

Calculating Family Expenses Using Service Now

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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.

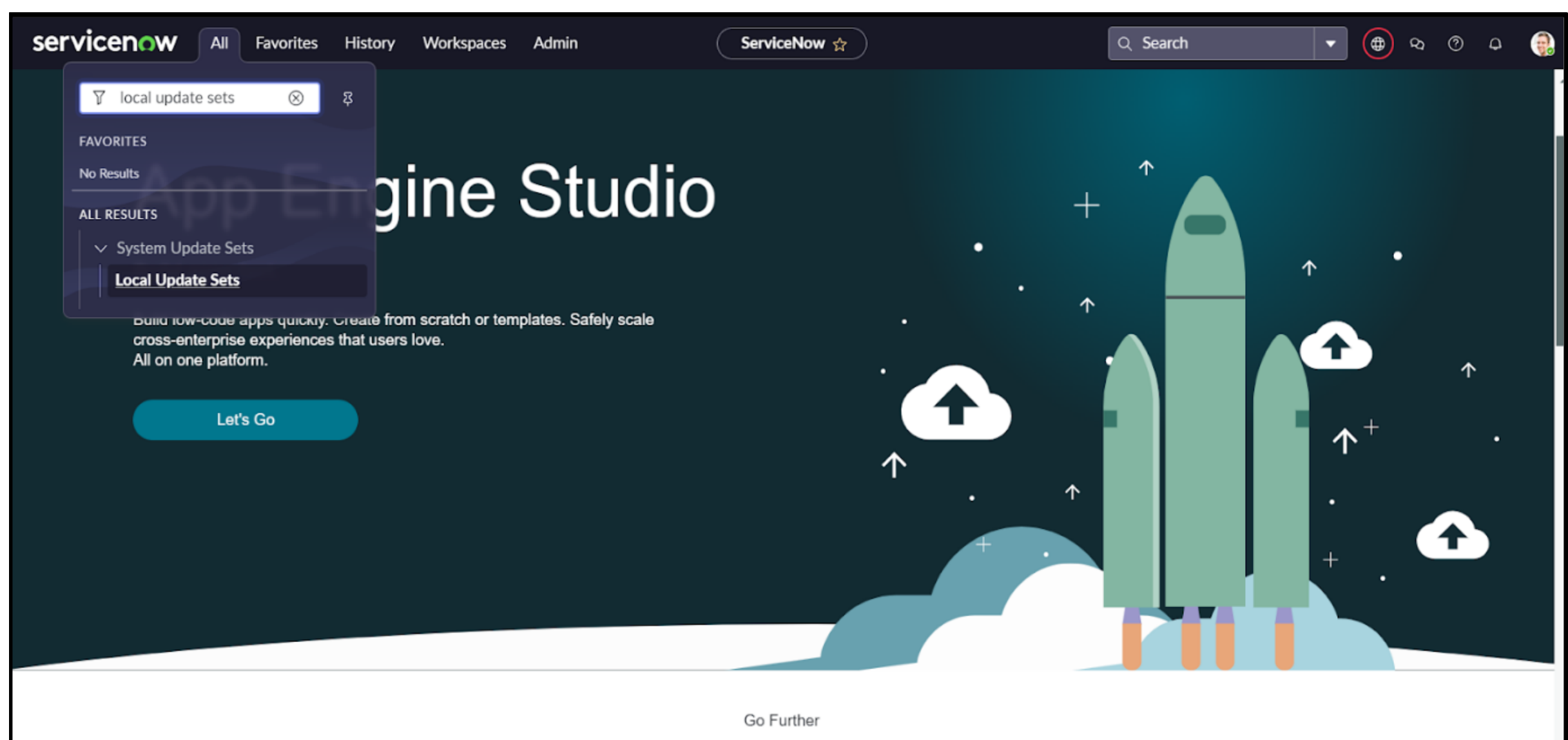
Login to your ServiceNow instance using the provided credentials.

Now you will navigate to the ServiceNow.

MILESTONE 2: Creation of New Update Set

ACTIVITY 1: Creation of New Update Set

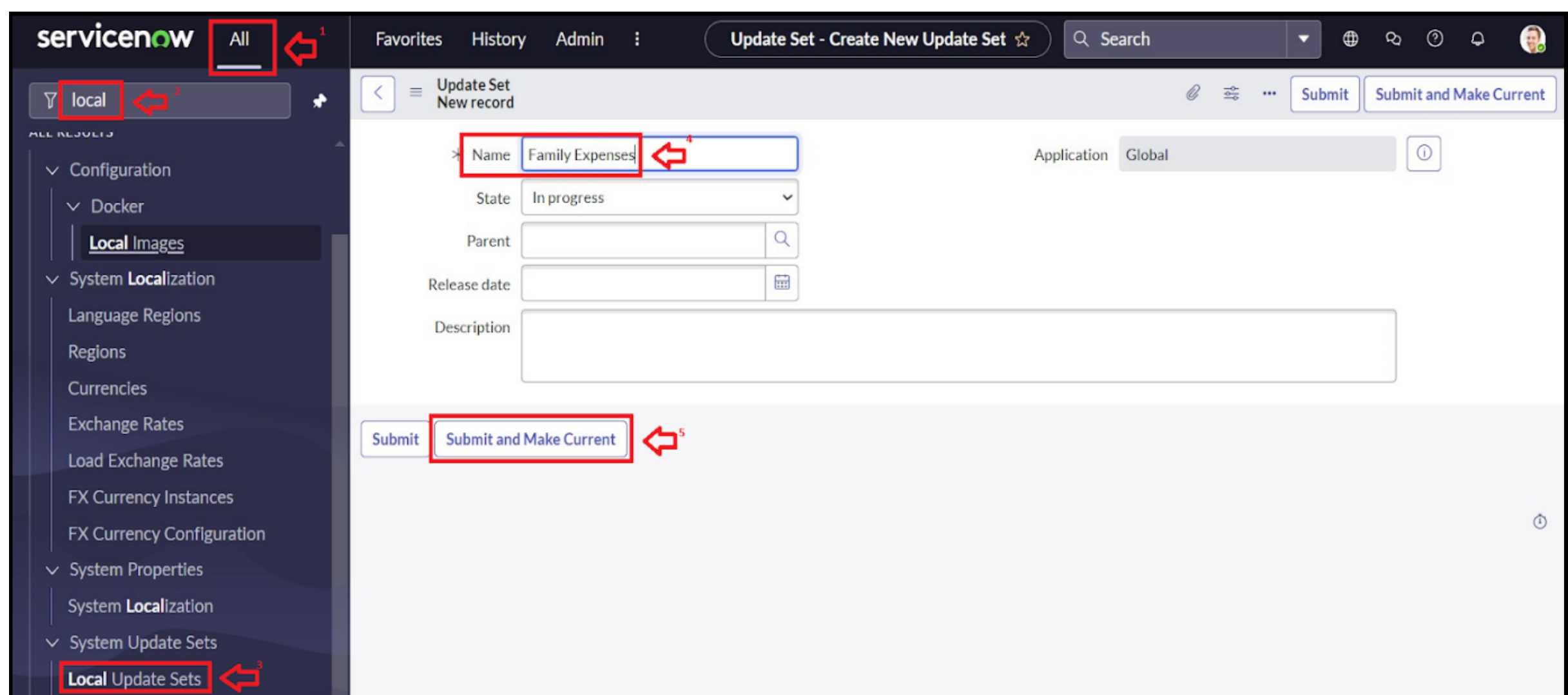
Go to All » In the filter search for Local Update set › click on New.



2. Enter the Details as:

Name: Family Expenses

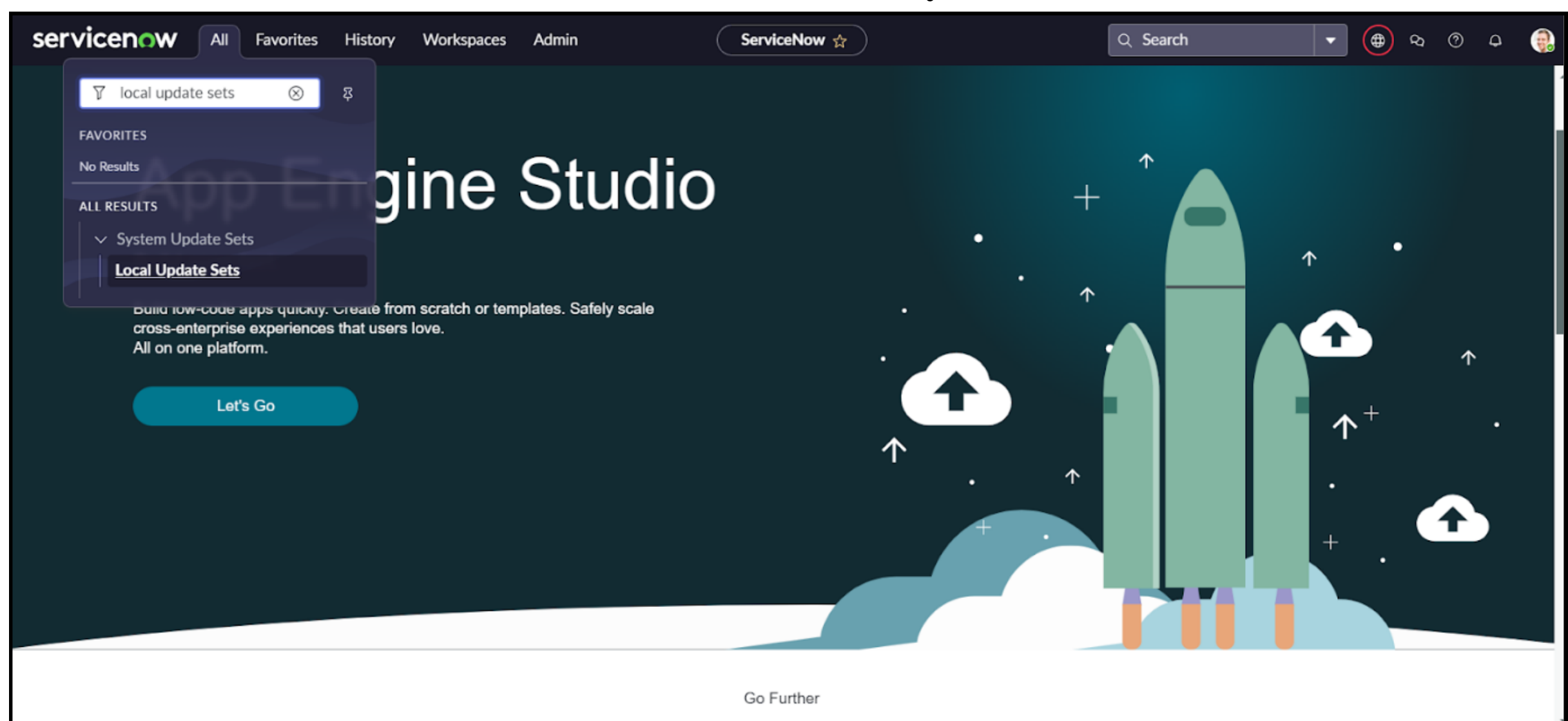
3. Then click on Submit and Make current.



MILESTONE 3: Creation of Table

ACTIVITY 1: Creation of New Update Set

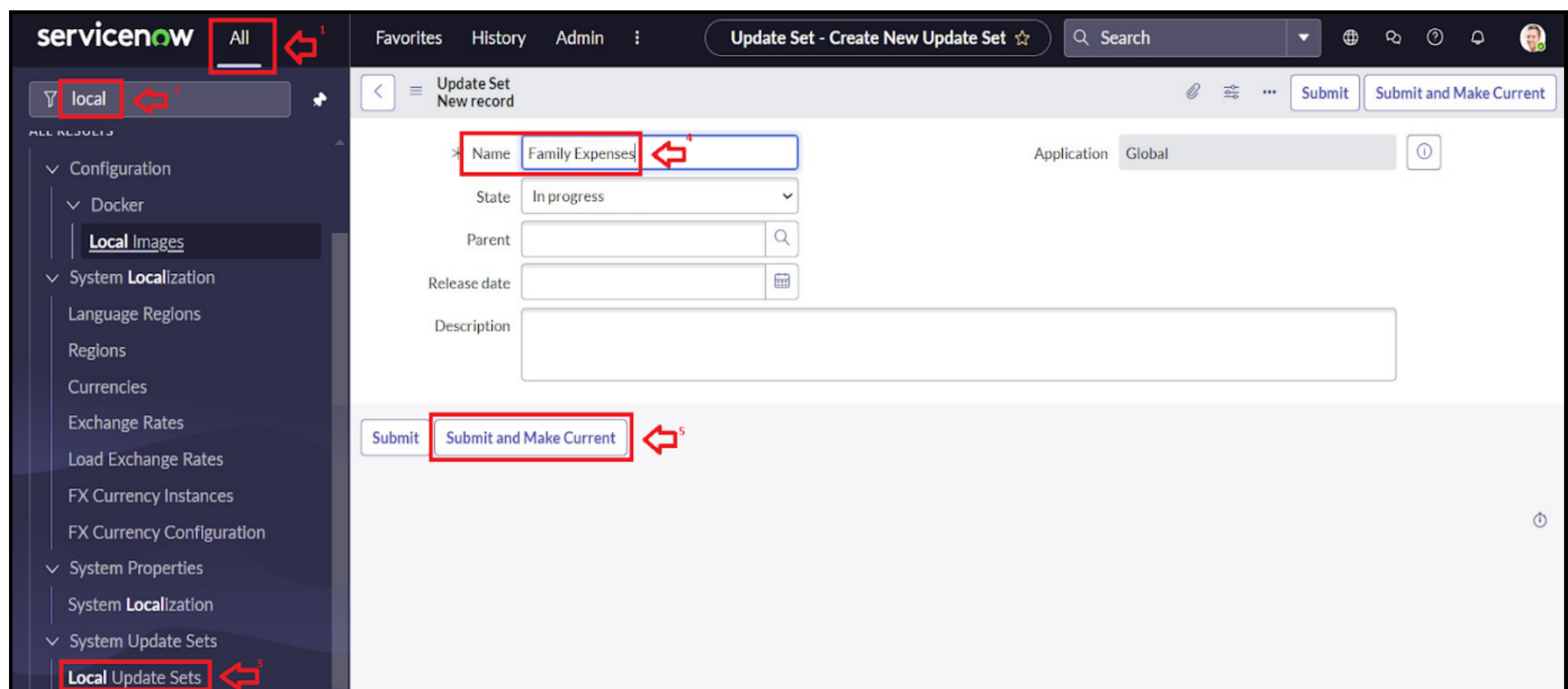
Go to All » In the filter search for Local Update set » click on New.



2. Enter the Details as:

Name: Family Expenses

3. Then click on Submit and Make current.



MILESTONE 4: Creation of Table

ACTIVITY 1: Creation of Family Expenses Table

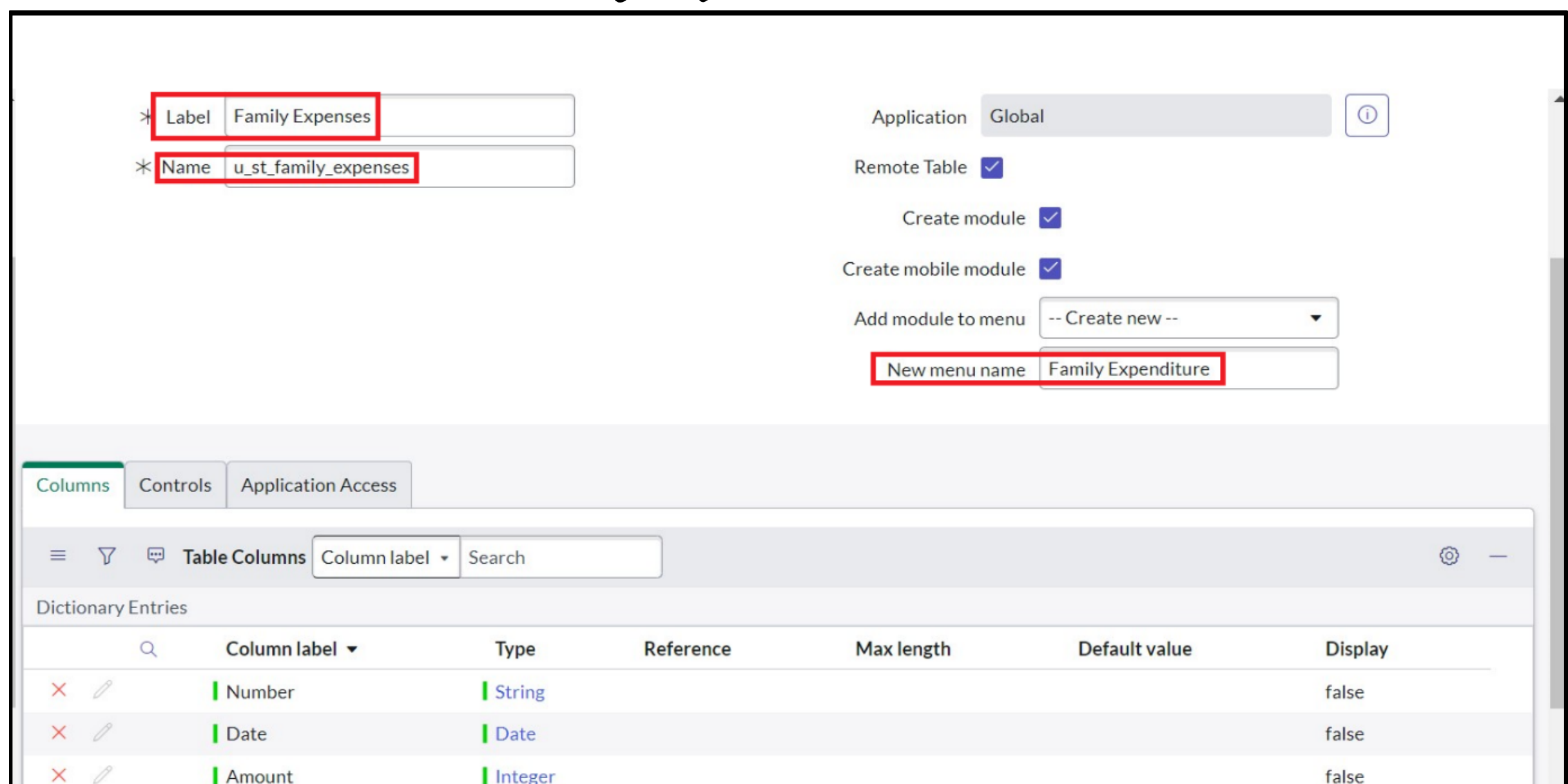
Go to All › In the filter search for Tables › click on New.

Enter the Details:

Label: Family Expenses

Name: Auto-Populated

New menu name: Family Expenditure



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 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

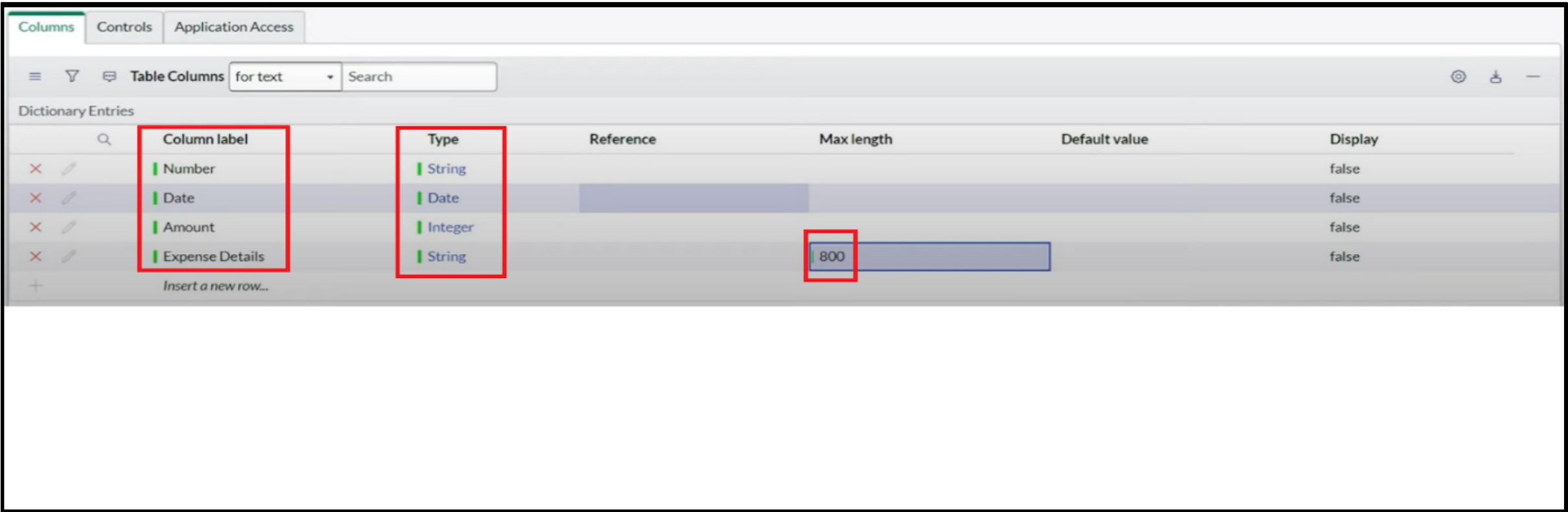
7.Double clicks on insert a new row again

8.Give the details as:

Column label: Expense Details

Type: String

Max length: 800



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.

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: Get Next Padded Number

Delete Column **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 Maintenance Update Delete

* Table: Family Expenses

Prefix: MFE

* Number: 1,000

Application: Global

Number of digits: 7

Update Delete

9.Click on Submit.

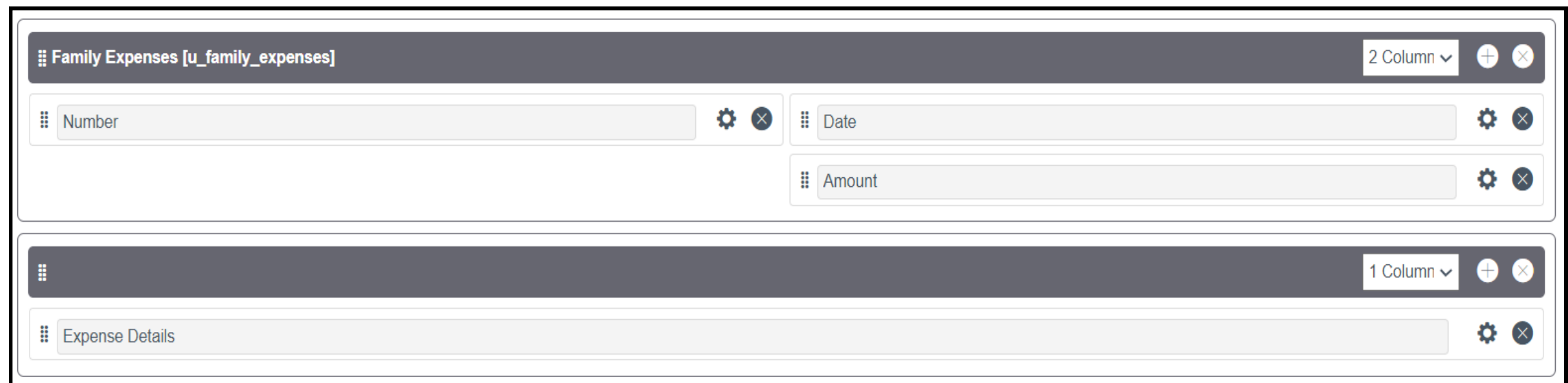
ACTIVITY 4: Configure the Form

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.

The screenshot shows a web application interface for configuring a form. At the top, there's a header bar for 'Family Expenses [u_family_expenses]' with a '2 Column' dropdown and '+' and '-' icons. Below this, the form is divided into two sections. The first section has three fields: 'Number', 'Date', and 'Amount'. Each field has a gear icon for configuration and a close icon. The second section has a single field labeled 'Expense Details' with similar configuration and close icons. The bottom section has a '1 Column' dropdown and '+' and '-' icons.

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

The screenshot shows a configuration window for a module. On the left, there are two input fields: 'Label' with the value 'Daily Expenses' (marked with a red box and arrow 1) and 'Name' with the value 'u_daily_expenses' (marked with a red box and arrow 2). Below these is an 'Extends table' field. On the right, there are checkboxes for 'Create module' and 'Create mobile module', both of which are checked. Below these is a button labeled 'Application Menu'. At the bottom right, there is a dropdown menu labeled 'Add module to menu' with the value 'Family Expenditure' (marked with a red box and arrow 3).

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 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: 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 Number

4. Click on Update.

The screenshot shows the 'Default Value' tab of the 'Column Specification' dialog. The 'Use dynamic default' checkbox is checked. The 'Dynamic default value' field contains the text 'Get Next Padded Number'. The 'Update' button is highlighted with a red box and an arrow. The 'Delete Column' button is also visible.

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 a 'Number New record' form. At the top, there is a header bar with a back arrow, a menu icon, the text 'Number New record', and a 'Submit' button. Below the header, the form contains several fields:

- A field labeled '* Table' with the value 'Daily Expenses'. A red box highlights this field, and a red arrow labeled '1' points to it.
- A field labeled 'Prefix' with the value 'DFE'. A red box highlights this field, and a red arrow labeled '2' points to it.
- A field labeled '* Number' with a value of '1,000'.
- A field labeled 'Application' with the value 'Global'.
- A field labeled 'Number of digits' with a value of '7'.

 At the bottom left of the form, there is a 'Submit' button. A red box highlights this button, and a red arrow labeled '3' points to it.

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.

The screenshot shows the 'Daily Expenses' form configuration interface. It is titled 'Daily Expenses [u_daily_expenses]' and has a '2 Column' layout. The form is divided into two main sections:

- The top section, labeled '2 Column', contains four fields: 'Number', 'Date', 'Family Member Name', and 'Expense'. Each field has a gear icon and a close icon (X) to its right.
- The bottom section, labeled '1 Column', contains a single field: 'Comments'. It also has a gear icon and a close icon (X) to its right.

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

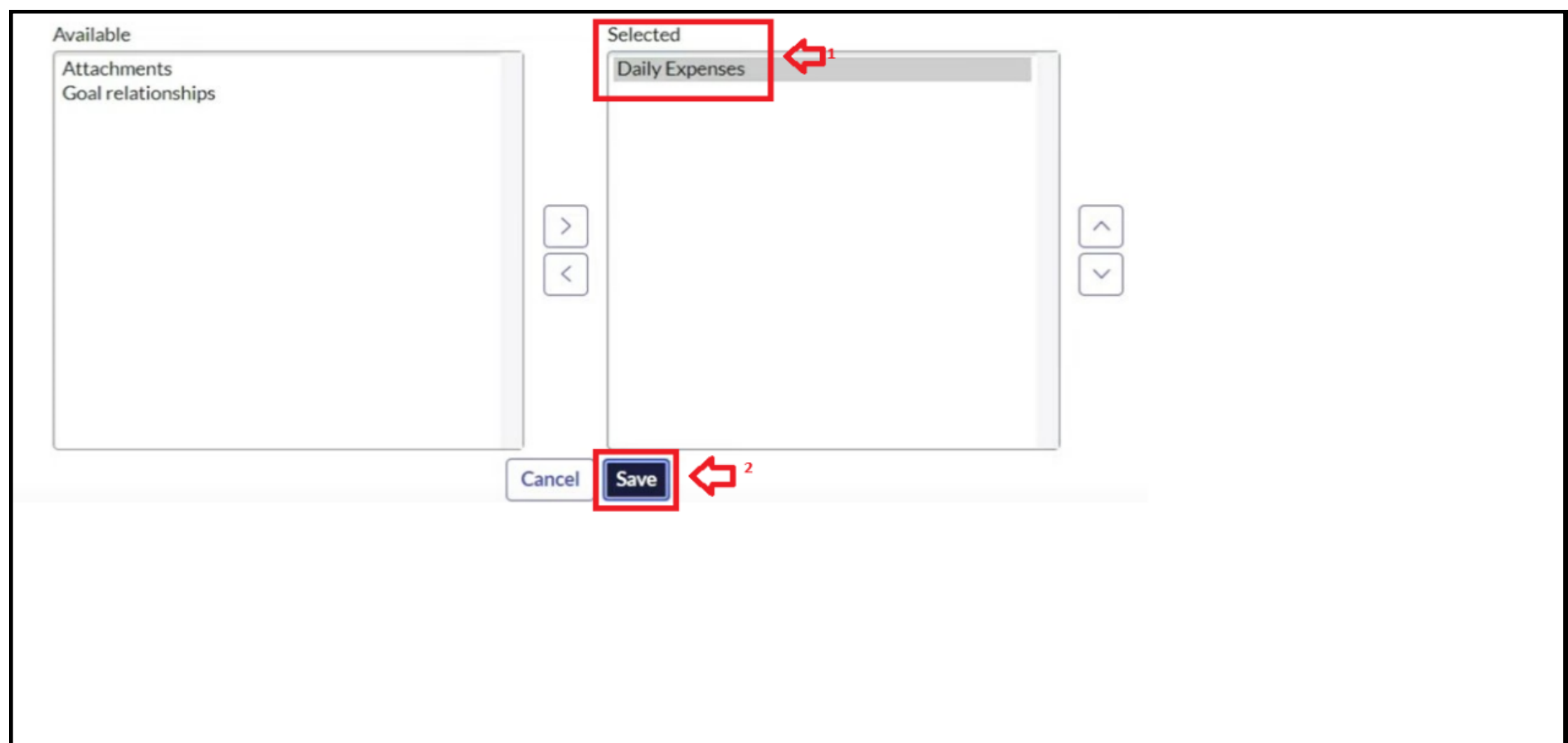
Go to All » In the filter search for Family Expenses » Open Family Expenses

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 8 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

In when to run Check Insert and Update

When to run | Actions | Advanced

Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions

When: before

Order: 100

Insert ☒

Update ☒

Delete ☐

Query ☐

Filter Conditions: Add Filter Condition Add "OR" Clause

-- choose field -- -- oper -- -- value --

Role conditions:

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 Relationship.

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.

Relationship
Daily Expenses
Update
Delete

Name
Daily Expenses
Application
Global
1

Advanced
☐
Applies to table
Family Expenses [u_family_expenses]
1

Queries from table
Daily Expenses [u_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

1
2
3
4
5
6
7

```

1  (function refineQuery(current, parent) {
2
3      // Add your code here, such as current.addQuery(field, value);
4      current.addQuery('u_date',parent.u_date);
5      current.query();
6
7  })(current, parent);

```

2

3
Update
Delete

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.

