Below the tabs is a text instruction: 'Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions.' The 'When' dropdown is set to 'before'. The 'Order' field is set to '100'. To the right, there are checkboxes for 'Insert' (checked), 'Update' (checked), 'Delete' (unchecked), and 'Query' (unchecked). A red arrow points from the 'When to run' tab to the 'Insert' and 'Update' checkboxes. Below these are 'Filter Conditions' and 'Role conditions' sections, each with a plus icon to add more conditions.

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);
```



```
Script
1  (function executeRule(current, previous /*null when async*/) {
2
3      var FamilyExpenses = new GlideRecord('u_family_expenses');
4      FamilyExpenses.addQuery('u_date',current.u_date);
5      FamilyExpenses.query();
6      if(FamilyExpenses.next())
7      {
8          FamilyExpenses.u_amount += current.u_expense;
9          FamilyExpenses.u_expense_details += ">" + current.u_comments + ":" + "Rs." + current.u_expense + "/-";
10         FamilyExpenses.update();
11     }
12     else
13     {
14         var NewFamilyExpenses = new GlideRecord('u_family_expenses');
15         NewFamilyExpenses.u_date = current.u_date;
16         NewFamilyExpenses.u_amount = current.u_expense;
17         NewFamilyExpenses.u_expense_details += ">" + current.u_comments + ":" + "Rs." + current.u_expense + "/-";
18         NewFamilyExpenses.insert();
19     }
20
21 })(current, previous);
```

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

Reference: <https://drive.google.com/file/d/1KbeLLUmlEpuxTQWU-SjT6WF5Ik2IUizp/view?usp=drivesdk>

**Configure The Relationship:**

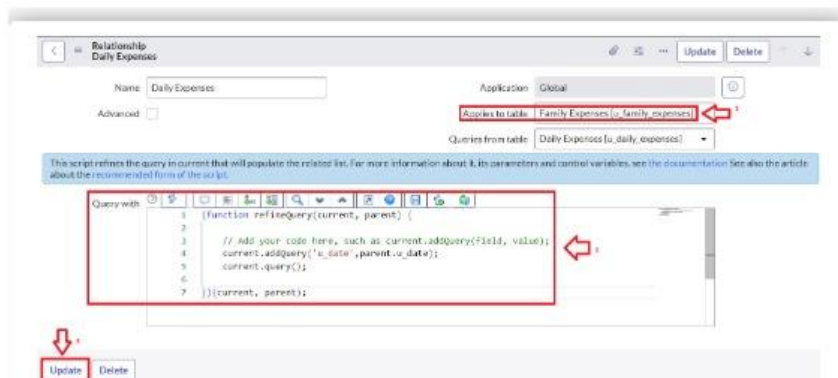
## Configure The Relationship

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.





**Reference:**

<https://drive.google.com/file/d/1Kr8StXnmtrkSVKVDpdF3rug3xFohBIbU/view?usp=drivesdk>

**Conclusion:**

## Conclusion

In conclusion, implementing the "Calculation of Family Expenses Using ServiceNow" project offers numerous benefits to the household. By leveraging the robust capabilities of ServiceNow, family members can efficiently submit, track, and manage their expenses in a centralized and streamlined manner.

## Reference:

<https://drive.google.com/file/d/1KuoqyZlLTxosZ2TYh69kjBUgqI349laL/view?usp=drivesdk>