

Calculating Family Expenses using Service Now

Team ID: NM2025TMID01342

Team Size: 5

Team Leader: Anuja A J

Team member: Arasi A

Team member: Arul Selvam M

Team member: Ashick Vijin V S

Team member: Ashika Mol N S

AIM:

To perform calculating family expenses using ServiceNow Developer.

PROBLEM STATEMENT:

- Managing household finances is essential for every family to ensure financial stability and better planning. This project aims to develop a simple and efficient system using ServiceNow to record, track, and calculate monthly family expenses. ServiceNow, being a powerful cloudbased platform, offers custom application development that can be leveraged for personal finance tracking.

OBJECTIVE:

- To build a Family Expense Management System using ServiceNow that allows users to:
 - Enter daily or monthly expenses under different categories (e.g., groceries, rent, transport, education, etc.)
 - View summary reports of total and category-wise expenses
 - Set monthly budgets and receive alerts if spending exceeds limits
- Generate downloadable reports for any time period

SKILL:

1. ServiceNow Application Development
 - Creating custom tables
 - Designing forms and views
 - Using Flow Designer for automation
2. Workflow & Automation
 - Using ServiceNow Flow Designer to automate calculations and notifications
3. Database Management

- Creating and managing custom tables for storing expenses and budgets

4. Reporting & Dashboard Design

- Designing ServiceNow reports

Building graphical dashboards for data visualization

TASK INITIATION:

STEP 1: Setting up ServiceNow Instance

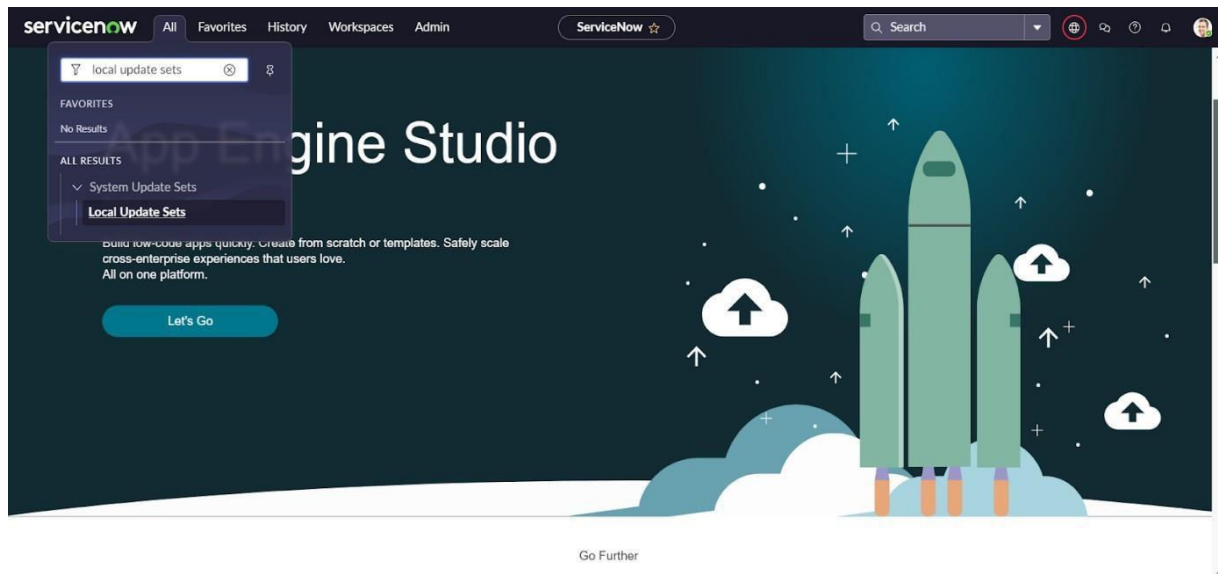
ACTIVITY 1: Setting up ServiceNow Instance

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

ACTIVITY 1: Creation of New Update Set

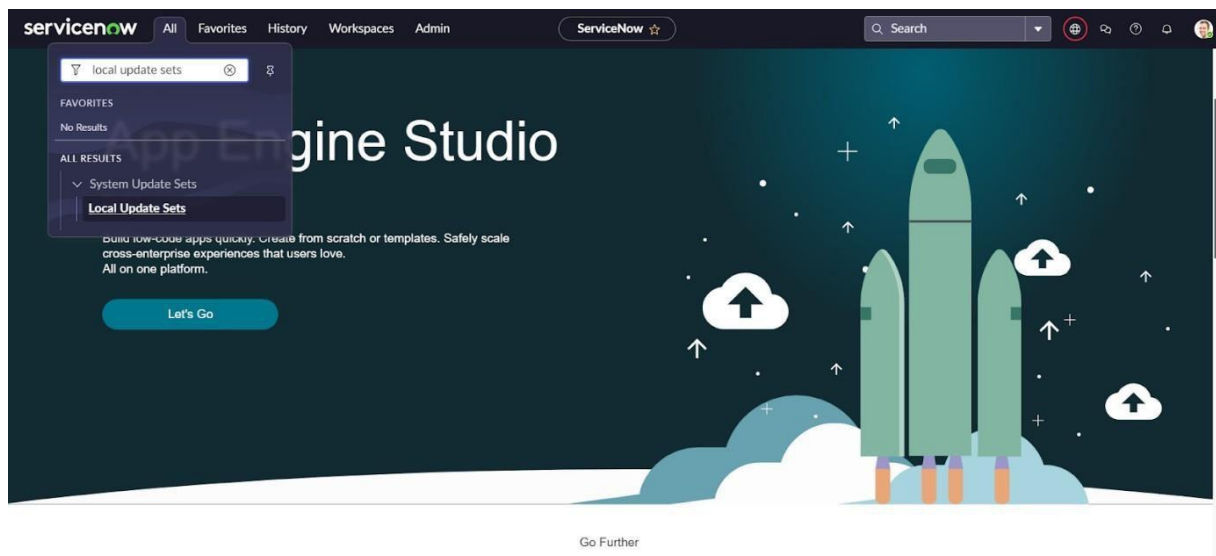
1. Go to All >> In the filter search for Local Update set > click on New.



2. Enter the Details as: Name: Family Expenses
3. Then click on Submit and Make current.

STEP 3: Creation of Table 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: Name: Family Expenses
2. Then click on Submit and Make current

STEP 4: Creation of Table

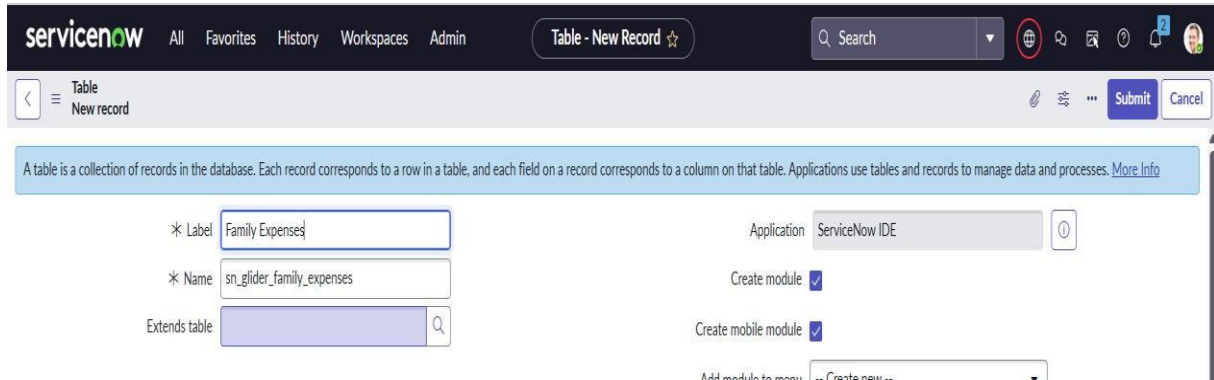
ACTIVITY 1: Creation of Family Expenses Table

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 'Table - New Record' form. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', 'Admin', and a 'Table - New Record' button. A search bar is on the right. Below the navigation bar, there's a breadcrumb 'Table > New record' and 'Submit'/'Cancel' buttons. A blue informational banner states: '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. [More Info](#)'. The form fields are: '* Label' (Family Expenses), '* Name' (sn_glider_family_expenses), and 'Extends table' (empty). On the right, 'Application' is 'ServiceNow IDE', 'Create module' is checked, and 'Create mobile module' is checked. At the bottom right, there's a dropdown for 'Add module to menu' with 'Create new...' selected.

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

2.ACTIVITY 2: 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 clicks on insert a new row again

4. Give the details as: Column label: Date Type: Date

5. Double clicks on insert a new row again

6. Give the details as: Column label: Amount Type: Integer

7. Double clicks on insert a new row again

8. Give the details as:

Column label: Expense Details Type: String

Max length: 800

Columns

Controls

Application Access

Table Columns

for text

Search

1 to 11 of 11

New

Dictionary Entries

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

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

ACTIVITY 3: 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

1. Click on Update.

* Type

* Column label

* Column name

* Max length

Active ☒

Function field ☐

Read only ☒

Mandatory ☐

Display ☐

Alters the behavior of a field or functionality that depends on the field. [More Info](#)

Attributes

Choice List Specification | Calculated Value | **Default Value**

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

Use dynamic default ☒

Dynamic default value

Related Links

1. Go to All >> In the filter search for Number Maintenance>>select Number Maintenance 2.Click on New

3.Enter the below Details: Table:

Family Expenses Prefix: MFE

servicenow All Favorites History Workspaces Admin **Number - MFE**

< **Number** **MFE**

* Table

Prefix

* Number

Application

Number of digits

Related Links
[Show Counter](#)

9.Click on Submit.

ACTIVITY 4: 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 design interface for a table named 'Family Expenses [u_family_expenses]'. The form is divided into two main sections. The top section has a header bar with the title and a '2 Column' dropdown. Below the header, there are three fields: 'Number', 'Date', and 'Amount'. Each field has a gear icon for configuration. The bottom section is titled 'Expense Details' and has a '1 Column' dropdown.

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.

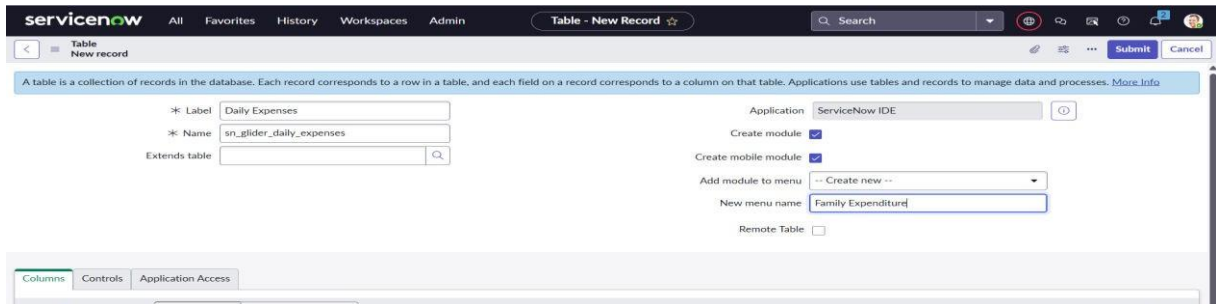
STEP 5: Creation of Table (Daily Expenses)

ACTIVITY 1: 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



1. Double clicks on insert a new row again

2. Give the details as: Column label: Expense Type: Integer 3.

Double click on insert a new row again

4. Give the details as:

Column label: Family Member Name Type:

Reference

Max length: 800

5. Double clicks on insert a new row again

6. Give the details as: Column label: Comments Type: String Max
length: 800

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

ACTIVITY 3: Making Number Field an Auto- Number

1. Double clicks 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 screenshot shows a configuration window for a column named 'u_number'. The 'Type' is set to 'String' and 'Max length' is 40. The 'Column label' is 'Number'. On the right, 'Active' is checked, 'Function field' is unchecked, 'Read only' is checked, 'Mandatory' is unchecked, and 'Display' is unchecked. A blue bar states: 'Alters the behavior of a field or functionality that depends on the field. [More info](#)'. Below this is an 'Attributes' field. The 'Default Value' tab is selected, showing a blue bar: 'The **Default value** specifies what value the field has when first displayed.' Below this, 'Use dynamic default' is checked, and the 'Dynamic default value' is set to 'Get Next Padded Number'. At the bottom are 'Delete Column' and 'Update' buttons, followed by a 'Related Links' section.

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 'Number' configuration page for a table named 'Daily Expenses'. The page has a dark header with the ServiceNow logo and navigation tabs: All, Favorites, History, Workspaces, and Admin. A search bar is on the right. Below the header, the configuration details are as follows:

- Table:** Daily Expenses (with a search icon and an information icon)
- Prefix:** DFE
- Number:** 1,000
- Application:** ServiceNow IDE (with an information icon)
- Number of digits:** 7

At the bottom of the configuration section, there are 'Update' and 'Delete' buttons. Below this is a 'Related Links' section.

9. Click on Submit.

ACTIVITY 4: 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 the ServiceNow Form Designer for the 'Daily Expenses' form. The form is titled 'Daily Expenses [u_daily_expenses]' and is set to a '2 Column' layout. The form contains the following fields:

- Number:** A text field with a gear icon and a close icon.
- Family Member Name:** A text field with a gear icon and a close icon.
- Date:** A date field with a gear icon and a close icon.
- Expense:** A text field with a gear icon and a close icon.

Below the main form, there is a section for 'Comments' with a single text field, a gear icon, and a close icon. The layout is set to '1 Column'.

5. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only

5. Make Date, Family Member Name Mandatory Field by clicking on the gear icon and checking Mandatory 6. Click on Save.

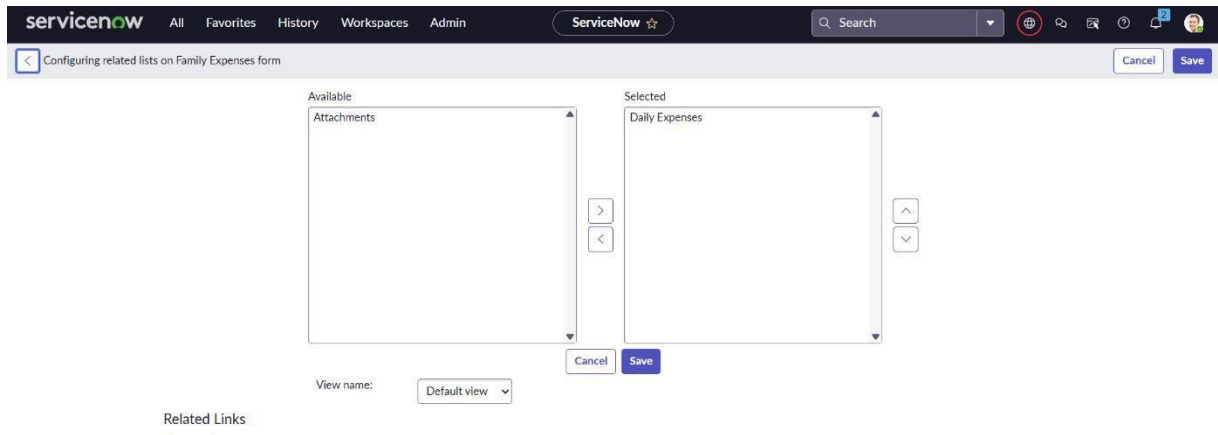
STEP 6: Creation of Relationship

ACTIVITY 1: Creation of Relationship between Family Expenses and Daily Expenses table

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.

STEP 7: 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



STEP 8: 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



4. In when to run Check Insert and Update

The screenshot shows the ServiceNow interface for configuring a Business Rule. The header includes the ServiceNow logo and navigation links: All, Favorites, History, Workspaces, and a search bar. The breadcrumb trail indicates the path: Business Rule > Family Expenses BR. The main configuration area has three tabs: 'When to run' (selected), 'Actions', and 'Advanced'. A blue instruction bar states: 'Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions the business rule should run.'

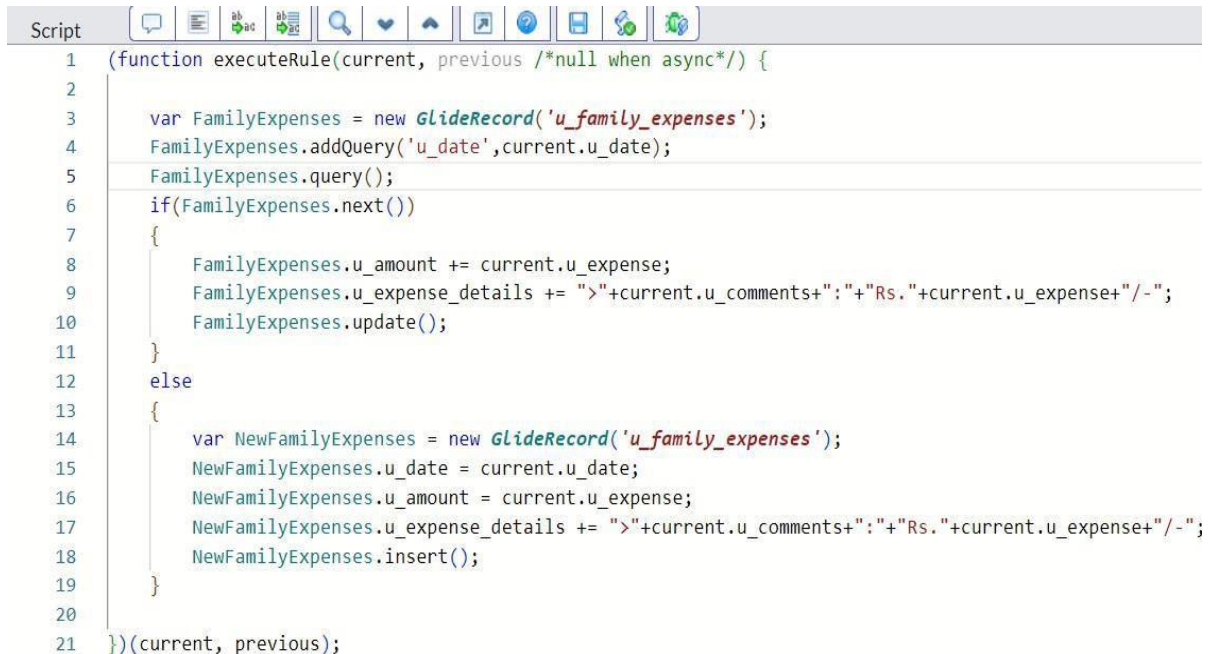
Under the 'When to run' tab, the 'When' dropdown is set to 'before' and the 'Order' is 100. On the right, the 'Insert' and 'Update' checkboxes are checked, while 'Delete' and 'Query' are unchecked. The 'Filter Conditions' section includes buttons for 'Add Filter Condition' and 'Add OR Clause', followed by a template: '-- choose field --', '-- oper --', and '-- value --'. The 'Role conditions' section has a pencil icon for editing.

1. 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 + ":" + "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);

```

STEP 9: 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);

servicenow All Favorites History Workspaces Relationship - Daily Expenses Search

Relationship Daily Expenses Run Query Diagnostics Update Delete

Name Application ServiceNow IDE

Advanced ☐ Applies to table Family Expenses [sn_glider_family_expen...]

Simple reference ☐ Queries from table Daily Expenses [sn_glider_daily_expenses]

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](#).

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
5   current.addQuery('u_date',parent.u_date);
6
7   current.query();
8
9 })(current, parent);
```

Run Query Diagnostics Update Delete

5. Click on Update.

Example Output:01

dev320914.service-now.com/now/nav/ui/classic/params/target/sn_glider_family_expenses_list.do

servicenow

All Favorites History Workspaces Admin

Family Expenses ☆

Search

Actions on selected rows... New

Family Expenses

Number

Search

All	Number	Amount	Date	Expense Details
1		20,000	2025-10-31	

Example Output:02

dev320914.service-now.com/now/nav/ui/classic/params/target/sn_glider_family_expenses_list.do

servicenow

All Favorites History Workspaces Admin

Family Expenses - 2 ☆

Search

Update Delete

Family Expenses

2

Number

Date

Expense Details

Amount

2

2025-10-31

Mobile Recharge

350

Update

Delete

Daily Expenses

Number

Search

New

Daily Expenses	Number	Comments	Date	Expense	Family Member Name
No records to display					

Conclusion:

The Family Expense Calculation System on ServiceNow offers an easy and efficient way to manage household finances. With features like expense tracking, budget setting, and reporting, it helps users monitor spending and make informed financial decisions. The system's scalability and user-friendly interface ensure it supports families of all sizes, promoting better financial planning and control.