

CALCULATING FAMILY EXPENSES USING SERVICE NOW

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Team Size : 4

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PROBLEM STATEMENT

Managing family expenses can be a hassle, often involving disjointed methods like spreadsheets, paper receipts, or various mobile apps that don't offer a unified view. This leads to a lack of transparency, difficulty in tracking spending, and a time-consuming process for reconciling shared costs.

OBJECTIVES

- **Centralized Expense Submission:** Create a portal or interface where family members can easily submit expense reports with details like category, amount, date, and a brief description.
- **Automated Approval Workflow:** Implement a workflow that automatically routes expense reports to the appropriate family member for approval (e.g., a parent or designated family accountant). This reduces manual effort and speeds up the reimbursement process.
- **Real-Time Tracking and Visibility:** Provide a dashboard where family members can view the status of their submitted expenses (e.g., pending, approved, rejected) and see a real-time summary of their spending.

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PROJECT OVERVIEW

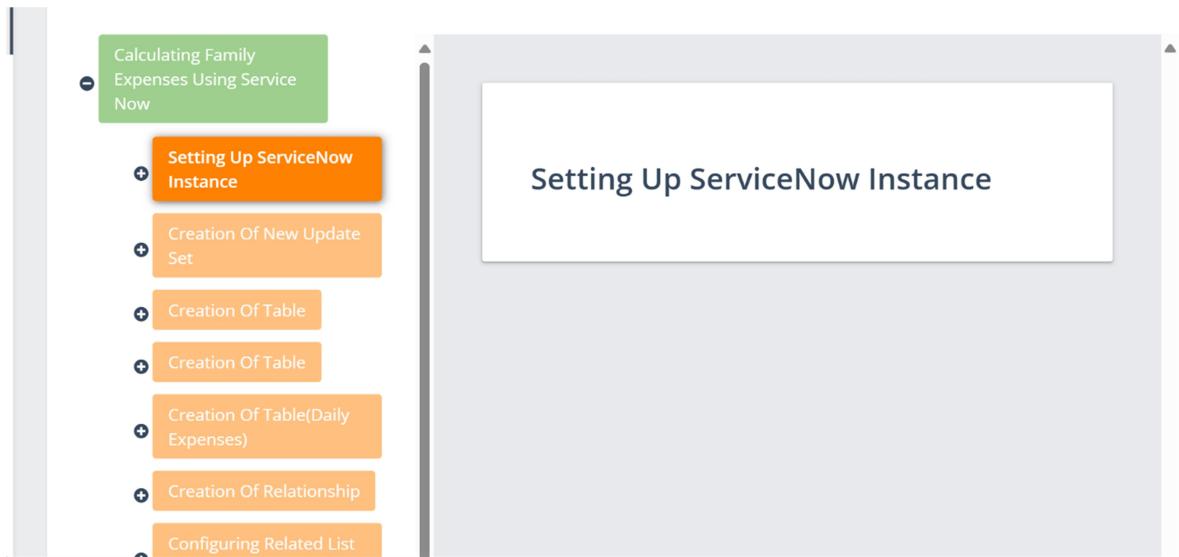
The project aims to develop a comprehensive expense calculation system using ServiceNow . This system will enable users to track and manage family expenses efficiently. It will include features such as expense categorization, budget setting, real-time tracking, and reporting capabilities. Utilizing ServiceNow's 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.

Milestone 1: ServiceNow Instance

Activity 1: Setting up ServiceNow Instance

Setting up ServiceNow Instance

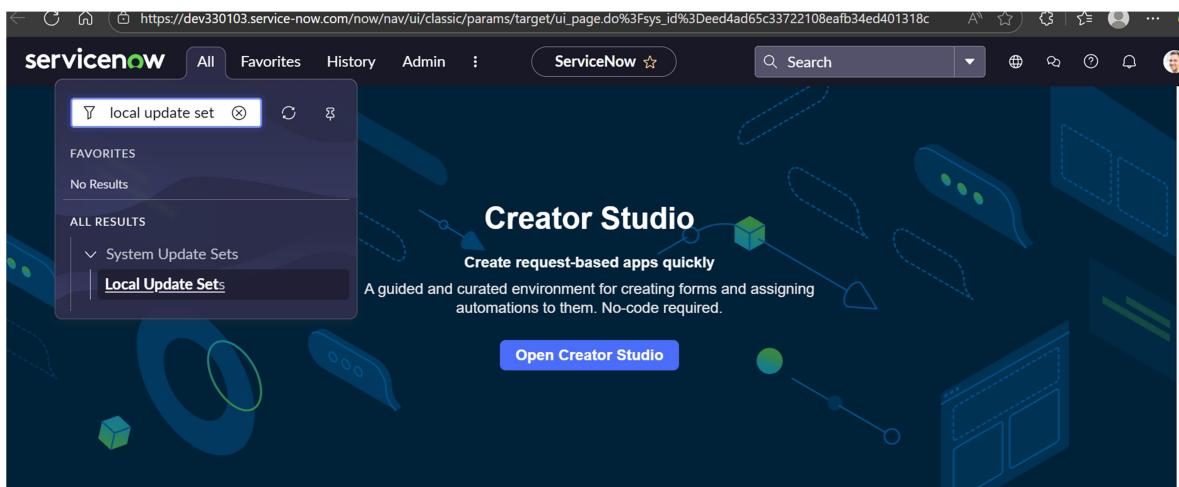
- 1. Sign up for a developer account on the ServiceNow Developer site “<https://developer.servicenow.com>”.**
- 2. Once logged in, navigate to the "Personal Developer Instance" section.**
- 3. Click on "Request Instance" to create a new ServiceNow instance.**
- 4. Fill out the required information and 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.**



Milestone 2: Creation of New Update Set

Activity 1: Creation of New Update Set

1. Go to All >> In the filter search for Local Update set > click on New.



1. Enter the Details as:

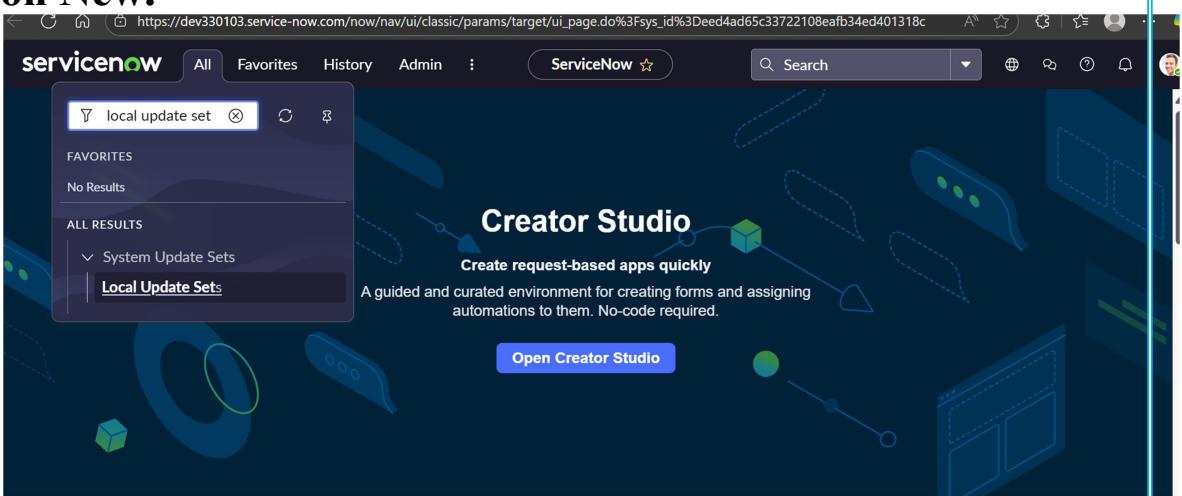
- i Name: Family Expenses
2. Then click on Submit and Make current.

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Milestone 3: New Update Set

Activity 1: 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:

- i Name: Family Expenses
3. Then click on Submit and Make current

The screenshot shows the ServiceNow interface for creating a new update set. The search bar at the top left contains 'local'. The main area is titled 'Update Set - Create New Update Set'. It has a 'Favorites' tab and a 'History' tab. On the right, there are buttons for 'Submit' and 'Submit and Make Current'. The main form includes fields for 'Name' (set to 'Family Expenses'), 'State' (set to 'In progress'), 'Parent' (empty), 'Release date' (empty), and a large 'Description' field which is empty. At the bottom of the form are two buttons: 'Submit' and 'Submit and Make Current'. The left sidebar has a dark background with white text, showing a navigation tree under the 'Local' category, including 'Regions', 'Currencies', 'Exchange Rates', 'Load Exchange Rates', 'FX Currency Instances', 'FX Currency Configuration', 'System Properties', 'System Localization', 'System Update Sets', 'Local Update Sets', 'Team Development', 'Local Changes', 'Configuration by Category', and 'Logical Partition'.

Milestone 4: Tables

Activity 1: Creation of Family Expenses Table

- 1. Go to All > In the filter search for Tables > click on New.**
- 2. Enter the Details:**
 - i Label: Family Expenses
 - ii Name: Auto-Populated
 - iii New menu name: Family Expenditure

The screenshot shows the ServiceNow interface for creating a new table. The 'Label' field is set to 'Family Expenses' and the 'Name' field is set to 'u.family_expenses'. Under the 'Create' section, the 'Create module' and 'Create mobile module' checkboxes are checked. Below these, a dropdown menu labeled 'Add module to menu' has the option '... Create new ...' selected. The number '3.' is written to the left of the interface.

- 4. 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:**
 - a) Column label: Number**
 - b) Type: String**
- 3. Double click on insert a new row again**
- 4. Give the details as:**
 - a) Column label: Date**
 - b) Type: Date**
- 5. Double click on insert a new row again**
- 6. Give the details as:**
 - a) Column label: Amount**
 - b) Type: Integer**
- 7. Double click on insert a new row again**
- 8. Give the details as:**
 - a) Column label: Expense Details**
 - b) Type: String**
 - c) Max length: 800**

Table Columns for text						
Dictionary Entries						
	Column label	Type	Reference	Max length	Default value	Display
	Created	Date/Time	(empty)	40		false
	Updates	Integer	(empty)	40		false
	Created by	String	(empty)	40		false
	Updated	Date/Time	(empty)	40		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
	Updated by	String	(empty)	40		false
	Number	String				false
	Date	Date				false
	Amount	Integer				false
	Expenses Details	String		800		false
	Insert a new row...					

- 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:**
 - i Use dynamic default: check the box**
 - ii Dynamic default value: Get Next Padded Number**
- 4. Click on Update.**

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

Use dynamic default

Dynamic default value [Search] [Info]

- 5.**
- 6. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance**
- 7. Click on New.**
- 8. Enter the below Details:**
 - i Table: Family Expenses**
 - ii Prefix: MFE**

New record

* Table [Search]

Prefix

* Number

Application

Number of digits

iii

- 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.**

The image shows a screenshot of a form configuration interface. At the top, there is a header bar with a '2 Column' dropdown and other controls. Below the header, there are two rows of fields. The first row contains three fields: 'Number' (with a gear icon and a delete icon), 'Date' (with a gear icon and a delete icon), and 'Amount' (with a gear icon and a delete icon). The second row contains a single field labeled 'Expenses Details' (with a gear icon and a delete icon). The entire interface is contained within a light gray border.

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- 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**

Milestone 5: Create of table

Activity 1: Creation of Daily Expenses Table

- 1. Go to All > In the filter search for Tables > click on New.**
- 2. Enter the Details:**
 - i **Label: Daily Expenses**
 - ii **Name: Auto-Populated**
 - iii **Add Module to menu: Family Expenditure**

* Label Daily Expenses
 * Name u_daily_expenses
 Extends table
 Application Global
 Create module
 Create mobile module
 Add module to menu -- Create new --
 New menu name Family Expenditure

iv

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:

- a) Column label: Number
- b) Type: String

3. Double click on insert a new row again

4. Give the details as:

- a) Column label: Date
- b) Type: Date

5. Double click on insert a new row again

6. Give the details as:

- a) Column label: Expense
- b) Type: Integer

7. Double click on insert a new row again

8. Give the details as:

- a) Column label: Family Member Name
- b) Type: Reference
- c) Max length: 800

9. Double click on insert a new row again

10. Give the details as:

- a) Column label: Comments
- b) Type: String
- c) Max length: 800

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:**
 - i Use dynamic default: check the box**
 - ii Dynamic default value: Get Next Padded Number**
- 4. Click on Update.**

i

- 5. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance**
- 6. Click on New.**
- 7. Enter the below Details:**
 - i Table: Family Expenses**
 - ii Prefix: MFE**

iii Submit

- 8. 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 a form configuration interface with two columns. The top section, labeled '2 Column', contains four fields: 'Number' (read-only), 'Family Member Name' (mandatory), 'Date' (mandatory), and 'Expenses'. The bottom section, labeled '1 Column', contains one field: 'Comments' (optional). Each field has a gear icon for settings and a close button.

- 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**

Milestone 6: Creation of Relationship

Activity 1: 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:

i Name: Daily Expenses

ii Applies to table: Select Family Expenses

iii Daily Expenses: Select Daily Expenses

4. Click Save.

Milestone 7: Configuring Related List

Activity 1: Configuring Related List on Family Expenses

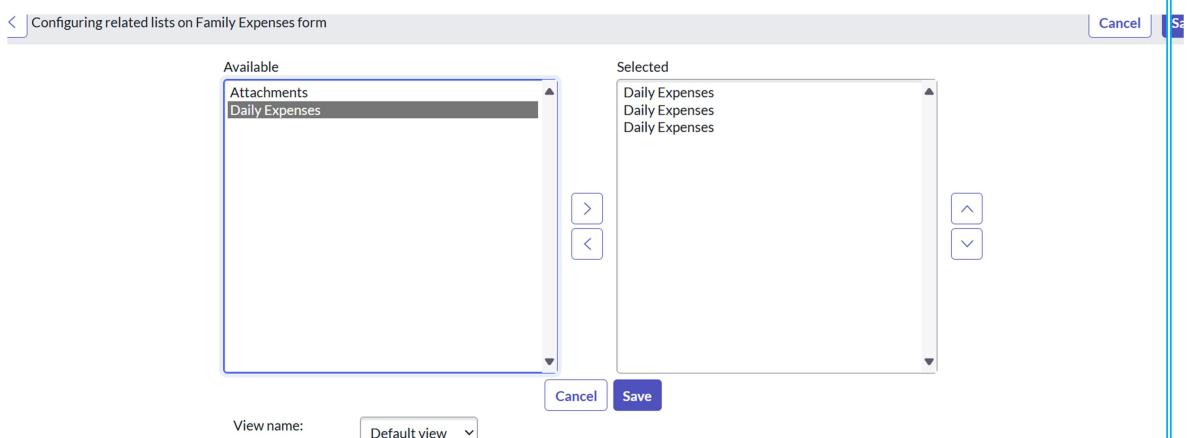
**1. Go to All >> In the filter search for Family Expenses
>> Open Family Expenses**

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



Milestone 8: creation of Business

Activity 1: 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:**
 - i Name: Family Expenses BR**
 - ii Table: Select Daily Expenses**
 - iii Check Advanced**

The screenshot shows the 'Business Rule' configuration page. At the top, there are fields for 'Name' (Family Expenses BR), 'Application' (Global), and checkboxes for 'Active' (checked) and 'Advanced' (checked). Below these are tabs for 'When to run', 'Actions', and 'Advanced'. The 'When to run' tab is selected, showing a dropdown for 'When' set to 'before' and an 'Order' input field containing '100'. To the right, checkboxes for 'Insert' (checked), 'Update' (checked), 'Delete' (unchecked), and 'Query' (unchecked) are shown. Below these are buttons for 'Add Filter Condition' and 'Add OR Clause', along with dropdowns for 'choose field', 'oper', and 'value'. A 'Role conditions' section with a pencil icon is also visible.

iv

- 4. In when to run Check Insert and Update**

This is a detailed view of the 'When to run' configuration. It shows the 'When' dropdown set to 'before' and the 'Order' input field set to '100'. To the right, the 'Insert' and 'Update' checkboxes are checked, while 'Delete' and 'Query' are unchecked. Below this, there are buttons for 'Add Filter Condition' and 'Add OR Clause', and dropdown menus for filtering by field, operator, and value. A 'Role conditions' section with a pencil icon is also present.

i

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

>>

- 6.**

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

- 7.**

**i var Family Expenses = new
GlideRecord('u_family_expenses');**

```

ii FamilyExpenses.addQuery('u_date',current.u_date);
iii FamilyExpenses.query();
iv if(FamilyExpenses.next())
v {
vi FamilyExpenses.u_amount += current.u_expense;
vii FamilyExpenses.u_expense_details +=
">"+current.u_comments+":"+ "Rs." +current.u_
expense+ "-";
viii FamilyExpenses.update();
ix }
x else
xi {
xii var NewFamilyExpenses = new
GlideRecord('u_family_expenses');
xiii NewFamilyExpenses.u_date = current.u_date;
xiv NewFamilyExpenses.u_amount =
current.u_expense;
xv NewFamilyExpenses.u_expense_details +=
">"+current.u_comments+":"+ "Rs." +current.u_
expense+ "-";
xvi NewFamilyExpenses.insert();
xvii }

```

8.

i })(current, previous);

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

```

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.
10        u_expense + "/";
11        FamilyExpenses.update();
12    }
13    else
14    {
15        var NewFamilyExpenses = new GlideRecord('u_family_expenses');
16        NewFamilyExpenses.u_date = current.u_date;
17        NewFamilyExpenses.u_amount = current.u_expense;
18        NewFamilyExpenses.u_expense_details += ">" + current.u_comments + ":" + "Rs." + current.
19        u_expense + "/";
20        NewFamilyExpenses.insert();
21    }
22 }

```

Submit

Milestone 9: Configure the Relationship

Activity 1: 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.

The screenshot shows a software interface for managing database scripts. At the top, there's a toolbar with icons for back, forward, search, and other common operations. Below the toolbar, the title bar reads "Relationship New record". The main area contains several configuration panels:

- Name:** Daily Expenses
- Application:** Global
- Advanced:** A checkbox that is unchecked.
- Applies to table:** Family Expenses [u_family_exp...]
- Queries from table:** Daily Expenses [u_daily_expens...]

A note below these fields 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 section titled "Query with" which includes a toggle switch for "Turn on ECMAScript 2021 (ES12) mode". The code editor contains the following ECMAScript code:

```
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, parent);
```

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

- Creation Of Relationship
 - Creation Of Relationship Between Family Expenses And Daily Expenses Tables
- Configuring Related List On Family Expenses
 - Configuring Related List On Family Expenses
- Creation Of Business Rules
 - Creation Of Business Rules

Conclusion