

Calculating Family Expenses using Service Now

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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 cloud-based 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

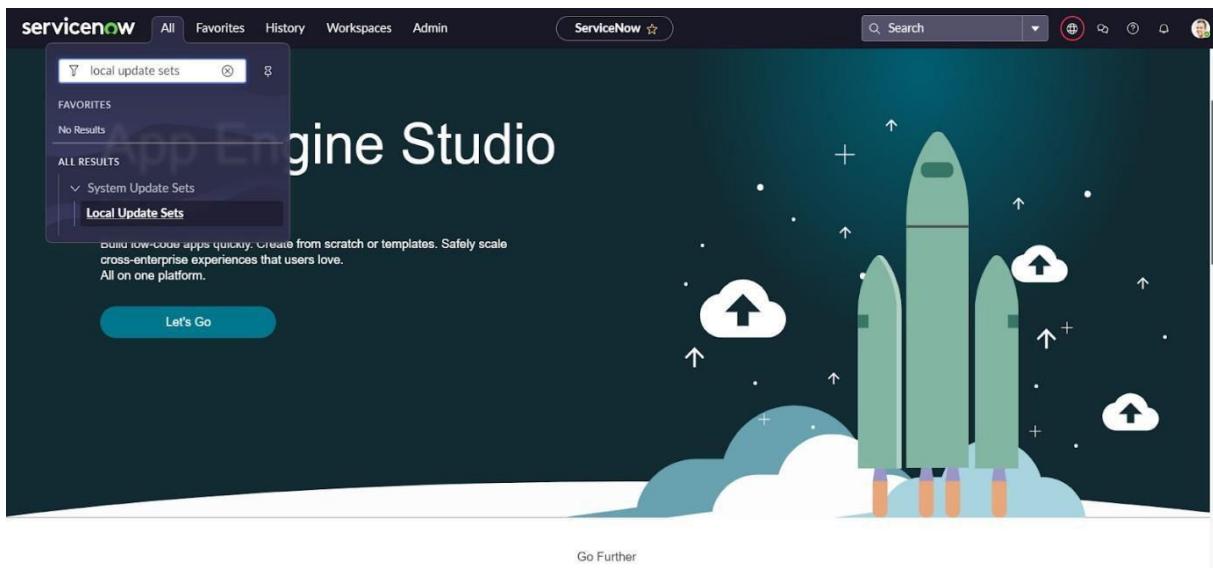
ACTIVITY 1: Setting up ServiceNow Instance

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.

The screenshot shows a 'Create' form for an 'Update Set'. The title bar says 'Update Set - Create Default 2'. The form has the following fields:

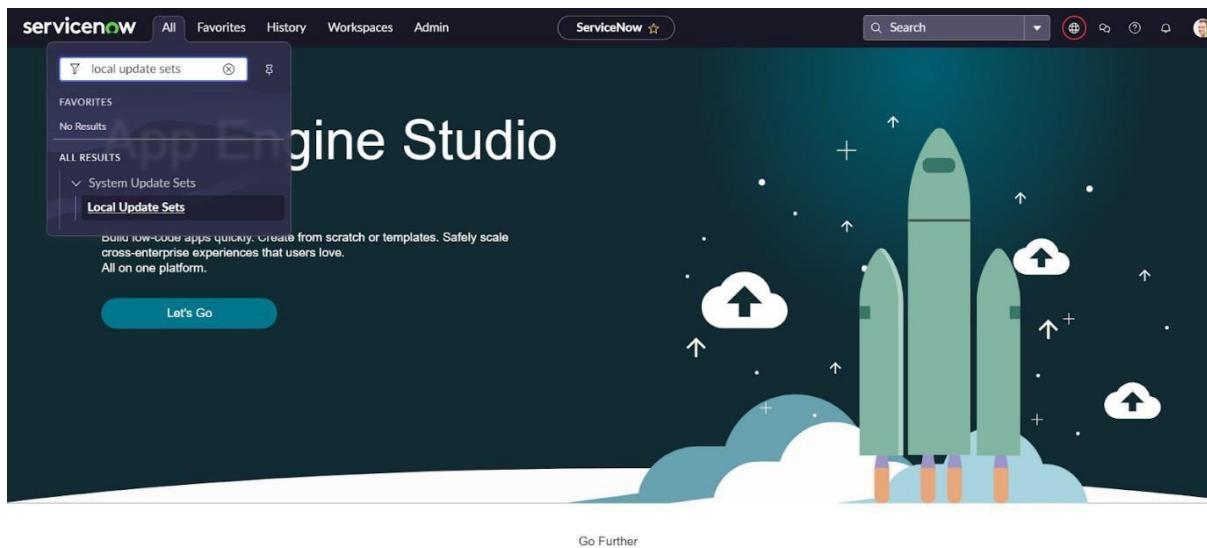
- * Name: Family Expenses
- State: In progress
- Parent: (empty)
- Release date: (empty)
- Description: (empty)

At the bottom of the form, there are two buttons: 'Submit' and 'Submit and Make Current'. There is also a note above the form: 'You can now publish customizations to the Application Repository. Go to the Application record and use Related Links.'

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

Name	Family Expenses
State	In progress
Parent	(dropdown menu)
Release date	(date picker)
Description	(text area)

STEP 4: Creation of Table

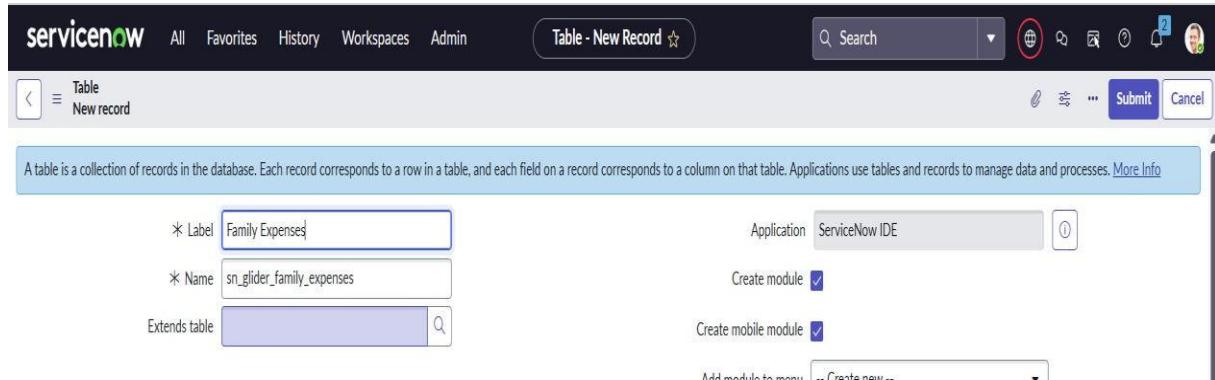
ACTIVITY 1: Creation of Family Expenses Table

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



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

Column label	Type	Reference	Max length	Default value	Display
Updates	Integer	(empty)	40		false
Comments	String	(empty)	800		false
Updated by	String	(empty)	40		false
Expense	Integer	(empty)	40		false
Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
Created by	String	(empty)	40		false
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.

The screenshot shows the configuration of a column named 'u_number'. The 'Type' is set to 'String' (highlighted in blue). Other settings include 'Column label' (Number), 'Column name' (u_number), 'Max length' (40), and various checkboxes for 'Active' (checked), 'Function field' (unchecked), 'Read only' (checked), 'Mandatory' (unchecked), and 'Display' (unchecked). A note below states: 'Alters the behavior of a field or functionality that depends on the field. [More Info](#)'.

Attributes: [Empty input field]

Default Value:

- Choice List Specification: [Empty input field]
- Calculated Value: [Empty input field]
- Default Value: [Selected] (highlighted in blue)

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

Dynamic default value: Get Next Padded Number

Buttons: Delete Column, Update

Related Links: [Empty list]

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

The screenshot shows the configuration of a table named 'Family Expenses'. The 'Prefix' is set to 'MFE'. Other settings include 'Number' (1.000), 'Application' (ServiceNow IDE), and 'Number of digits' (7). Buttons at the bottom include 'Update' and 'Delete'.

Table: Family Expenses

Prefix: MFE

Number: 1.000

Application: ServiceNow IDE

Number of digits: 7

Buttons: Update, Delete

Related Links: [Empty list]

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 configuration interface. At the top, it says "Family Expenses (u_family_expenses)" with a "2 Column" dropdown and a "+" button. Below this are three input fields: "Number" (Read-Only, indicated by a gear icon), "Date" (Mandatory, indicated by a gear icon with a red circle), and "Amount" (Mandatory, indicated by a gear icon with a red circle). At the bottom, there is a summary row with a header "Expense Details" and 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

The screenshot shows the ServiceNow Table - New Record interface. At the top, there are tabs for All, Favorites, History, Workspaces, and Admin. The title bar says "Table - New Record". Below the title bar, there's a message: "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 main form has fields for "Label" (Daily Expenses), "Name" (sn_glider_daily_expenses), and "Extends table" (left empty). On the right, there are checkboxes for "Create module" (checked), "Create mobile module" (checked), and "Add module to menu" (set to "... Create new ..."). A dropdown for "New menu name" is set to "Family Expenditure". At the bottom, there are buttons for "Submit" and "Cancel". Below the form, there are tabs for "Columns", "Controls", and "Application Access".

1. Double click 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 click 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 the SAP Fiori interface for configuring a column. At the top, there are input fields for Type (String), Column label (Number), Column name (u_number), and Max length (40). To the right, there are checkboxes for Active (checked), Function field (unchecked), Read only (checked), Mandatory (unchecked), and Display (unchecked). Below these settings is a note: "Alters the behavior of a field or functionality that depends on the field. [More Info](#)". A large blue button labeled "Attributes" is visible. At the bottom, there are tabs for Choice List Specification, Calculated Value, and Default Value. The Default Value tab is selected, showing the message: "The Default value specifies what value the field has when first displayed." Below this, there is a checkbox for "Use dynamic default" (checked) and a text input field for "Dynamic default value" containing "Get Next Padded Number". At the very bottom are buttons for Delete Column and Update, along with 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 configuration interface. At the top, there's a navigation bar with links for All, Favorites, History, Workspaces, and Admin. The title bar says "Number - DFE". Below the title bar, there's a search bar and some standard toolbar icons. The main area is a configuration form for a new number series. It has fields for "Table" (set to "Daily Expenses"), "Prefix" (set to "DFE"), "Number" (set to "1.000"), "Application" (set to "ServiceNow IDE"), and "Number of digits" (set to "7"). There are also "Update" and "Delete" buttons at the bottom left. A "Related Links" section is visible at the bottom right.

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 design interface. The top header says "Daily Expenses [u_daily_expenses]". The interface is divided into two sections: a top section with two columns and a bottom section with one column. The top section contains fields for "Number" and "Family Member Name" in the first column, and "Date" and "Expense" in the second column. The bottom section contains a single field for "Comments". Each field has a gear icon to its right, which can be used to configure settings like "Read-Only" or "Mandatory".

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.

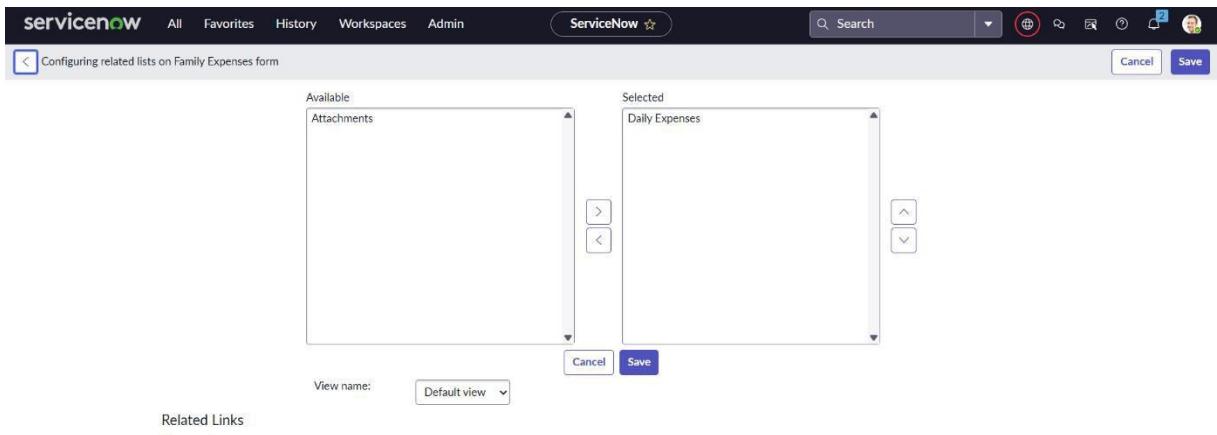
STEP 6: Creation of Relationship

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

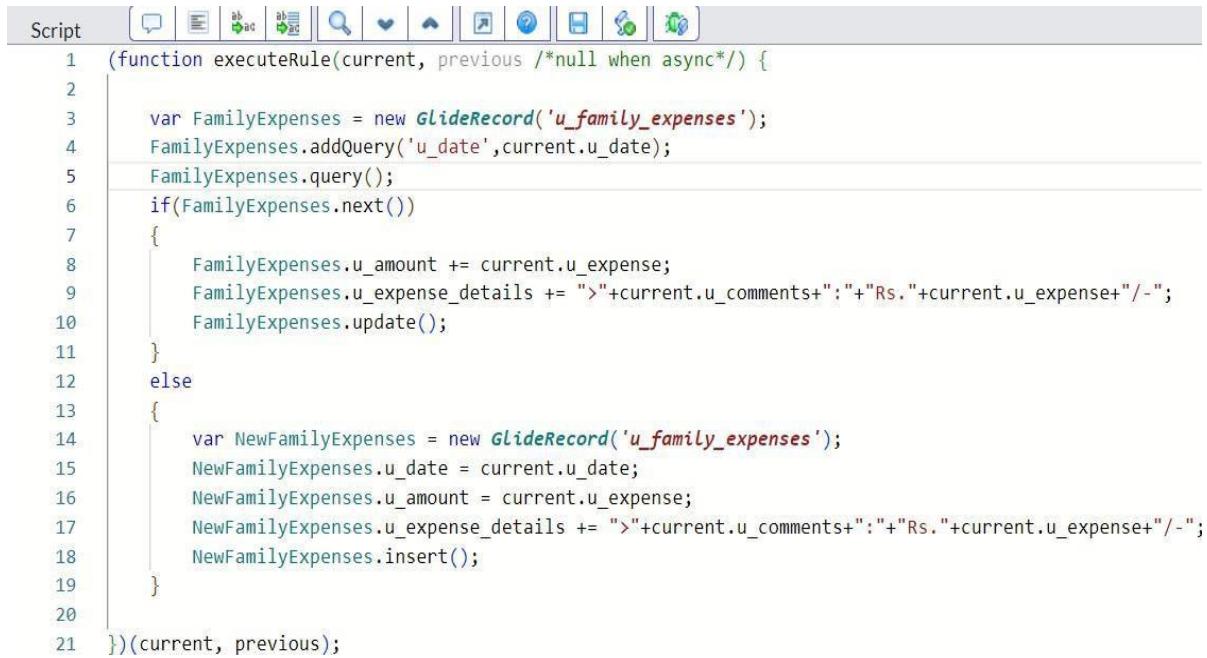
The screenshot shows the ServiceNow Business Rule configuration interface for 'Family Expenses BR'. The top navigation bar includes 'All', 'Favorites', 'History', 'Workspaces', and a search bar. The main title is 'Business Rule - Family Expenses BR'. The left sidebar shows a breadcrumb path: 'Business Rule' > 'Family Expenses BR'. The main content area has tabs for 'When to run', 'Actions', and 'Advanced'. Under 'When to run', 'When' is set to 'before' and 'Order' is set to '100'. Action checkboxes show 'Insert' checked (blue) and 'Update' checked (blue). Below these are 'Filter Conditions' and 'Role conditions' sections.

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_ex pense + "-";
        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_ex pense + "-";
        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

Run Query Diagnostics Update Delete

Relationship Daily Expenses

Name Daily Expenses

Advanced

Simple reference

Application ServiceNow IDE

Applies to table Family Expenses [sn_glider_family_expenses]

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

```
(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);
```

Run Query Diagnostics Update Delete

5.Click on Update.

Example Output:01

A screenshot of a ServiceNow web interface titled "Family Expenses". The URL is dev320914.service-now.com/nav/ui/classic/params/target/sn_glider_family_expenses_list.do. The page shows a single record in a table:

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

Example Output:02

A screenshot of a ServiceNow web interface titled "Family Expenses - 2". The URL is dev320914.service-now.com/nav/ui/classic/params/target/sn_glider_family_expenses_detail.do?&id=2. The page displays a form for editing a record:

Number: 2
Expense Details: Mobile Recharge
Date: 2025-10-31
Amount: 350

Buttons: Update, Delete

Below the form is a search bar for "Daily Expenses" and a table titled "Daily Expenses" with columns: Number, Comments, Date, Expense, and Family Member Name. The table shows the message: "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.