

Calculating Family Expenses Using ServiceNow

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Team Size: 3

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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:

ServiceNow Application Development

Creating custom tables

Designing forms and views

Using Flow Designer for automation

Workflow & Automation

Using ServiceNow Flow Designer to automate calculations and notifications

Database Management

Creating and managing custom tables for storing expenses and budgets

Reporting & Dashboard Design

Designing ServiceNow reports

Building graphical dashboards for data visualization

TASK INITIATION:

MILESTONE 1: Setting up ServiceNow Instance

ACTIVITY 1: Setting up ServiceNow Instance

Sign up for a developer account on the ServiceNow Developer site

“ <https://developer.servicenow.com> ” .

Once logged in, navigate to the “Personal Developer Instance” section.

Click on “Request Instance” to create a new ServiceNow instance.

Fill out the required information and submit the request.

You'll receive an email with the instance details once it's ready.

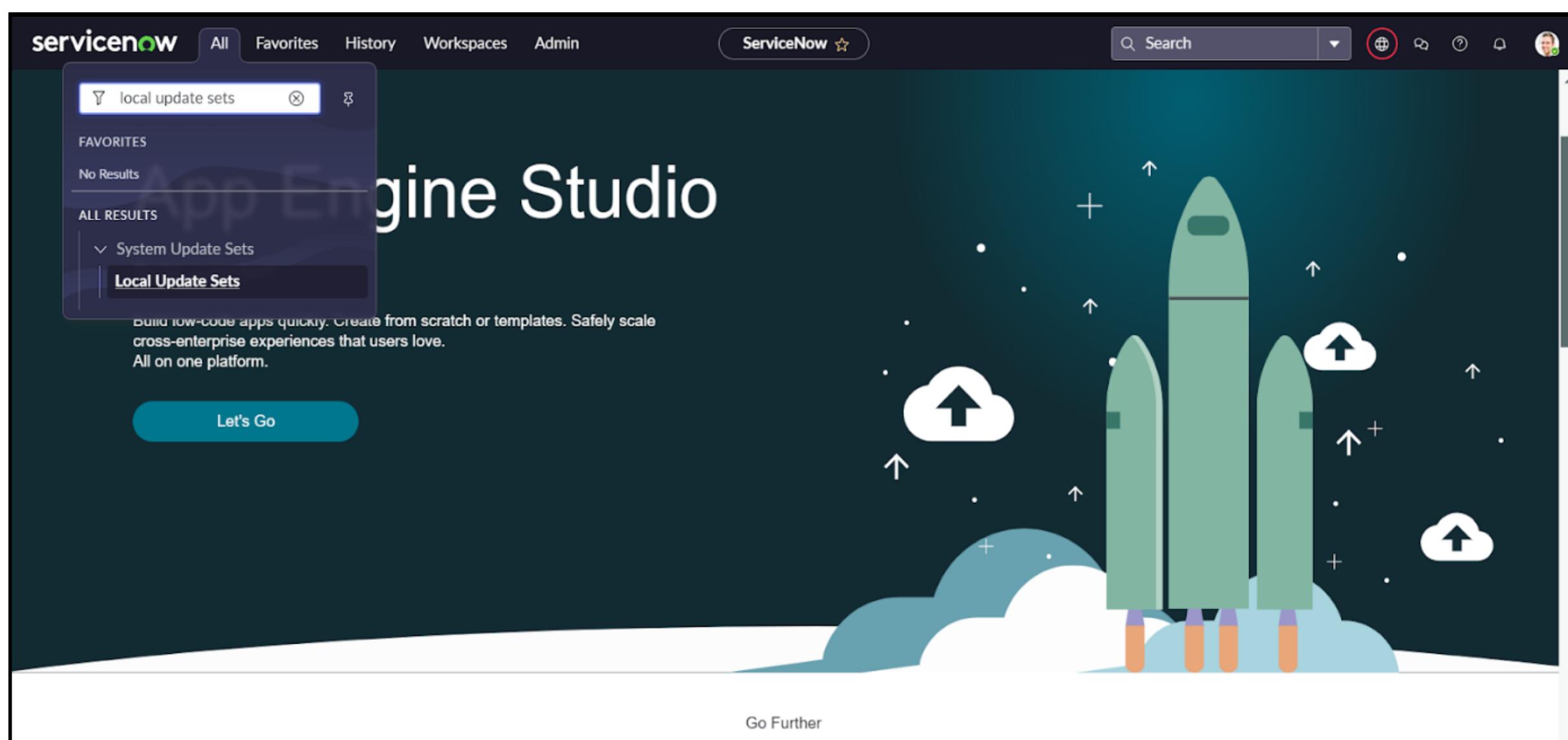
Log in to your ServiceNow instance using the provided credentials.

Now you will navigate to the ServiceNow.

MILESTONE 2: Creation of New Update Set

ACTIVITY 1: Creation of New Update Set

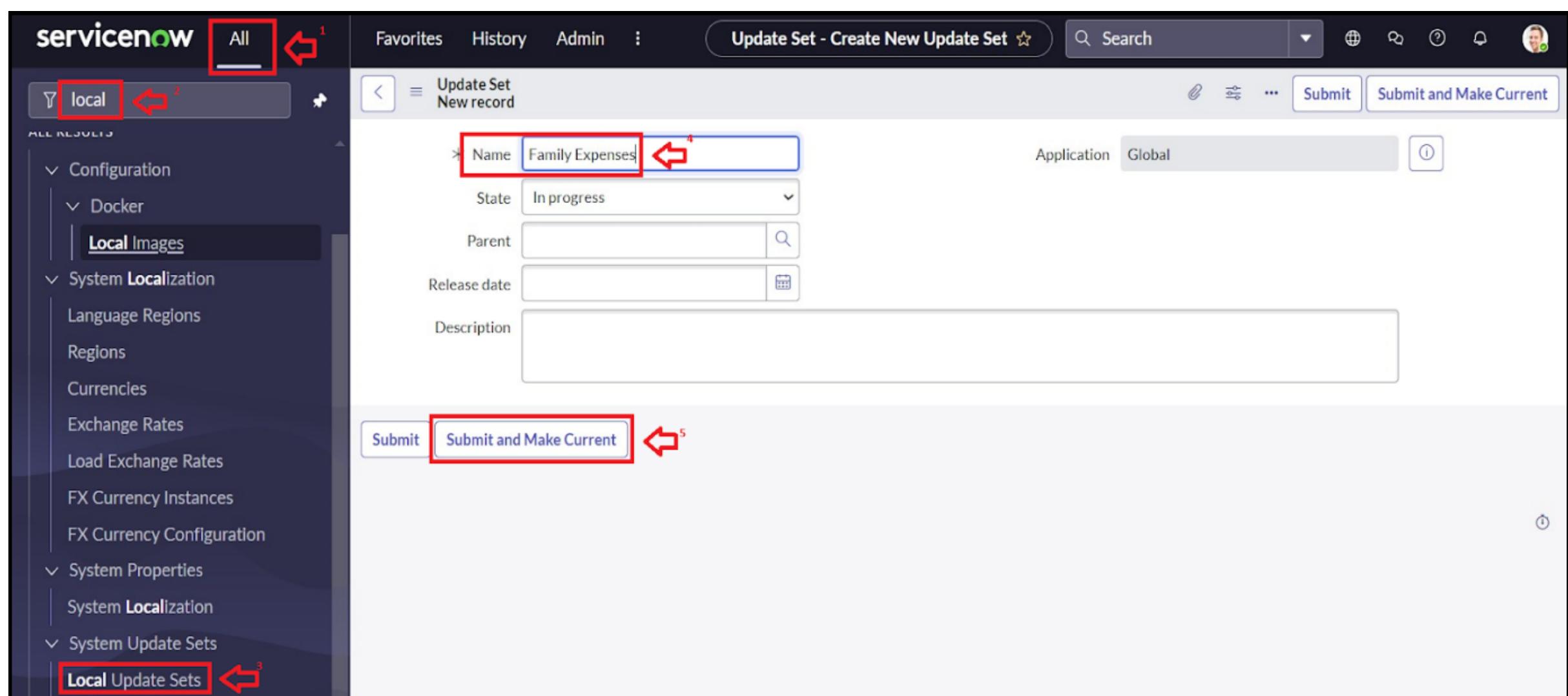
Go to All » In the filter search for Local Update set > click on New.



2. Enter the Details as:

Name: Family Expenses

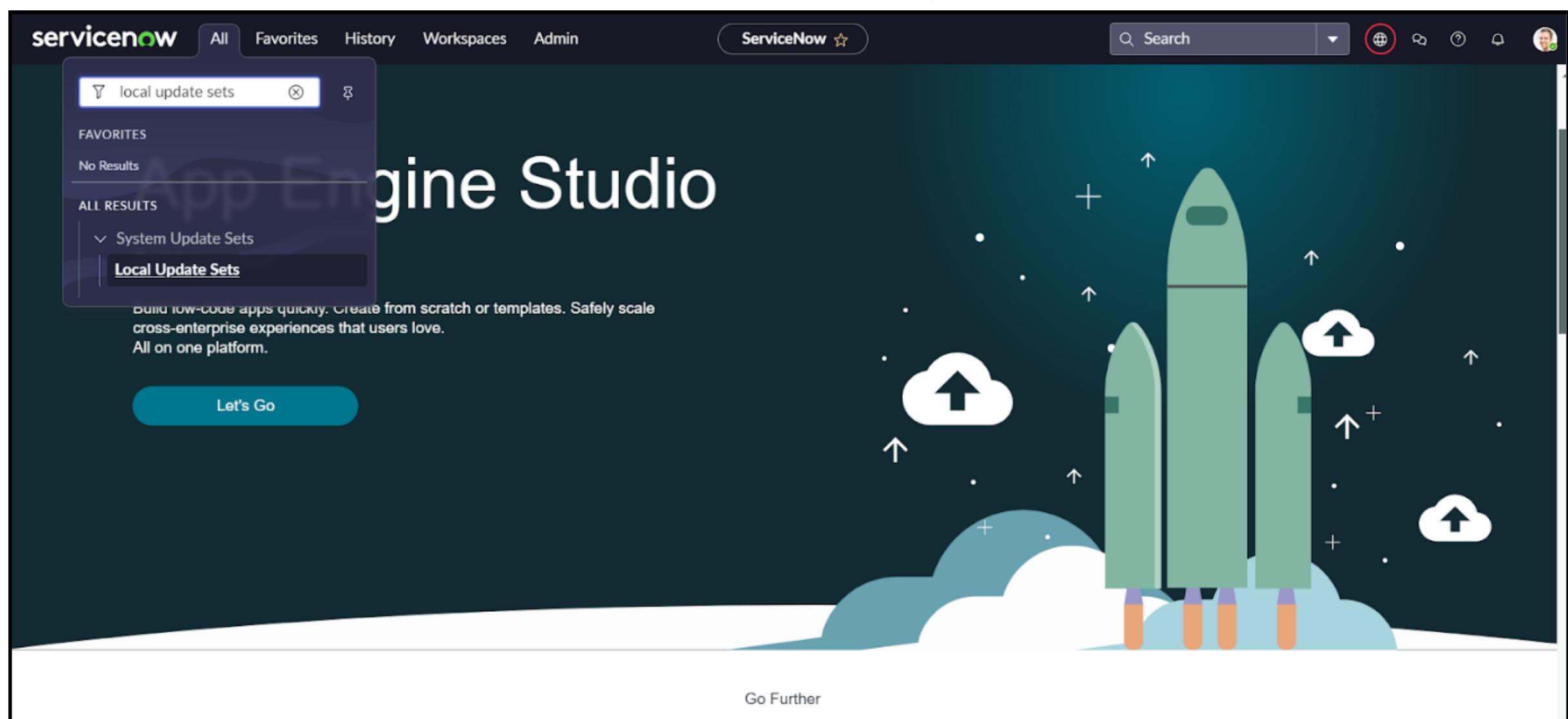
3. Then click on Submit and Make current.



MILESTONE 3: Creation of Table

ACTIVITY 1: Creation of New Update Set

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 'Name' field contains 'Family Expenses' and the 'Submit and Make Current' button is highlighted. Red arrows labeled 4 and 5 point to these respective fields.

MILESTONE 4: Creation of Table

ACTIVITY 1: 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 Table Definition interface. It includes fields for Label ('Family Expenses'), Name ('u_st_family_expenses'), Application ('Global'), Remote Table (checked), Create module (checked), Create mobile module (checked), Add module to menu ('-- Create new --'), and New menu name ('Family Expenditure'). Below this, there are tabs for Columns, Controls, and Application Access, along with a table for Dictionary Entries showing columns for Column label, Type, Reference, Max length, Default value, and Display.

	Column label	Type	Reference	Max length	Default value	Display
X	Number	String			false	
X	Date	Date			false	
X	Amount	Integer			false	

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

ACTIVITY 2: Creation of Columns (Fields)

Near Columns Double click near insert a new row.

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: 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
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.

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

4. Click on Update.

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

Use dynamic default 2

Dynamic default value: Get Next Padded Number 3

Delete Column Update 4

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

* Table Family Expenses

Prefix MFE

* Number 1,000

Application Global

Number of digits 7

Update Delete

9. Click on Submit.

ACTIVITY 4: Configure the Form

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 Form Design

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.

MILESTONE 5: Creation of Table (Daily Expenses)

ACTIVITY 1: Creation of Daily Expenses Table

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

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.

ACTIVITY 2 Creation of Columns (Fields)

Near Columns Double click near insert a new row.

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 clicks on insert a new row again

10.Give the details as:

Column label:Comments

Type: String

Max length: 800

11.Go to the Header and right click there» click on Save.

ACTIVITY 3: Making Number Field an Auto-Number

Double clicks on the Number Field/Column.

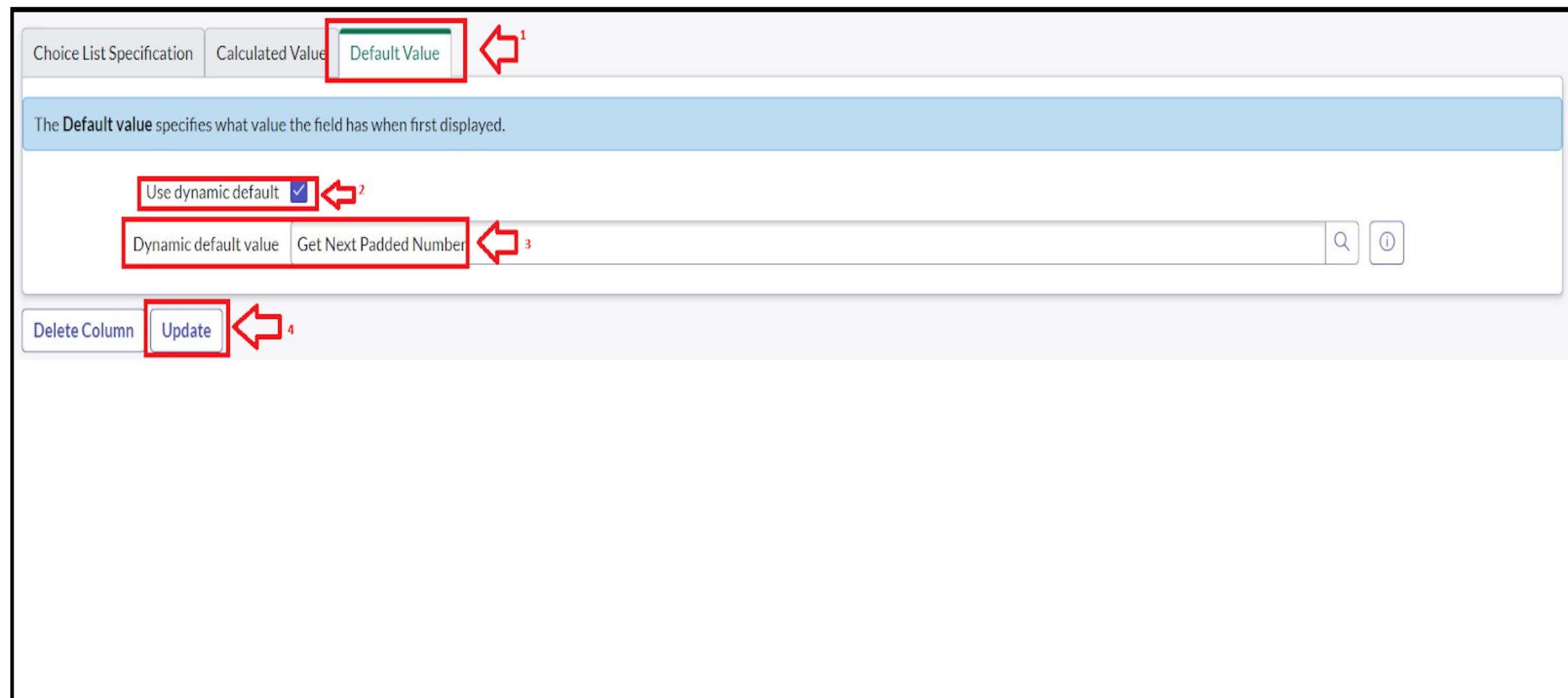
Go down and double click on Advanced view

In Default Value:

Use dynamic default: check the box

Dynamic default value: Get Next Padded Number

4.Click on Update.



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

Number
New record

* Table Daily Expenses 1

* Prefix DFE 2

* Number 1,000

Application Global

Number of digits 7

Submit 3

9.Click on Submit.

ACTIVITY 4: Configure the Form

Go to All » In the filter search for Daily Expenses » Open Daily Expenses

Click on New

Go to the Header and right click there » click on Configure » Select Form

Design

Customize or Drag Drop the form as per your requirement.

Daily Expenses [u_daily_expenses]

2 Column + X

Number	Family Member Name
Date	Expense
Comments	

1 Column + X

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.

MILESTONE 6: Creation of Relationship

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

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

Click Save.

MILESTONE 7: Configuring Related List on Family Expenses

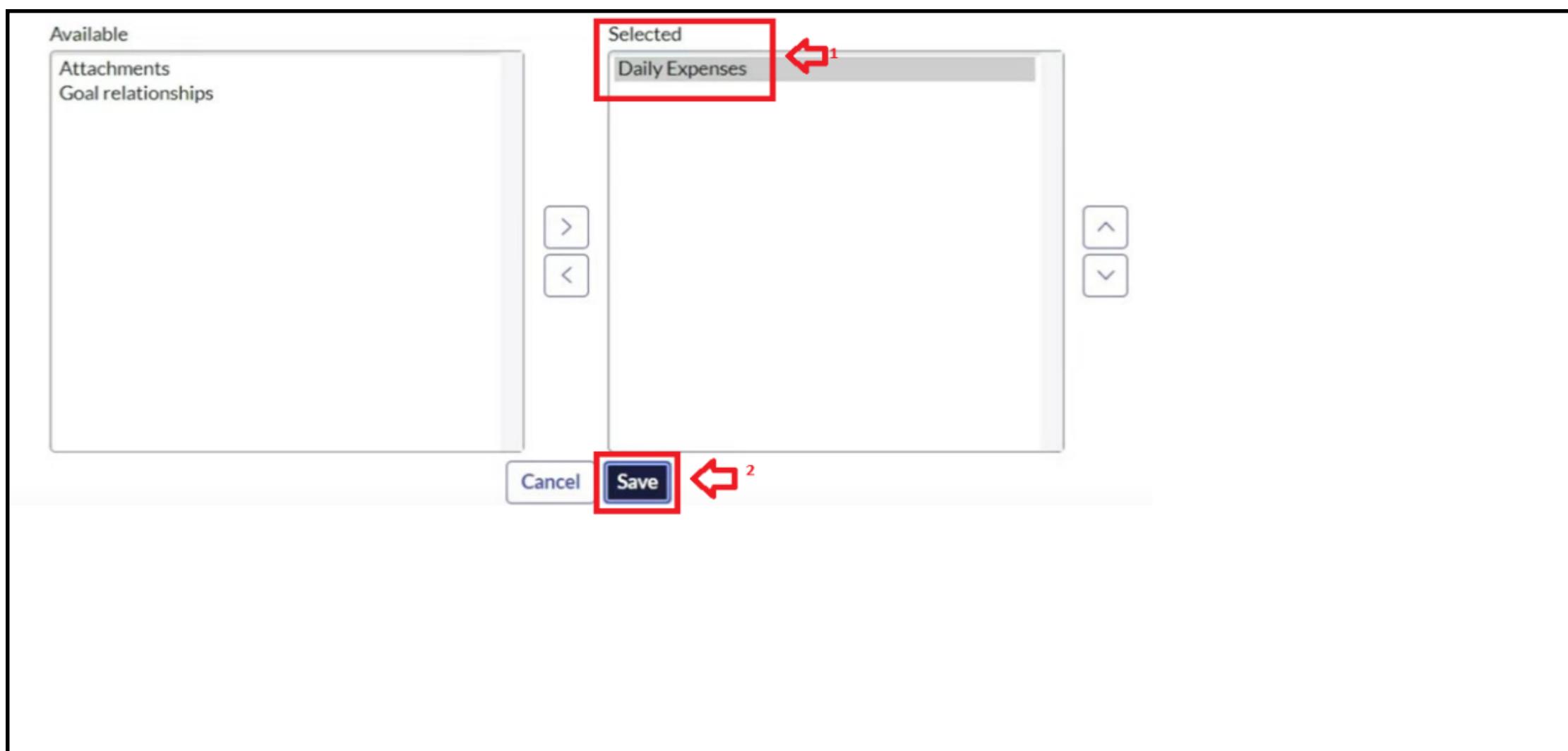
Go to All » In the filter search for Family Expenses » Open Family Expenses

Click on New

Go to the Header and right click there» click on Configure » Select Related Lists

Add Daily Expenses to the Selected Area.

Click on Save



MILESTONE & 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

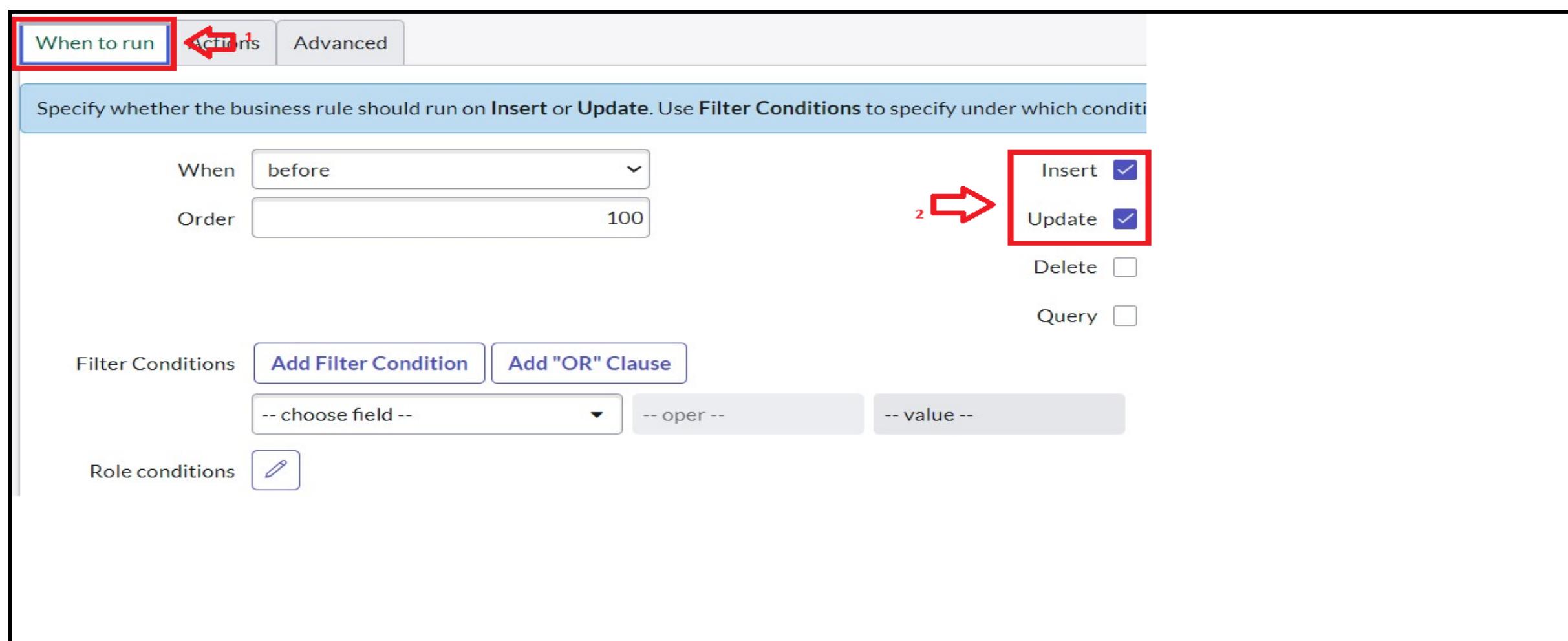
Table: Select Daily Expenses Check Advanced

Business Rule
New record

This rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. Use business rules to automatically change values in form fields when the specified conditions are met.

Name	Family Expenses BR	1	
Table	Daily Expenses [u_daily_expenses]	2	
Application		Global	
Active		<input checked="" type="checkbox"/>	
Advanced		<input checked="" type="checkbox"/>	3

In when to run Check Insert and Update

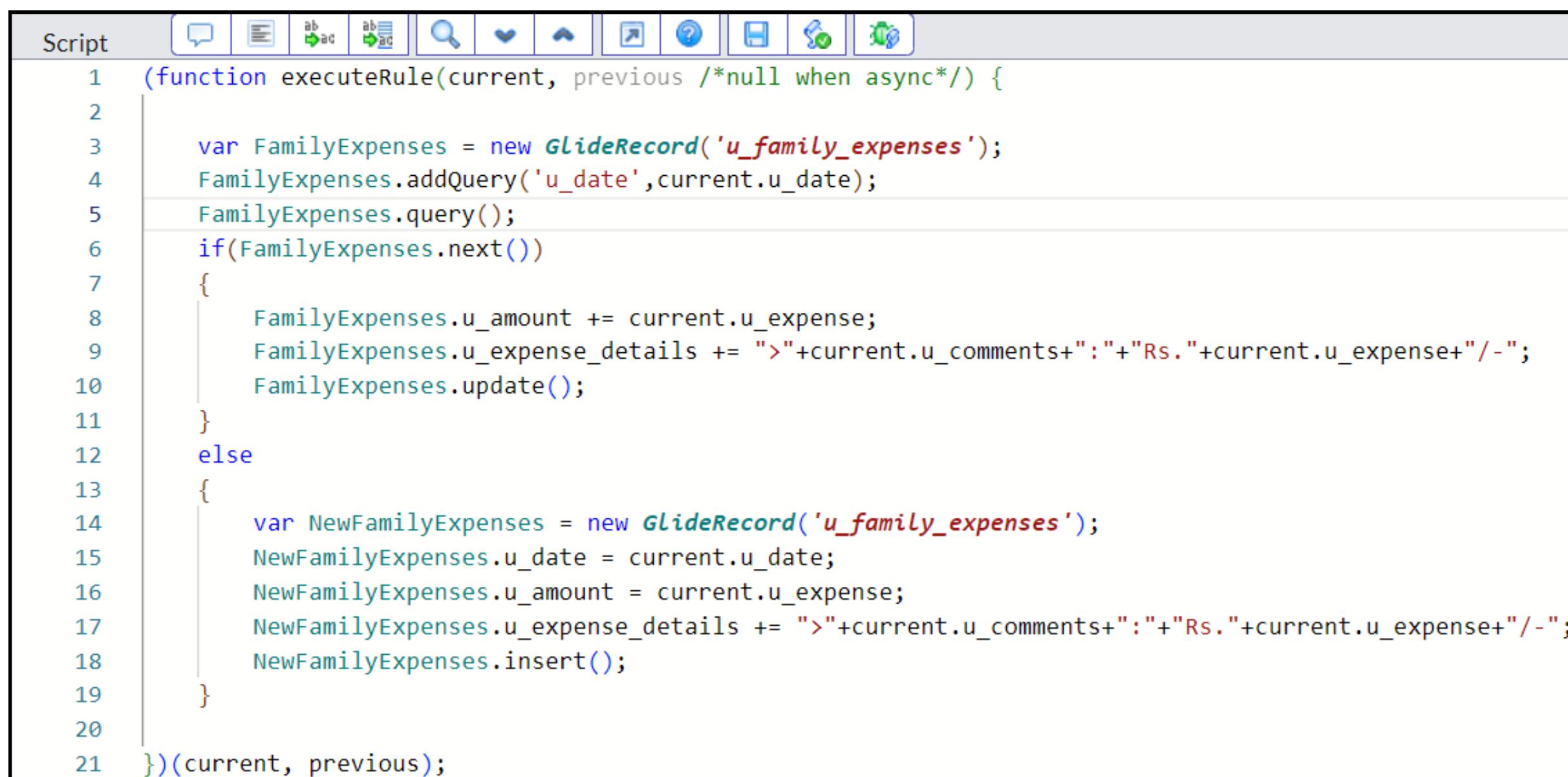


In Advance (we write the code): Write the below code

```

(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);

```



```

Script
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);

```

MILESTONE 9: Configure the Relationship

Go to All » In the filter search for Relationships » Open Relationships.

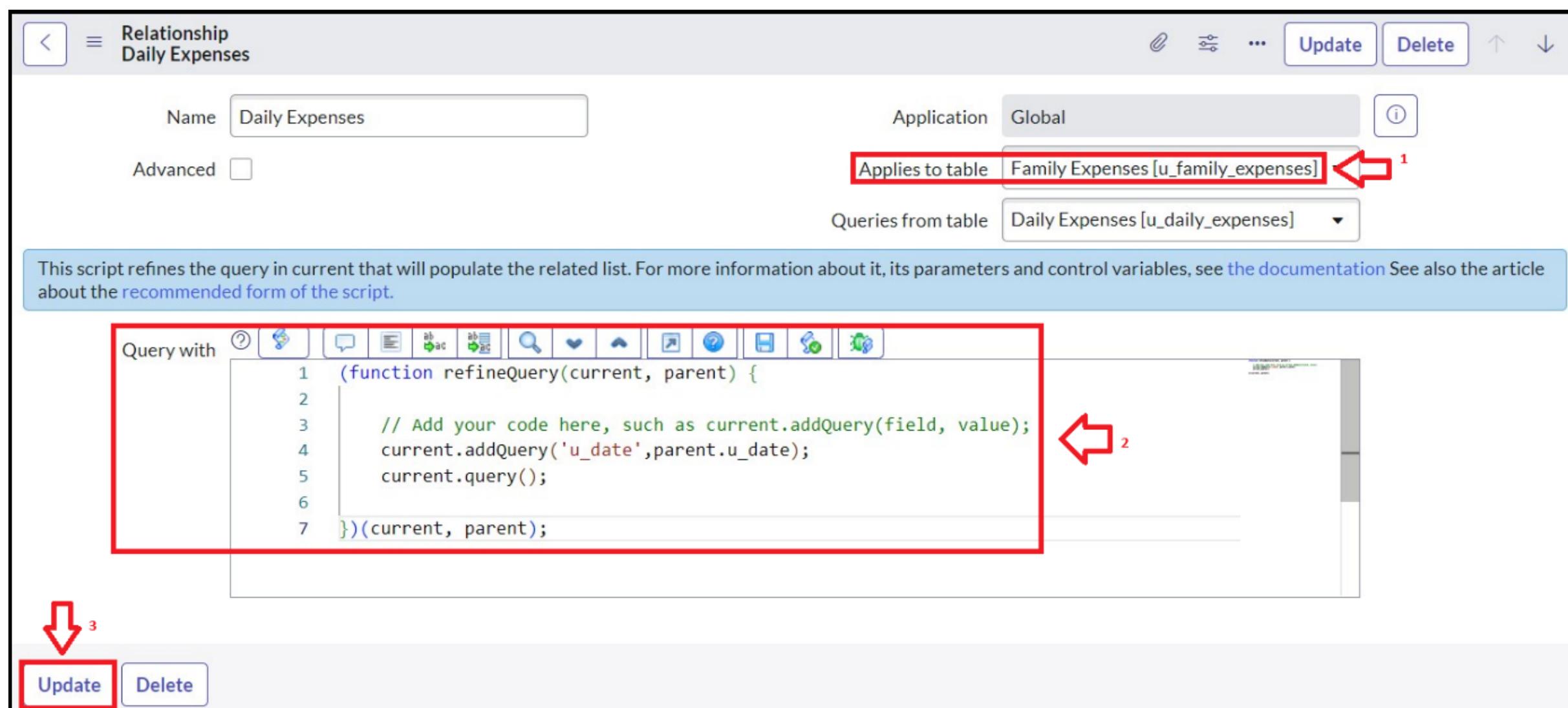
In that, open Daily Expenses Relationships.

For Applies to table: Select Family Expenses.

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);
```

Click on Update.



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.

