

Calculating Family Expenses using Service Now

Team Members:

- Manikandan S (Team Leader)
- Mohamed Fayiz M
- Mohamed Shalmansha S
- Vishwa G

Department: Information Technology

Course: ServiceNow Administrator

Institution: A.V.C. College of Engineering

Mentor : Mr. N.P.K Ganesh Kumar A/S Prof., IT

Academic Year: 2025-2026

1. Abstract

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.

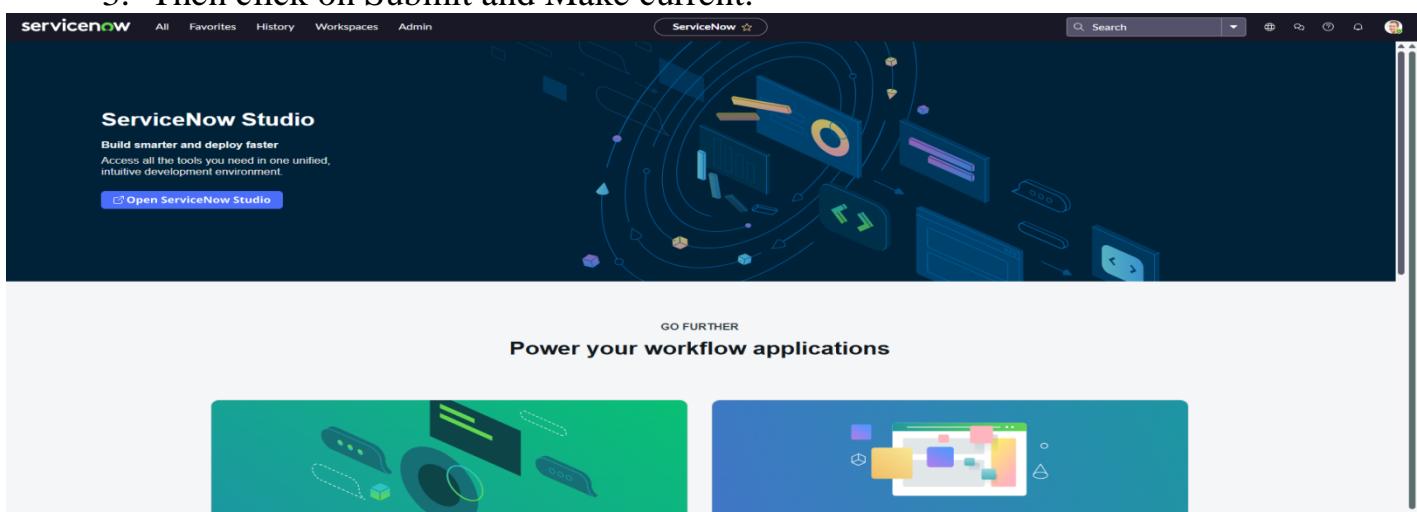
2. Tasks Dones With Explanation

Step 1: 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.

Step 2: 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.



The screenshot shows the ServiceNow interface for creating a new update set. The left sidebar has 'local' selected under 'Configuration'. The main area is titled 'Update Set - Create New Update Set' with 'New record'. The 'Name' field is populated with 'Family Expenses'. The 'Submit and Make Current' button is highlighted with a red arrow.

Step 3: Creation of Table

1. Navigate 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.

3. click on Save..

The screenshot shows the 'Table - New record' configuration screen. It displays fields for 'Label' (Family Expenses), 'Name' (u_family_expenses), 'Application' (Global), and 'New menu name' (Family Expenditure). The 'Create module' and 'Create mobile module' checkboxes are checked. The 'Columns' tab is visible at the bottom.

Step 4: Creations of columns

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

Give the details as:

1) Column label : Number

Type : String

2) Column label : Date

Type : Date

3) Column label : Amount

Type : Integer

4) Column label : Expense Details

Type : String

Max length : 800

2) click on Save.

The screenshot shows the 'Dictionary Entry - Family Expenses' page. At the top, there are fields for 'Label' (Family Expenses), 'Name' (u_family_expenses), and 'Extends table'. On the right, there are checkboxes for 'Application' (Global), 'Create module' (checked), 'Create mobile module' (checked), 'Add module to menu' (dropdown set to 'Create new'), and 'New menu name' (Family Expenditure). Below this is a table titled 'Table Columns' with columns for 'Column label', 'Type', 'Reference', 'Max length', 'Default value', and 'Display'. The table contains four rows: 'Number' (String), 'Date' (Date), 'Amount' (Integer), and 'Expense Details' (String, highlighted with a blue selection bar). The 'Max length' column for 'Expense Details' is set to 800.

Step 5: 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:
 - o Use dynamic default : check the box
 - o Dynamic default value : Get Next Padded Number
4. Click on Update.

The screenshot shows the 'Dictionary Entry - Number' page in advanced view. It displays the 'Table' (Family Expenses), 'Type' (String), 'Column label' (Number), 'Column name' (u_number), and 'Max length' (40). On the right, there are checkboxes for 'Application' (Global), 'Active' (checked), 'Function field' (unchecked), 'Read only' (checked), 'Mandatory' (unchecked), and 'Display' (unchecked). A note at the bottom says 'Alters the behavior of a field or functionality that depends on the field.' Below this is a 'Attributes' section with a large empty input field. At the bottom, there are tabs for 'Choice List Specification', 'Dependent Field', 'Calculated Value', and 'Default Value'. The 'Default Value' tab is active, showing the note 'The Default value specifies what value the field has when first displayed.' with options for 'Use dynamic default' (checked) and 'Dynamic default value' (Get Next Padded Number).

1. Go to All >> select Number Maintenance

2. Click on New.

Enter the below Details:

- o Table : Family Expenses
- o Prefix : MFE.

The screenshot shows the ServiceNow Number Maintenance interface. At the top, there's a navigation bar with 'servicenow' and links for 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The title bar says 'Number - MFE'. Below the title, there are several input fields:

- * Table: Family Expenses
- Prefix: MFE
- * Number: (empty)
- Application: Global
- Number of digits: 7

At the bottom of the form are 'Update' and 'Delete' buttons, along with a 'Related Links' section containing 'Show Counter'.

3. Click Submit.

The screenshot shows the ServiceNow Numbers list view. The title bar says 'Numbers'. The list displays one record:

Prefix	Number	Number of digits	Table	Updated
MFE		1,000	Family Expenses	2025-10-24 23:36:50

Step 5: 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 the ServiceNow Form Design interface for the 'Family Expenses [u_family]' form. On the left, there's a sidebar with 'Fields' and 'Formatters' sections. The main area is titled 'Form Design' and shows the current layout of the form:

Number	Date
Expense	

Each field has 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.

Step 6: Creation of Daily Expenses Table

1. Go to All → Search Tables → click on New .
2. Enter the Details:
 - Label : Daily Expenses
 - Name : Auto-Populated
 - Add Module to menu : Family Expenditure
3. click on Save..

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

Step 7: Creation of Columns

Near Columns Double click near insert a new row.

Give the details as:

- 1) Column label : Number

Type : String

- 2) Column label : Date

Type : Date

- 3) Column label : Expense

Type : Integer

4) Column label : Family Member Name

Type : Reference

Max length : 800

5) Column label : Comments

Type : String

Max length : 800

6) click on Save.

The screenshot shows the 'Table New record' configuration screen. At the top, there are fields for 'Name' (set to 'u_daily_expenses') and 'Extends table'. Below these are checkboxes for 'Create module' (checked), 'Create mobile module' (checked), and 'Add module to menu' (set to 'Family Expenditure'). The main area is titled 'Dictionary Entries' and contains a table with columns: 'Column label', 'Type', 'Reference', 'Max length', 'Default value', and 'Display'. The table includes rows for 'Number' (String, User reference, Max length 800, Display false), 'Family Member Name' (Reference, User reference, Max length 800, Display false), 'Date' (Date, Date, Max length 800, Display false), 'Expense' (Integer, Integer, Max length 800, Display false), and 'Comments' (String, String, Max length 800, Display false). A button 'Insert a new row...' is also present. At the bottom are 'Submit' and 'Cancel' buttons.

Step 8: 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:
 - o Use dynamic default : check the box
 - o Dynamic default value : Get Next Padded Number
4. Click on Update.

The screenshot shows the 'Dictionary Entry - Number' configuration screen. At the top, it says 'Dictionary Entry - Number'. The main form has fields for 'Table' (set to 'Daily Expenses (u_daily_expenses)'), 'Type' (set to 'String'), 'Column label' (set to 'Number'), 'Column name' (set to 'u_number'), and 'Max length' (set to 40). To the right, there are sections for 'Application' (set to 'Global'), 'Active' (checked), 'Function field' (unchecked), 'Read only' (checked), 'Mandatory' (unchecked), and 'Display' (unchecked). A note below the form states: 'A dictionary entry manages how ServiceNow stores data in tables and fields (columns). For new dictionary entries, select a Table and the field Type of the new column. Also enter a column label, which becomes the field label, and the column name. If necessary, set a Max length for text String type fields, make the field Mandatory to save a record, and make the field a Display Value for reference fields so it appears on records that reference this table.' At the bottom, there are tabs for 'Choice List Specification', 'Calculated Value', and 'Default Value'. The 'Default Value' tab is selected, showing a note: 'The Default value specifies what value the field has when first displayed.' It includes options for 'Use dynamic default' (checked) and 'Dynamic default value' (set to 'Get Next Padded Number'). At the very bottom are 'Delete Column' and 'Update' buttons.

1. Go to All >> Search Number Maintenance >> select Number Maintenance.
2. Click on New.
3. Enter the below Details:

Table : Daily Expenses

Prefix : MFE

The screenshot shows the ServiceNow interface for configuring a number sequence. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The current page is 'Number - MFE'. The main form has the following fields:
 * Table: Daily Expenses
 Prefix: MFE
 * Number: 1,000
 Application: Global
 Number of digits: 7
 Buttons at the bottom: Update, Delete, Related Links, Show Counter.

4. Click on Submit.

Step 9: 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.
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.

The screenshot shows the ServiceNow Form Design tool. It displays two sections of the form:
 Top Section (2 Column): Contains fields for Number, Family Member Name, Date, and Expense. Each field has a gear icon and an 'X' icon.
 Bottom Section (1 Column): Contains a single field for Comments, also with a gear icon and an 'X' icon.

Step 10: 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:
 - o Name : Daily Expenses
 - o Applies to table : Select Family Expenses
 - o Daily Expenses : Select Daily Expenses
4. Click Save.

The screenshot shows the ServiceNow interface for creating a relationship. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The title bar says 'Relationship - Daily Expenses'. The main form has fields for 'Name' (set to 'Daily Expenses'), 'Application' (set to 'Global'), 'Advanced' (unchecked), 'Applies to table' (set to 'Family Expenses [u_family_expenses]'), and 'Queries from table' (set to 'Daily Expenses [u_daily_expenses]'). A note below the form states: 'This script refines the query in current that will populate the related list. For more information about it, its parameters and control variables, see [the documentation](#). See also the article about the [recommended form of the script](#)'. Below the note is a code editor containing the following ECMAScript 2021 (ES12) code:

```
Query with  Turn on ECMAScript 2021 (ES12) mode ⓘ
① (function refineQuery(current, parent) {
  2
  3   // Add your code here, such as current.addQuery(field, value);
  4   current.addQuery('u_date',parent.u_date);
  5   current.query();
  6
  7 })(current, parent);
```

At the bottom of the page are 'Update' and 'Delete' buttons.

Step 11: 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.

The screenshot shows the 'Configuring related lists on Family Expenses form' dialog. It features two vertical lists: 'Available' on the left and 'Selected' on the right. The 'Available' list contains 'Attachments'. The 'Selected' list contains 'Daily Expenses'. Between the lists are four buttons: '>' (move selected to available), '<' (move available to selected), '^' (move selected up), and 'v' (move selected down). At the bottom of the dialog are 'Cancel' and 'Save' buttons. Below the dialog, the 'Related Links' section includes 'View name:' (set to 'Default view') and 'Show versions'.

Step 11: 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:
 - o Name : Family Expenses BR
 - o Table : Select Daily Expenses
4. Check Advanced
5. In when to run Check Insert and Update.
6. Go to the Header and right click there >> click on Save.

The screenshot shows the ServiceNow Business Rule configuration page for 'Family Expenses BR'. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The title bar says 'Business Rule - Family Expenses BR'. The main form has fields for 'Name' (Family Expenses BR), 'Table' (Daily Expenses [u_daily_expenses]), 'Application' (Global), 'Active' (checked), and 'Advanced' (checked). Below the form is a script editor with tabs for 'When to run', 'Actions', and 'Advanced'. The 'Advanced' tab is selected, showing a condition 'Turn on ECMAScript 2021 (ES12) mode' and a script block containing code to handle expense updates and inserts.

```
1 (function executeRule(current, previous /*null when async*/){  
2     var FamilyExpenses = new GlideRecord('u_family_expenses');  
3     FamilyExpenses.addQuery('u_date',current.u_date);  
4     FamilyExpenses.query();  
5     if(FamilyExpenses.next())  
6     {  
7         FamilyExpenses.u_amount += current.u_expense;  
8         FamilyExpenses.u_expense_details += ">"+current.u_comments+"-"+Rs."+current.u_expense+"/-";  
9         FamilyExpenses.update();  
10    }  
11    else  
12    {  
13        var NewFamilyExpenses = new GlideRecord('u_family_expenses');  
14        NewFamilyExpenses.u_date = current.u_date;  
15        NewFamilyExpenses.u_amount = current.u_expense;  
16        NewFamilyExpenses.u_expense_details += ">"+current.u_comments+"-"+Rs."+current.u_expense+"/-";  
17        NewFamilyExpenses.insert();  
18    }  
19}(current, previous);  
20  
21  
22
```

Step 11: 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 Query.

The screenshot shows the ServiceNow Relationship configuration page for 'Daily Expenses'. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The title bar says 'Relationship - Daily Expenses'. The main form has fields for 'Name' (Daily Expenses), 'Application' (Global), 'Applies to table' (Family Expenses [u_family_expenses]), and 'Queries from table' (Daily Expenses [u_daily_expenses]). Below the form is a script editor with tabs for 'Advanced' and 'Query with'. The 'Query with' tab is selected, showing a condition 'Turn on ECMAScript 2021 (ES12) mode' and a script block containing code to refine the query.

```
1 (function refineQuery(current, parent){  
2     // Add your code here, such as current.addQuery(field, value);  
3     current.addQuery('u_date',parent.u_date);  
4     current.query();  
5     current.query();  
6     current.query();  
7     current.query();  
8 })(current, parent);  
9  
10
```

5. Click on Update.

Result / Output

1. Enter the details and then submit it.

The screenshot shows the ServiceNow interface for creating a new daily expense. The top navigation bar includes links for All, Favorites, History, Workspaces, and Admin. The title bar says "Daily Expenses - Create MFE0001025". The main form has fields for Number (MFE0001025), Family Member Name (Waldo Sisk), Date (2025-10-01), Expense (15,000), and Comments (Courses fee). A "Submit" button is at the bottom left.

2. Detail will be updated on Daily Expenses .

The screenshot shows the ServiceNow list view for Daily Expenses. The table includes columns for Number, Comments, Date, Expense, and Created by. One row, MFE0001025 with the comment "Courses fee", is highlighted with a red border.

Number	Comments	Date	Expense	Created by
MFE0001018	party	2025-10-15	13,333	admin
MFE0001015	EMI	2025-10-23	5,000	admin
MFE0001017	college fees	2025-10-22	20,000	admin
MFE0001013	traveling	2025-10-30	500	admin
MFE0001020	petrol	2025-11-05	500	admin
MFE0001016	mobile	2025-10-23	10,000	admin
MFE0001025	Courses fee	2025-10-01	15,000	admin
MFE0001014	Netflix	2025-10-21	2,500	admin

3. Daily Expenses Details will be automatically updated on Family Expenses .

The screenshot shows the ServiceNow list view for Family Expenses. The table includes columns for Number, Amount, Date, and Expense. One row, MFE0001018 with the amount 15,000 and date 2025-10-01, is highlighted with a red border.

Number	Amount	Date	Expense
MFE0001018	15,000	2025-10-01	
MFE0001010	2,500	2025-10-21	
MFE0001011	15,000	2025-10-23	
MFE0001009	1,000	2025-11-20	subscription
MFE0001012	20,000	2025-10-22	
MFE0001013	13,333	2025-10-15	
MFE0001008	500	2025-10-30	travelling
MFE0001014	500	2025-11-05	

4. Output will be successfully updated.

The screenshot shows the ServiceNow Family Expenses application interface. At the top, there's a navigation bar with links for All, Favorites, History, Workspaces, and Admin. The title bar says "Family Expenses - MFE0001018". Below the title bar, there's a form with fields for Number (MFE0001018), Date (2025-10-01), and Amount (15,000). A large text area labeled "Expense" is empty. At the bottom of the form are "Update" and "Delete" buttons. Below the form is a list titled "Daily Expenses" with one item: "Number": MFE0001025, "Comments": Courses fee, "Date": 2025-10-01, and "Expense": 15,000. There are buttons for "Actions on selected rows..." and "New".

Conclusion

In conclusion, the “**Calculating Family Expenses using ServiceNow**” project effectively demonstrates how ServiceNow can be used to manage and track family expenses in an organized way. By creating custom tables, relationships, and business rules, the system allows users to record daily expenses and automatically update total family expenses. Features like auto-numbering, mandatory fields, and form customization make the application accurate and user-friendly. Overall, the project provides a simple and efficient solution for monitoring family budgets and supports better financial planning through automation on the ServiceNow platform.