

Calculating Family Expenses using Service Now

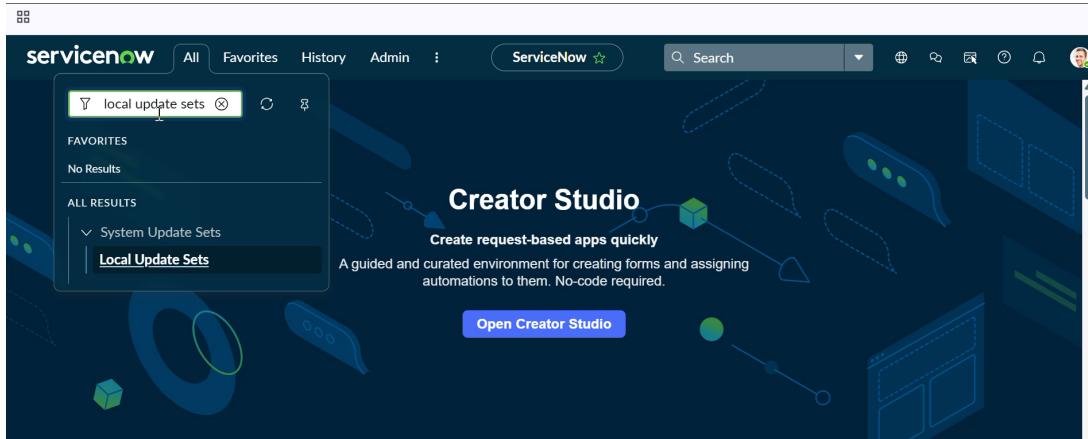
The project aims to develop a comprehensive expense calculation system using ServiceNow. This system will enable users to track and manage family expenses efficiently. It will include features such as expense categorization, budget setting, real-time tracking, and reporting capabilities. Utilizing ServiceNow's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

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.

Creation of New Update Set

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



- Enter the Details as:

Name : Family Expenses

- Then click on Submit and Make current.

The screenshot shows the ServiceNow interface for creating a new update set. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', and a search bar. The main area is titled 'Update Set - Create New Update Set'. It contains several input fields: 'Name' (Family Expenses), 'State' (In progress), 'Parent' (empty), 'Release date' (empty), and a large 'Description' text area. On the right, there's an 'Application' dropdown set to 'Global'. At the bottom, there are two buttons: 'Submit' and 'Submit and Make Current', with 'Submit' being highlighted.

Creation of Family Expenses Table

- Go to All > In the filter search for Tables > click on New.

- Enter the Details:

Label : Family Expenses

Name : Auto-Populated

New menu name : Family Expenditure

The screenshot shows the ServiceNow interface for creating a new table. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Admin', and a search bar. The main area is titled 'Table - New Record'. It contains several input fields: 'Label' (Family Expenses), 'Name' (u_family_expenses), and 'Extends table' (empty). On the right, there are checkboxes for 'Create module' (checked), 'Create mobile module' (checked), and 'Add module to menu' (dropdown set to '-- Create new --'). A 'New menu name' field is filled with 'Family Expenditure'. Below these, there is a 'Remote Table' checkbox which is unchecked. A yellow banner at the top provides a note about creating custom tables in scoped applications.

Creation of Columns(FIELDS)

- Near Columns Double click near insert a new row.

- Give the details as:

Column label : Number

Type : String

- Double click on insert a new row again

- 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

| Column label | Type | Reference | Max length | Default value | Display |
|-----------------|---------------|-----------|------------|---------------|---------|
| Updates | Integer | (empty) | 40 | | false |
| Created by | String | (empty) | 40 | | false |
| Updated by | String | (empty) | 40 | | false |
| Sys ID | Sys ID (GUID) | (empty) | 32 | | false |
| Updated | Date/Time | (empty) | 40 | | false |
| Created | Date/Time | (empty) | 40 | | false |
| Number | String | | | | false |
| Date | Date | | | | false |
| Amount | Integer | | | | false |
| Expense Details | String | | 800 | | false |

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.

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

Use dynamic default

Dynamic default value: Get Next Padded Number

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

* Table: Family Expenses

Prefix: MFE

* Number: 1,000

Application: Global

Number of digits: 7

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

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 interface for the 'Table - Daily Expenses' table. The top navigation bar includes 'All', 'Favorites', 'History', and a search bar. Below the header, there's a table structure with columns: Updated, Created, Updates, Created by, Updated by, Number, Date, Expense, Family Member Name, and Comments. The 'Comments' column has a max length of 800. At the bottom left, there's a button labeled 'Insert a new row...'. The top right of the screen shows various system icons.

| Updated | Date/Time | (empty) | 40 | false |
|---------------------|-----------|---------|----|-------|
| Created | Date/Time | (empty) | 40 | false |
| Updates | Integer | (empty) | 40 | false |
| Created by | String | (empty) | 40 | false |
| Updated by | String | (empty) | 40 | false |
| Number | String | | | false |
| Date | Date | | | false |
| Expense | Integer | | | false |
| Family Member Name | Reference | 800 | | false |
| Comments | String | 800 | | false |
| Insert a new row... | | | | |

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.

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

Use dynamic default

Dynamic default value

4. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
5. Click on New.
6. Enter the below Details:

Table : Daily Expenses

Prefix : DFE

* Table Daily Expenses

Prefix DFE

* Number 1,000

Application Global

Number of digits 7

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

- Customize or Drag Drop the form as per your requirement.

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

Creation of Relationship between Family Expenses and Daily Expenses tables

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

Name : Daily Expenses

Applies to table : Select Family Expenses

Daily Expenses : Select Daily Expenses

The screenshot shows the ServiceNow interface for creating a new relationship record. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', and a search bar. The main area is titled 'Relationship - New Record' with a status of 'New record'. A context menu is open over the 'Save' button, listing options like 'Configure', 'Export', 'Create Favorite', 'Copy URL', 'Copy sys_id', and 'Reload form'. On the right, application settings show 'Global' as the application, 'Family Expenses [u_family_exp...]' as the table, and 'Daily Expenses [u_daily_expens...' as the query. Below these settings is a note about a script that refines a query. At the bottom, there's a code editor window containing the following JavaScript:

```

1  (function refineQuery(current, parent) {
2
3      // Add your code here, such as current.addQuery(field, value);
4
5  })(current, parent);

```

- Click Save.

Configuring Related List on Family Expenses

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

The screenshot shows the 'Configuring related lists on Family Expenses form'. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Admin', and a search bar. The main area has a title 'Configuring related lists on Family Expenses form'. On the right, there are two lists: 'Available' (containing 'Attachments') and 'Selected' (containing 'Daily Expenses'). Between them are arrows for moving items between lists. At the bottom are 'Cancel' and 'Save' buttons.

- Click on Save

Creation of Business Rules

- Go to All >> In the filter search for Business Rules.
- Under System Definition Select Business Rules then click on New.
- Enter the Details:
Name : Family Expenses BR
Table : Select Daily Expenses

Check Advanced

The screenshot shows the ServiceNow interface for creating a new business rule. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', and a search bar. The main title is 'Business Rule - New Record'. The form fields include:

- Name: Family Expenses BR
- Table: Daily Expenses [u_daily_expenses...]
- Application: Global
- Active: checked
- Advanced: checked

Below the form, there are tabs for 'When to run', 'Actions', and 'Advanced'. The 'When to run' tab is selected, showing the instruction: "Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions the business rule should run."

4. In when to run Check Insert and Update

The screenshot shows the 'When to run' configuration for the business rule. The 'Actions' tab is selected, showing the following options:

- When: before
- Order: 100
- Insert: checked
- Update: checked
- Delete: unchecked
- Query: unchecked

Below these settings are buttons for 'Filter Conditions', 'Add Filter Condition', and 'Add OR Clause', along with dropdown menus for choosing fields, operators, and values.

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

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

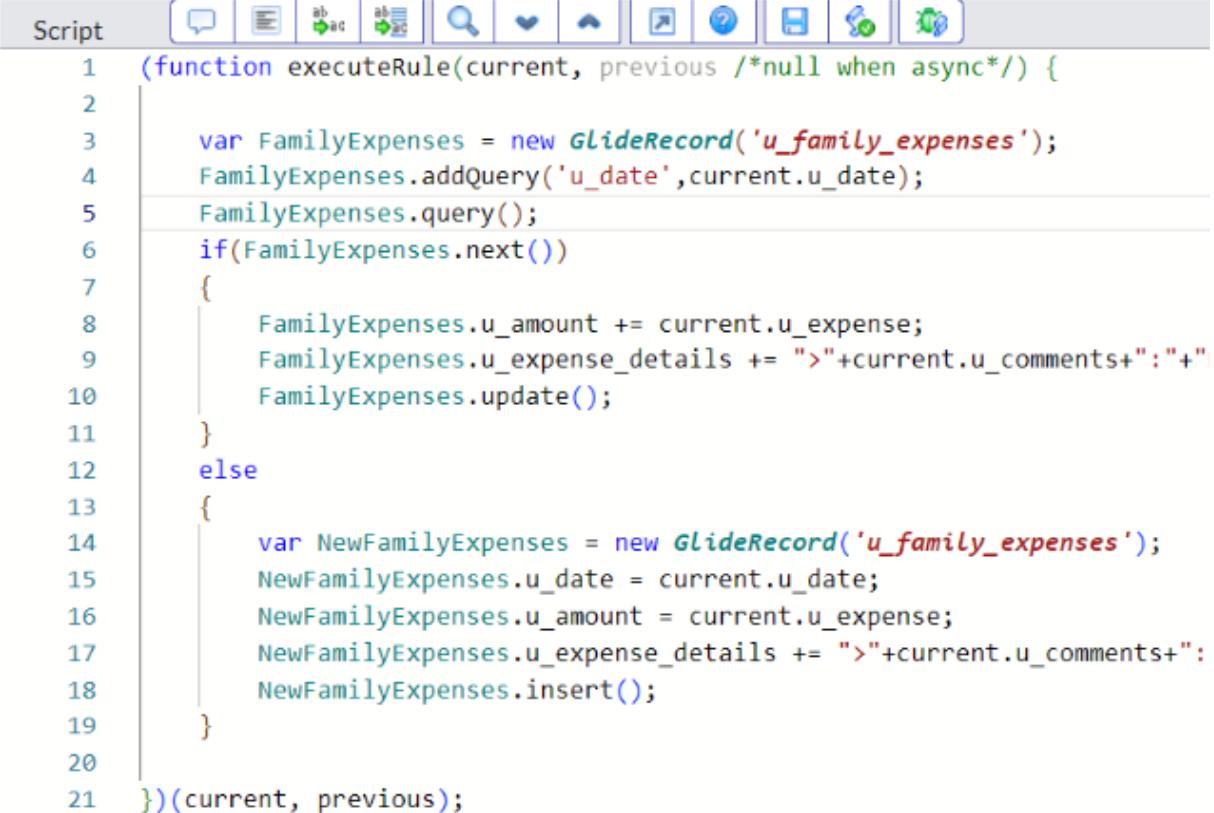
```
    var FamilyExpenses = new GlideRecord('u_family_expenses');
    FamilyExpenses.addQuery('u_date', current.u_date);
    FamilyExpenses.query();
    if(FamilyExpenses.next())
    {
        FamilyExpenses.u_amount += current.u_expense;
        FamilyExpenses.u_expense_details +=
            ">" + 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);

```



```

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+":"+";
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+";
18         NewFamilyExpenses.insert();
19     }
20 }
21 })(current, previous);

```

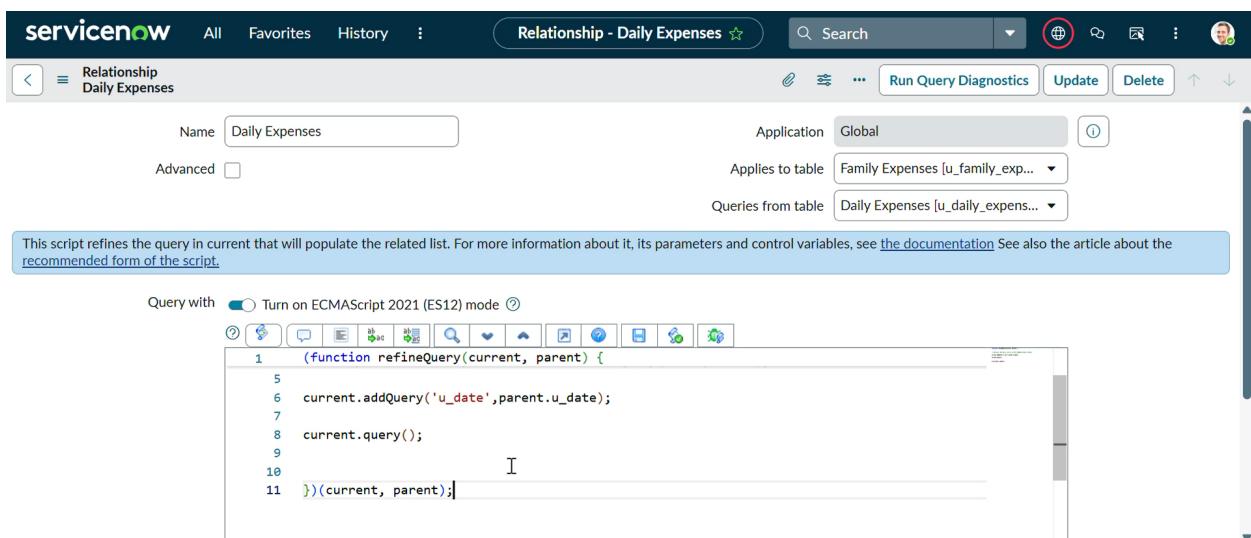
6. Go to the Header and right click there>> click on Save.

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);
```



The screenshot shows the ServiceNow interface for managing relationships. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', and a search bar labeled 'Relationship - Daily Expenses'. Below the header, there's a toolbar with icons for 'Run Query Diagnostics', 'Update', and 'Delete'. The main area is titled 'Relationship - Daily Expenses' and shows a relationship named 'Daily Expenses' between 'Family Expenses' and 'Daily Expenses' tables. The 'Advanced' checkbox is unchecked. A note at the bottom 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.' The code editor contains the provided JavaScript function.

```
Query with Turn on ECMAScript 2021 (ES12) mode ⓘ  
② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪  
1  (function refineQuery(current, parent) {  
2      current.addQuery('u_date',parent.u_date);  
3      current.query();  
4      })(current, parent);
```

5. Click on Update.