

## CALCULATING FAMILY EXPENSES USING SERVICE NOW

Team Id:NM2025TMID18166

### Team Members:

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**Problem Statement:** 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.

**Objective:** The objective of this project is to develop a family expense management system on the ServiceNow platform that enables efficient tracking, categorization, and budgeting of expenses. It aims to provide real-time monitoring, user-friendly dashboards, and insightful reports to support informed financial decisions. The system will ensure scalability for different family sizes, promote financial discipline through spending analysis, and maintain data security using ServiceNow's robust features.

## Skills:

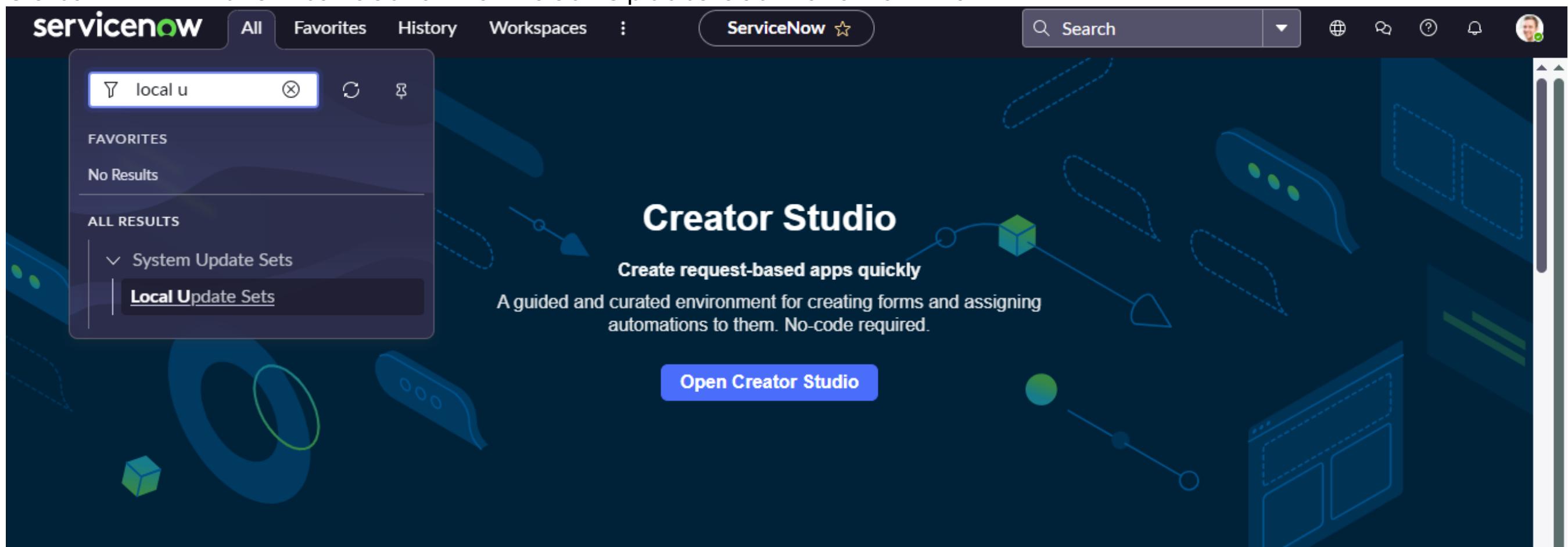
### TASK INITIATION

#### Milestone 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.

#### Milestone 2 : Creation of New Update Set

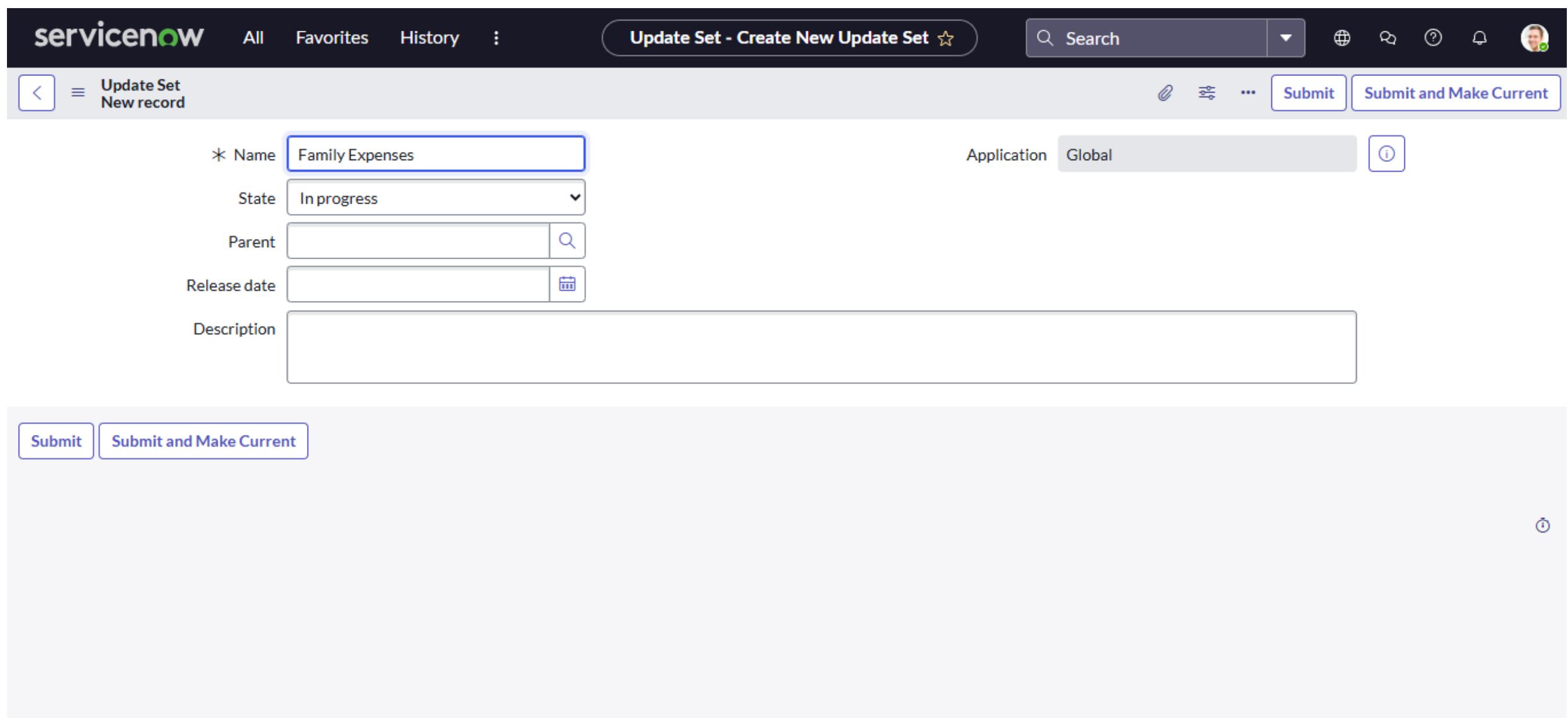
1. Go to All >> In the filter search for Local Update set > click on New



2. Enter the Details as:

Name : Family Expenses

3. Then click on Submit and Make current.

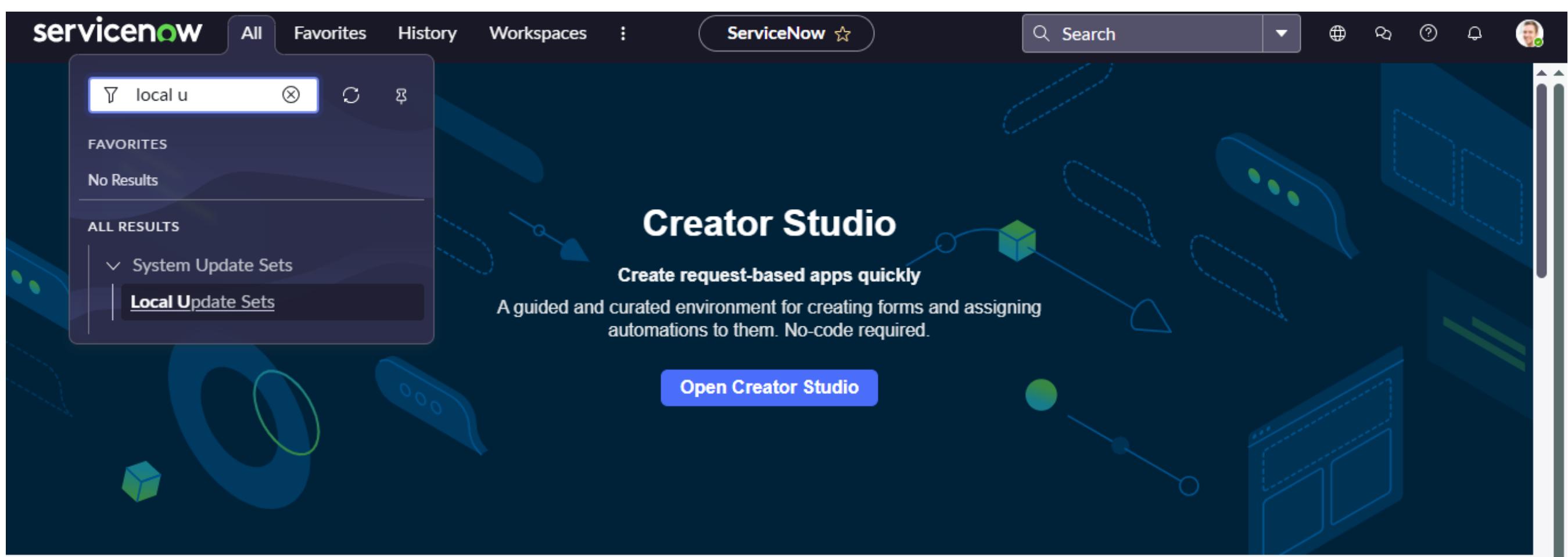


The screenshot shows a ServiceNow interface for creating a new update set. The title bar says "Update Set - Create New Update Set". The main form has fields for Name (Family Expenses), State (In progress), Parent (empty), Release date (empty), and Description (empty). Buttons at the bottom include "Submit" and "Submit and Make Current". The top navigation bar includes links for All, Favorites, History, and a search bar.

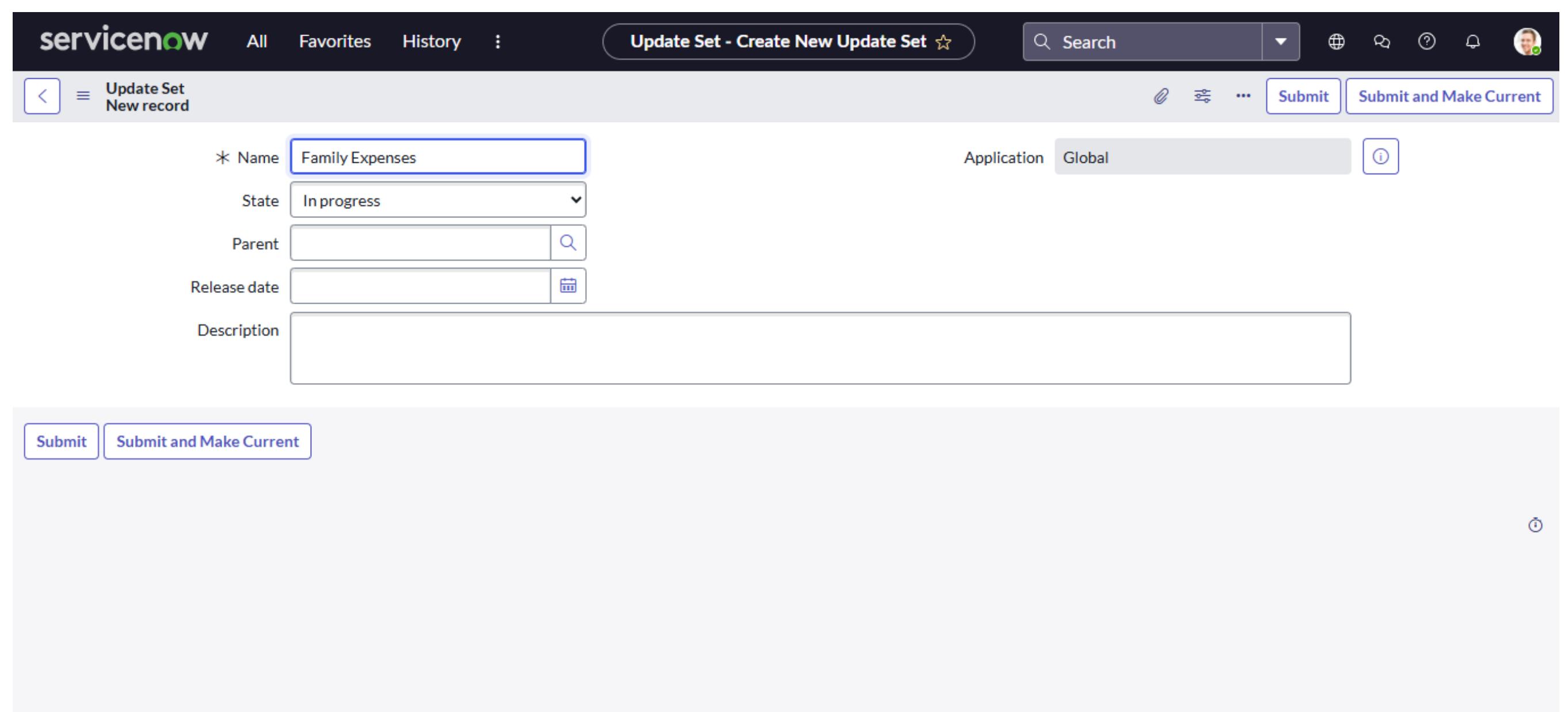
## Milestone 3: Creation of Table

### Activity: 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 the "Update Set - Create New Update Set" form in ServiceNow. The title bar says "Update Set - Create New Update Set". The form fields include:

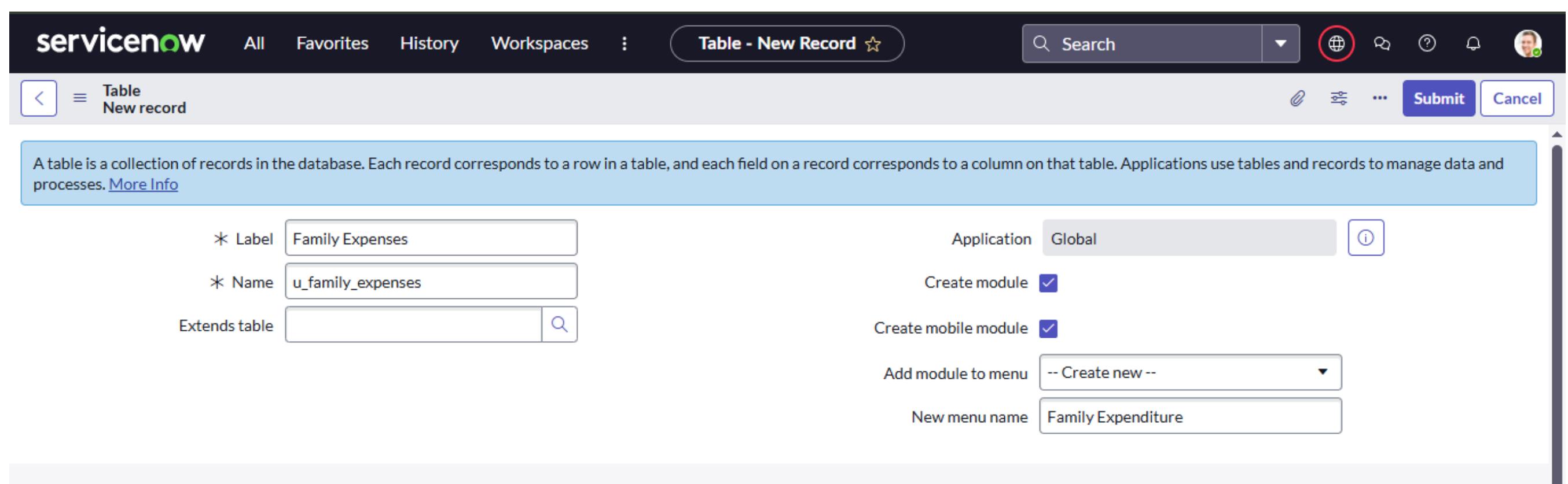
- \* Name: Family Expenses
- State: In progress
- Parent: (empty field)
- Release date: (empty field)
- Description: (empty text area)

On the right, it shows "Application: Global". At the bottom are two buttons: "Submit" and "Submit and Make Current".

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

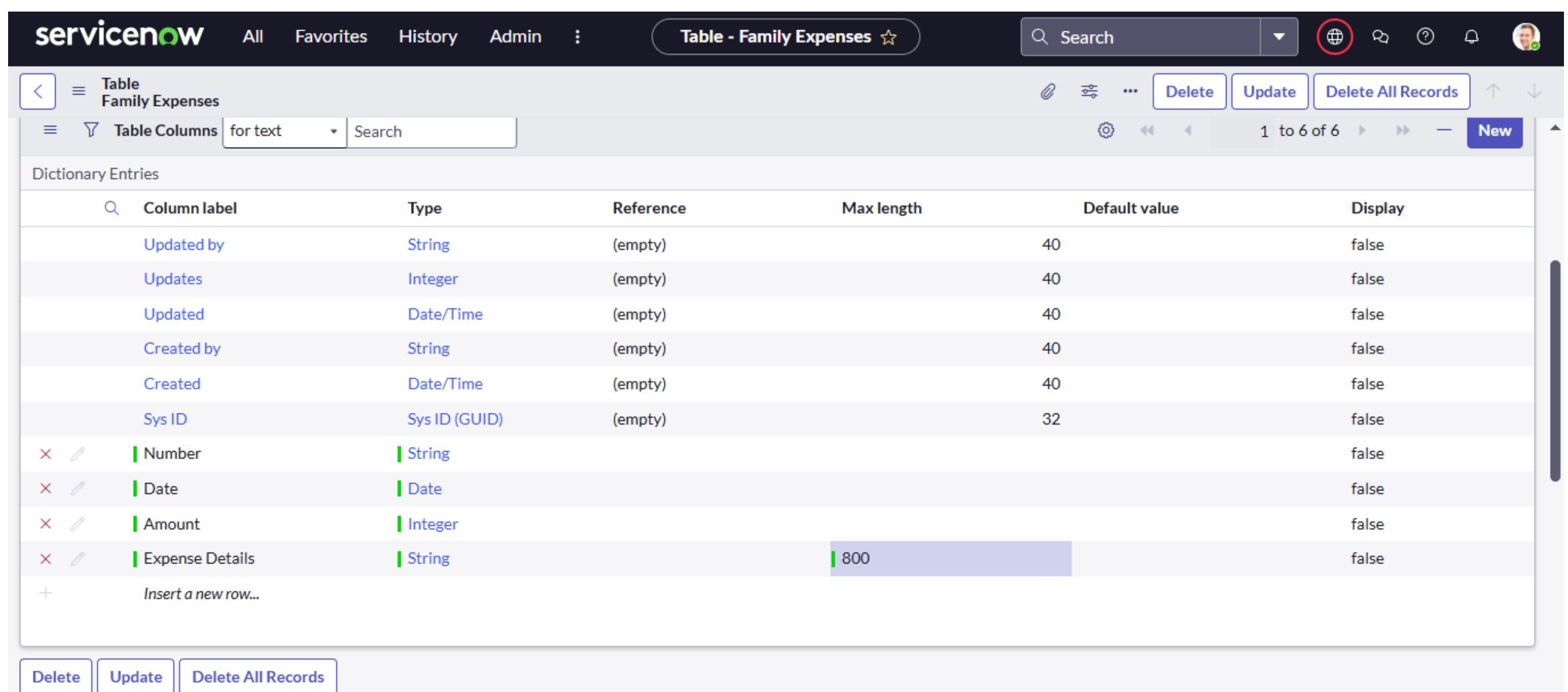


The screenshot shows the ServiceNow interface for creating a new table record. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and a search bar labeled 'Table - New Record'. Below the header, a message states: 'A table is a collection of records in the database. 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.' A link to 'More Info' is provided. The main form contains the following fields:

* Label	Family Expenses	Application	Global
* Name	u_family_expenses	Create module	<input checked="" type="checkbox"/>
Extends table		Create mobile module	<input checked="" type="checkbox"/>
		Add module to menu	-- Create new --
		New menu name	Family Expenditure

## Activity 2: Creation of Columns(Fields)

1. Near Columns Double click near insert a new row .
2. Give the details as:
  - i. Column label : Number
  - ii. Type : String
3. Double click on insert a new row again
4. Give the details as:
  - i. Column label : Date
  - ii. Type : Date
5. Double click on insert a new row again
6. Give the details as:
  - i. Column label : Amount
  - ii. Type : Integer
7. Double click on insert a new row again
8. Give the details as:
  - i. Column label : Expense Details
  - ii. Type : String
  - iii. Max length : 800\



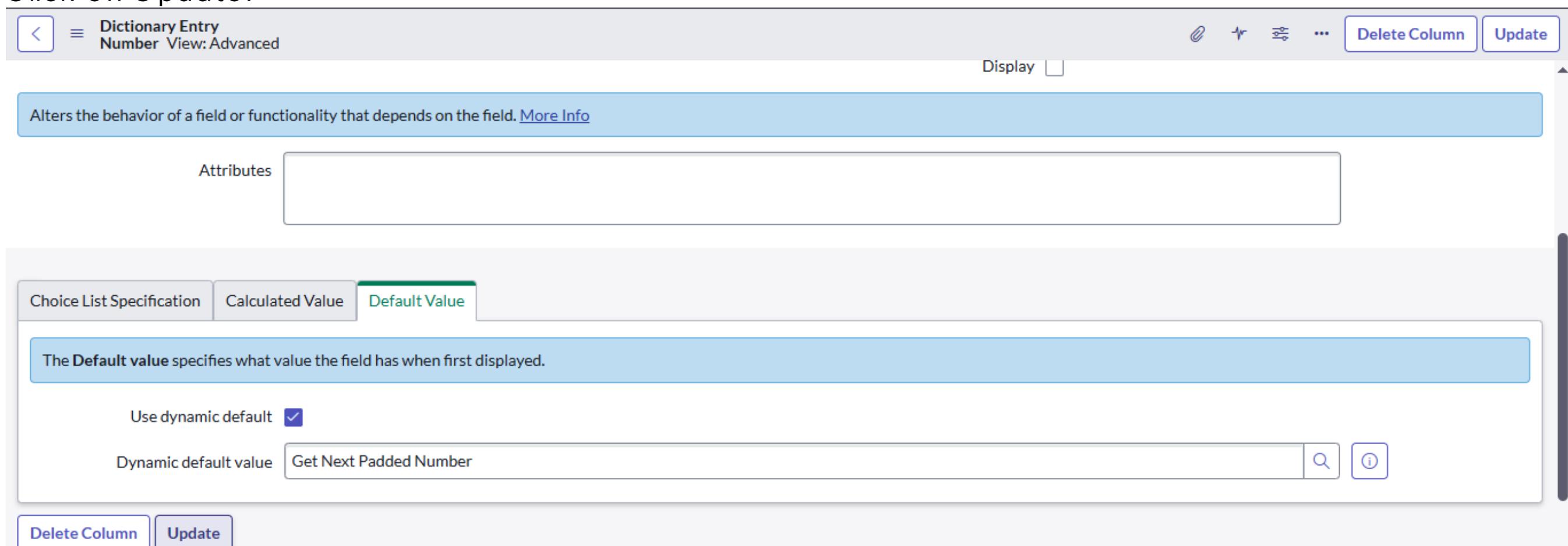
The screenshot shows the ServiceNow dictionary entry for the 'Family Expenses' table. It lists various columns with their types, references, maximum lengths, default values, and display settings. The 'Number' column is highlighted.

Column label	Type	Reference	Max length	Default value	Display
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Created by	String	(empty)	40		false
Created	Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		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.

### Activity 3: Making Number Field an Auto-Number

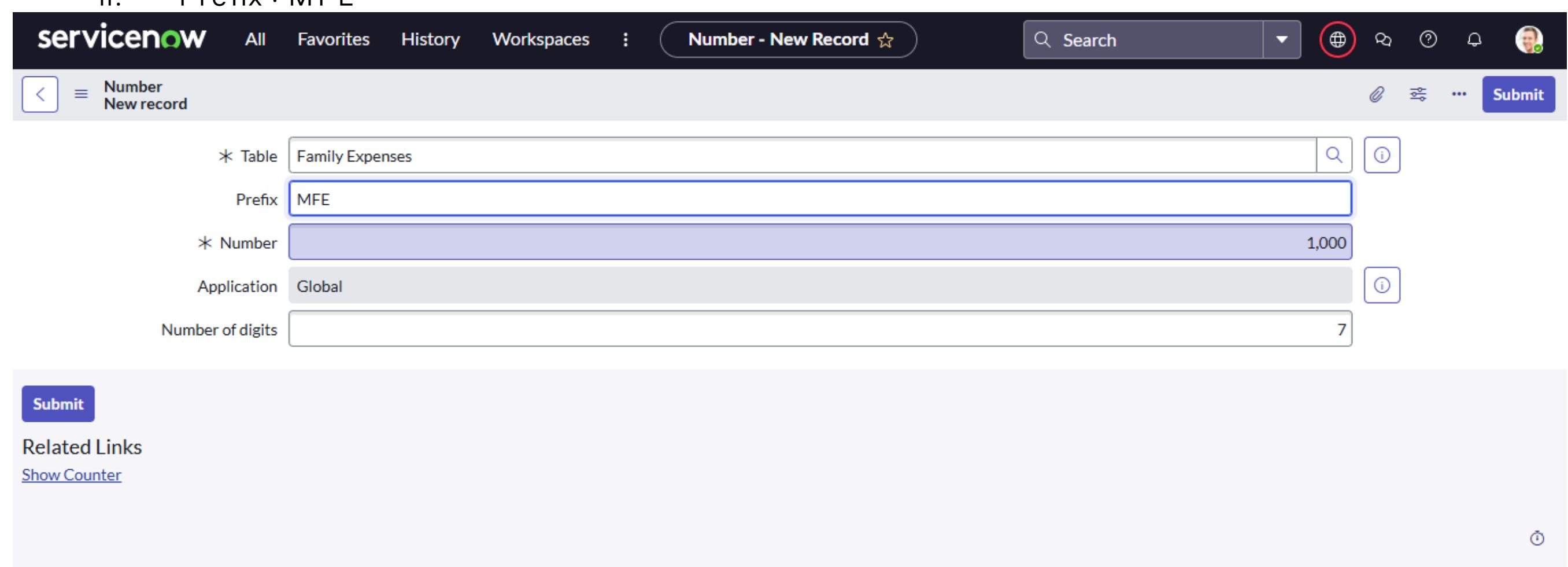
1. Double click on the Number Field/Column.
2. Go down and double click on Advanced view
3. In Default Value:
  - i. Use dynamic default : check the box
  - ii. Dynamic default value : Get Next Padded Number
4. Click on Update.



The screenshot shows the 'Dictionary Entry Number View: Advanced' screen. It displays the 'Default Value' tab, which is selected. A note states: 'The Default value specifies what value the field has when first displayed.' Below this, the 'Use dynamic default' checkbox is checked, and the 'Dynamic default value' is set to 'Get Next Padded Number'. There are also 'Delete Column' and 'Update' buttons at the bottom.

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

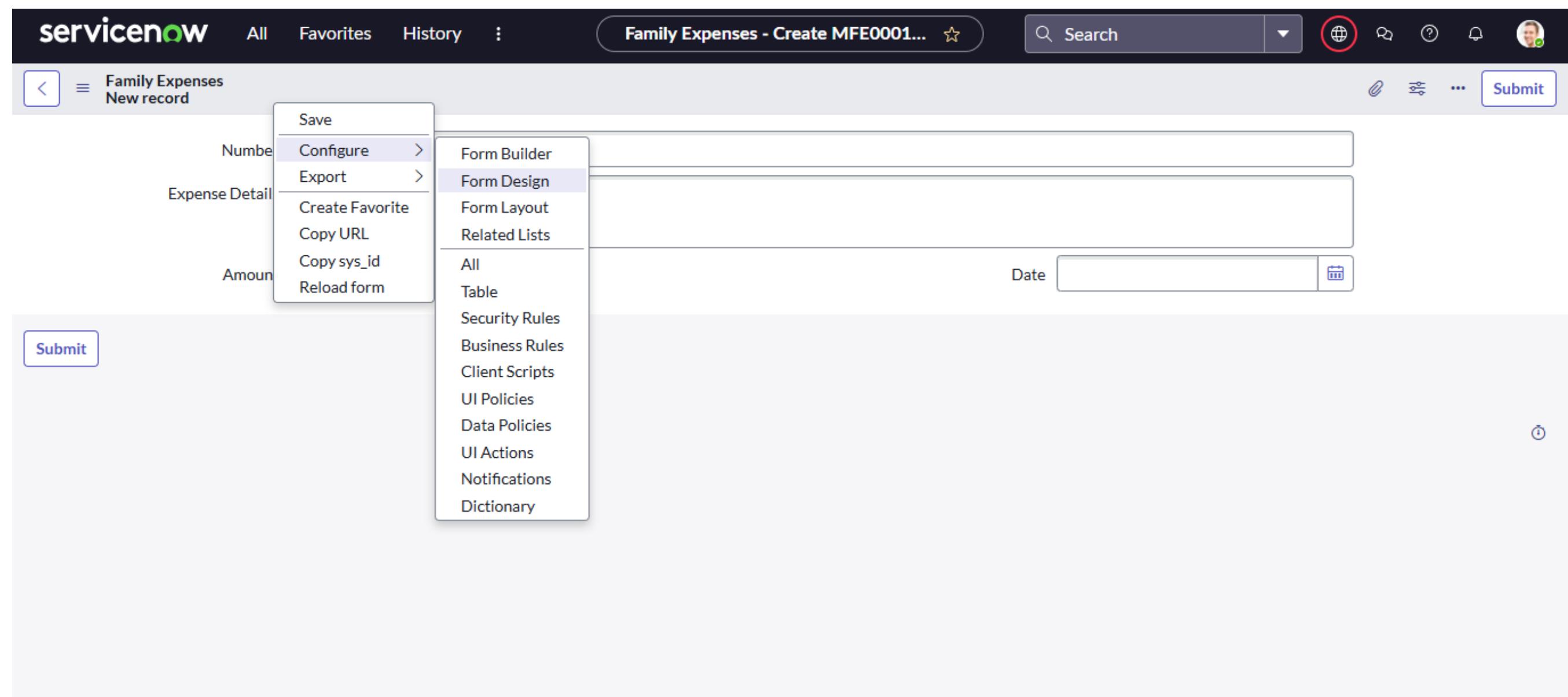


The screenshot shows the ServiceNow 'Number - New Record' interface. The 'Table' field is set to 'Family Expenses'. The 'Prefix' field is set to 'MFE'. The 'Number' field is set to '1,000'. The 'Application' field is set to 'Global'. The 'Number of digits' field is set to '7'. Below the form, there is a 'Submit' button and a 'Related Links' section with a link to 'Show Counter'.

8. Click on Submit.

## Activity 4: Configure the Form

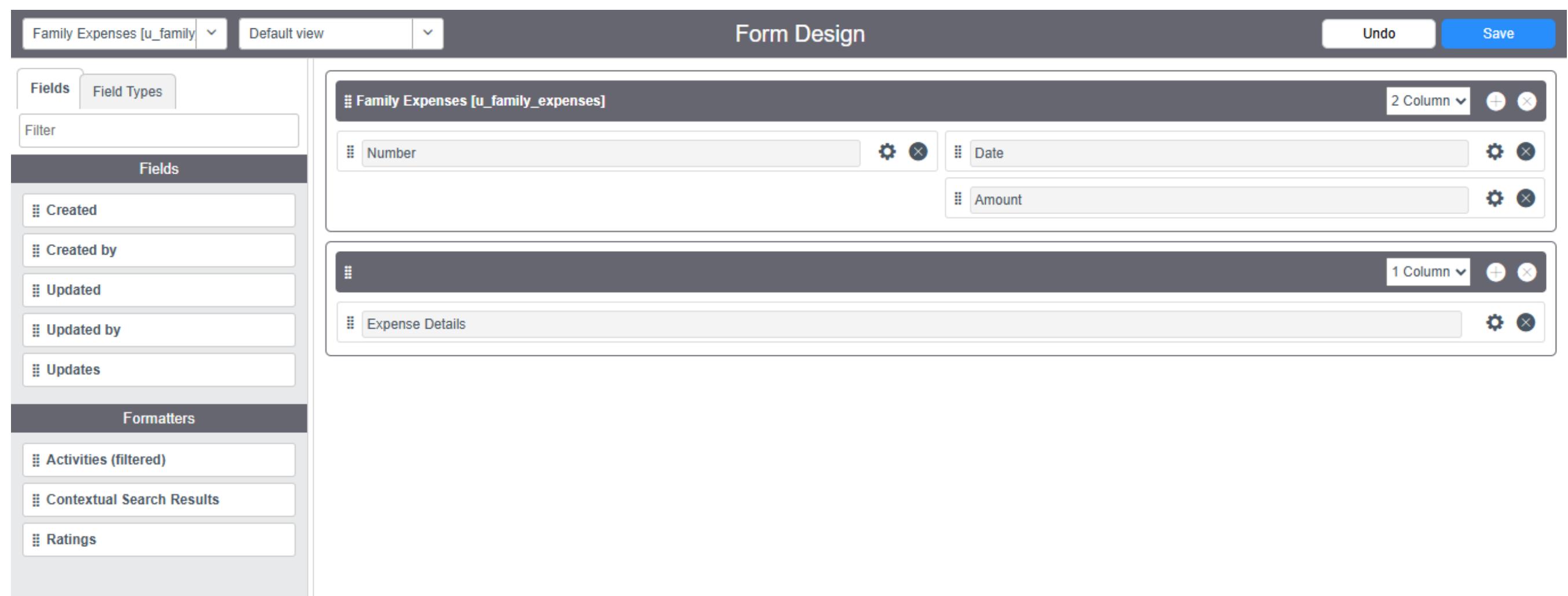
- Go to All >> In the filter search for Family Expenses >> Open Family Expenses
- Click on New



The screenshot shows the ServiceNow 'Family Expenses - Create MFE0001...' screen. A context menu is open at the top left, with 'Configure' selected. A sub-menu is open under 'Configure', showing options like 'Form Builder', 'Form Design', 'Form Layout', and 'Related Lists'. Other options in the main menu include 'Save', 'Export', 'Create Favorite', 'Copy URL', 'Copy sys\_id', and 'Reload form'. The main form area has fields for 'Number', 'Expense Detail', and 'Amount'. A 'Submit' button is visible at the bottom left. The status bar at the bottom right shows 'Date' and a calendar icon.

- 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.

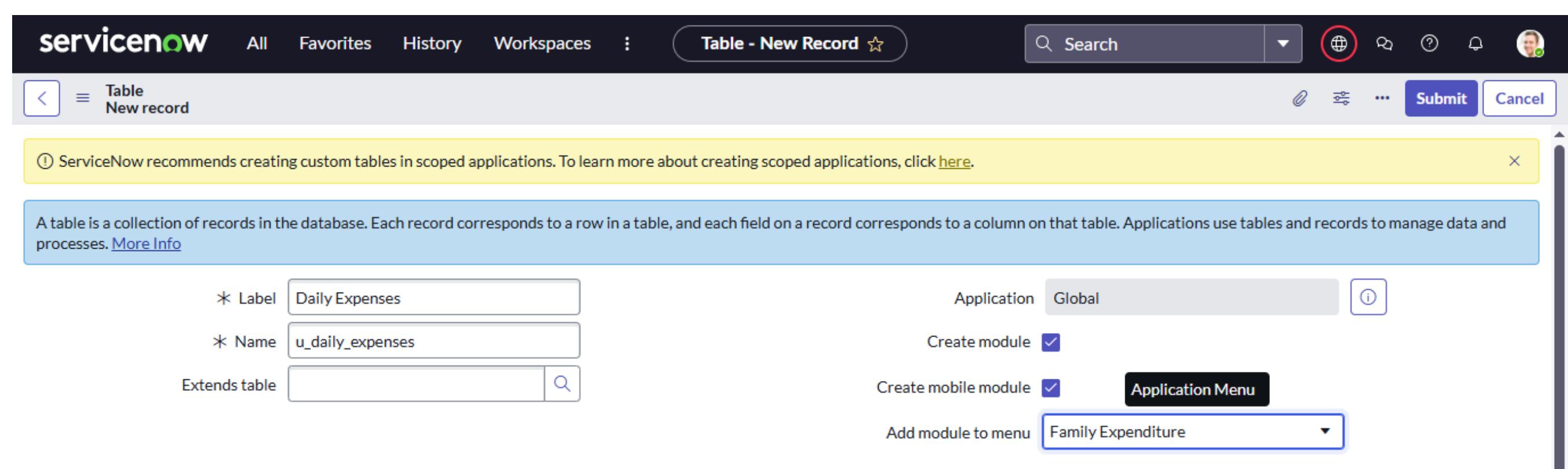


The screenshot shows the 'Form Design' interface for the 'Family Expenses [u\_family\_expenses]' table. On the left, there's a sidebar with tabs for 'Fields' and 'Field Types', and sections for 'Filter', 'Fields' (listing 'Created', 'Created by', 'Updated', 'Updated by', 'Updates'), and 'Formatters' (listing 'Activities (filtered)', 'Contextual Search Results', 'Ratings'). The main area displays the form structure with two columns: 'Number' (Read-Only) and 'Date' (Mandatory). Below them is a collapsed section labeled 'Expense Details'.

## Milestone 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:
  - i. Label : Daily Expenses
  - ii. Name : Auto-Populated
  - iii. Add Module to menu : Family Expenditure
3. Go to the Header and right click there>> click on Save.



The screenshot shows the ServiceNow 'Table - New Record' interface. At the top, it says 'Table - New Record' with a star icon. The header includes 'Search' and other navigation icons. The main form has fields for 'Label' (set to 'Daily Expenses') and 'Name' (set to 'u\_daily\_expenses'). Under 'Extends table', there is a search bar. On the right, there are configuration options: 'Application' set to 'Global', 'Create module' checked, 'Create mobile module' checked, 'Add module to menu' set to 'Family Expenditure', and a dropdown for 'Application Menu'.

## Activity 2: 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

- Double click on insert a new row again

Give the details as:

Column label : Expense

Type : Integer

- Double click on insert a new row again

Give the details as:

Column label : Family Member Name

Type : Reference

Max length : 800

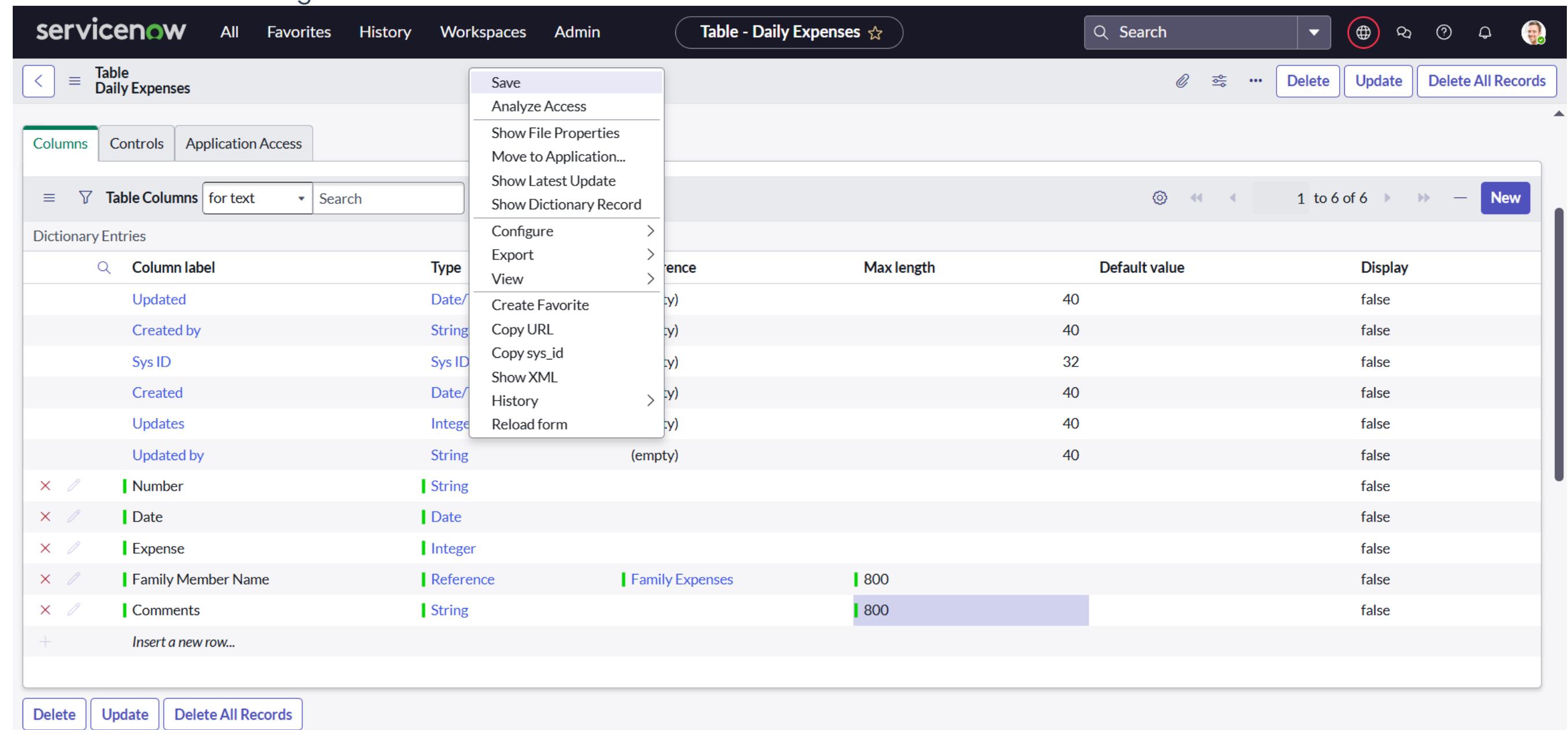
- Double click on insert a new row again

Give the details as:

Column label : Comments

Type : String

Max length : 800



The screenshot shows the ServiceNow interface for configuring the 'Table - Daily Expenses' application. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The title bar says 'Table - Daily Expenses'. The main area displays a table of columns with the following data:

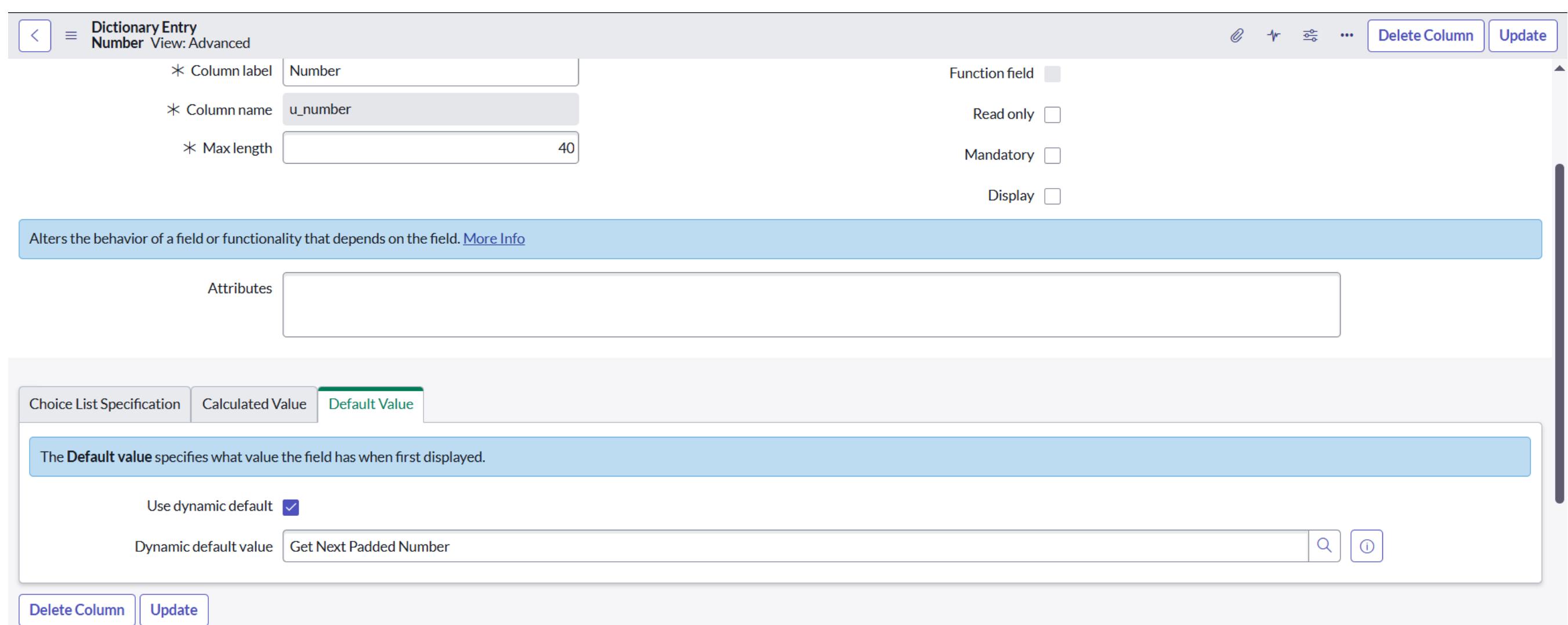
Column label	Type	Max length	Default value	Display
Updated	Date/Time	40	false	
Created by	String	40	false	
Sys ID	Sys ID	32	false	
Created	Date/Time	40	false	
Updates	Integer	40	false	
Updated by	String	(empty)	40	false
Number	String			false
Date	Date			false
Expense	Integer			false
Family Member Name	Reference	Family Expenses	800	false
Comments	String	800		false

At the bottom left, there are 'Delete', 'Update', and 'Delete All Records' buttons. A context menu is open over the 'Comments' column, with options like 'Save', 'Analyze Access', 'Show File Properties', etc. The bottom right corner shows a vertical scrollbar.

- 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



Dictionary Entry  
Number View: Advanced

\* Column label: Number

\* Column name: u\_number

\* Max length: 40

Function field:

Read only:

Mandatory:

Display:

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

Attributes: [Empty box]

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

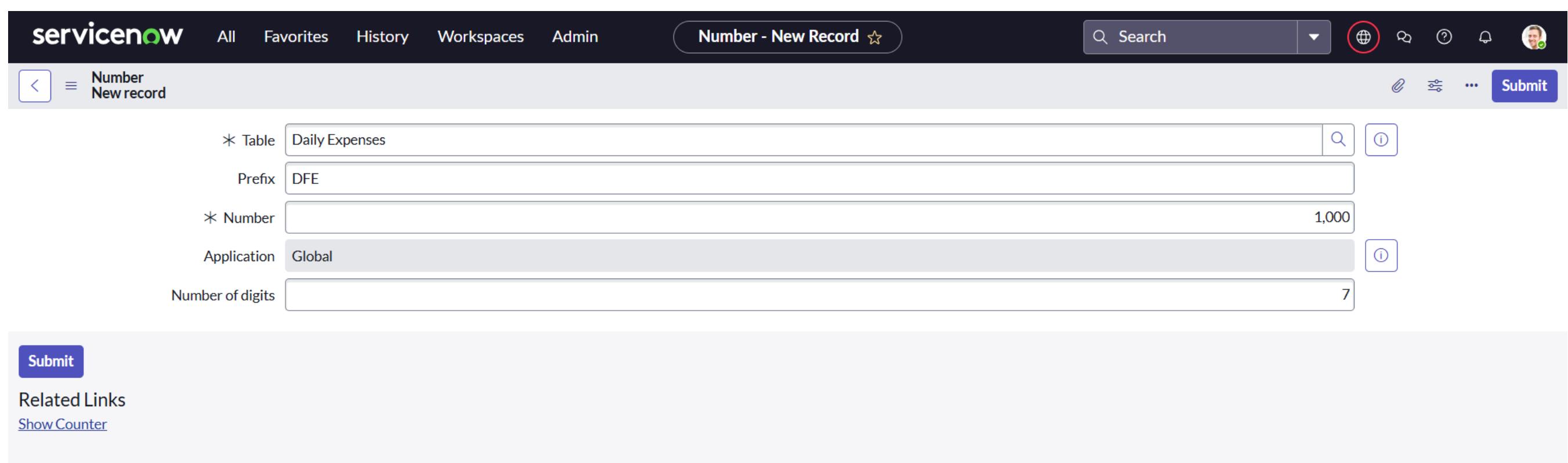
The **Default value** specifies what value the field has when first displayed.

Use dynamic default:

Dynamic default value: Get Next Padded Number

Delete Column | Update |  |

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 : Daily Expenses  
 Prefix : DFE



servicenow All Favorites History Workspaces Admin Number - New Record 

Number - New record

\* Table: Daily Expenses

Prefix: DFE

\* Number: 1,000

Application: Global

Number of digits: 7

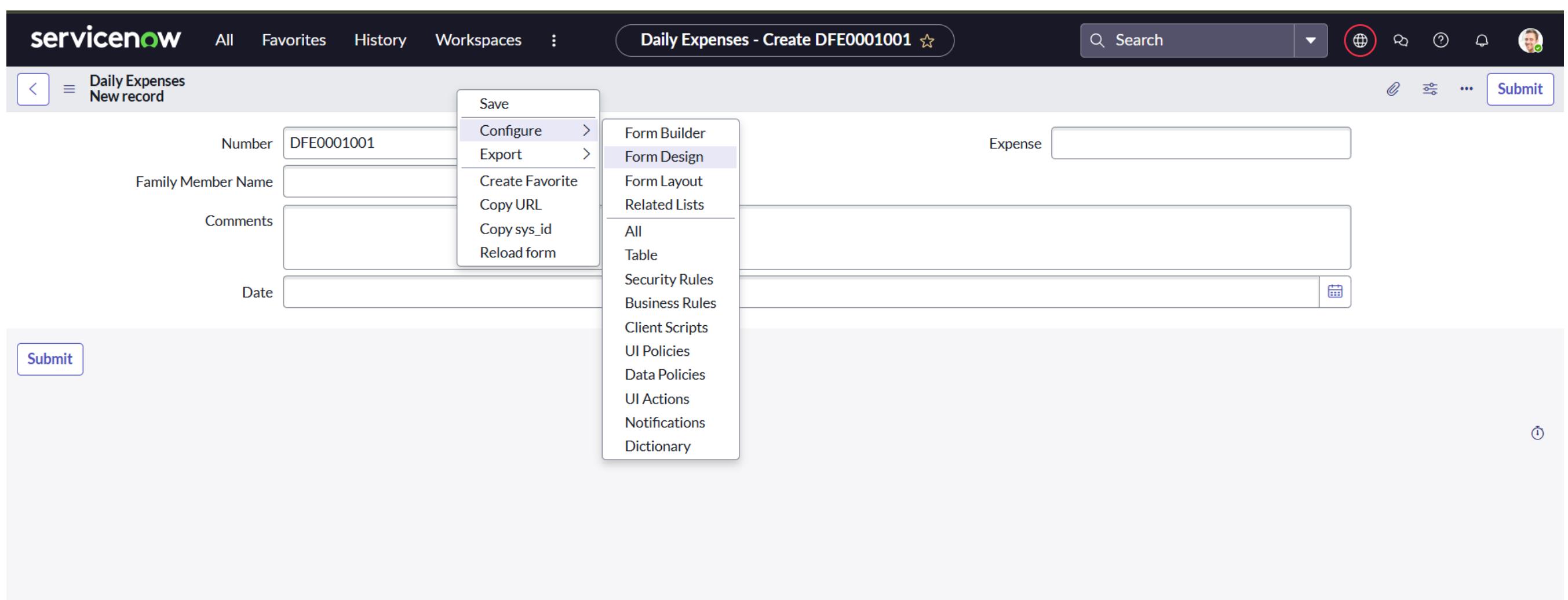
Submit

Related Links  
[Show Counter](#)

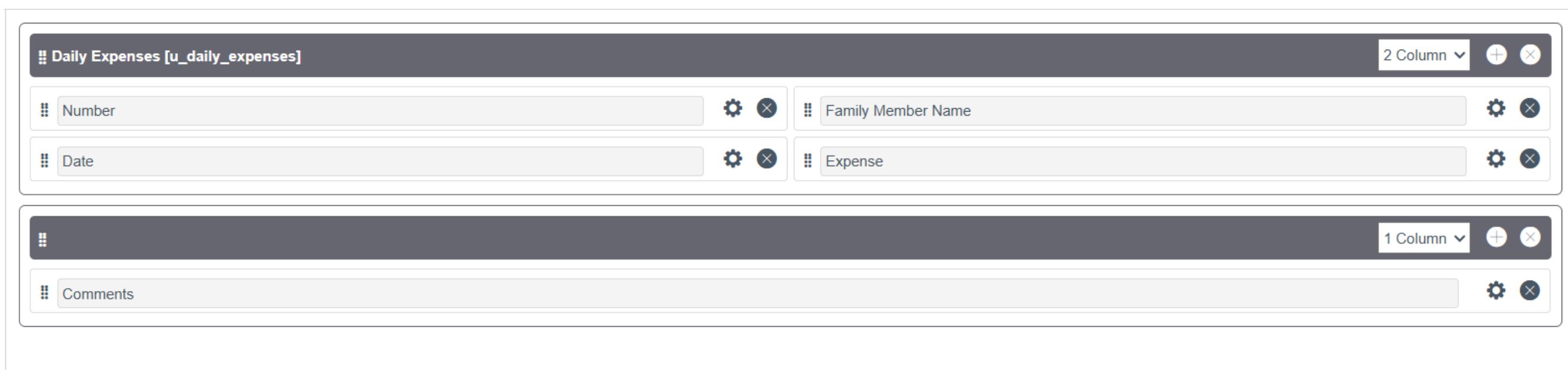
8. Click on Submit

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

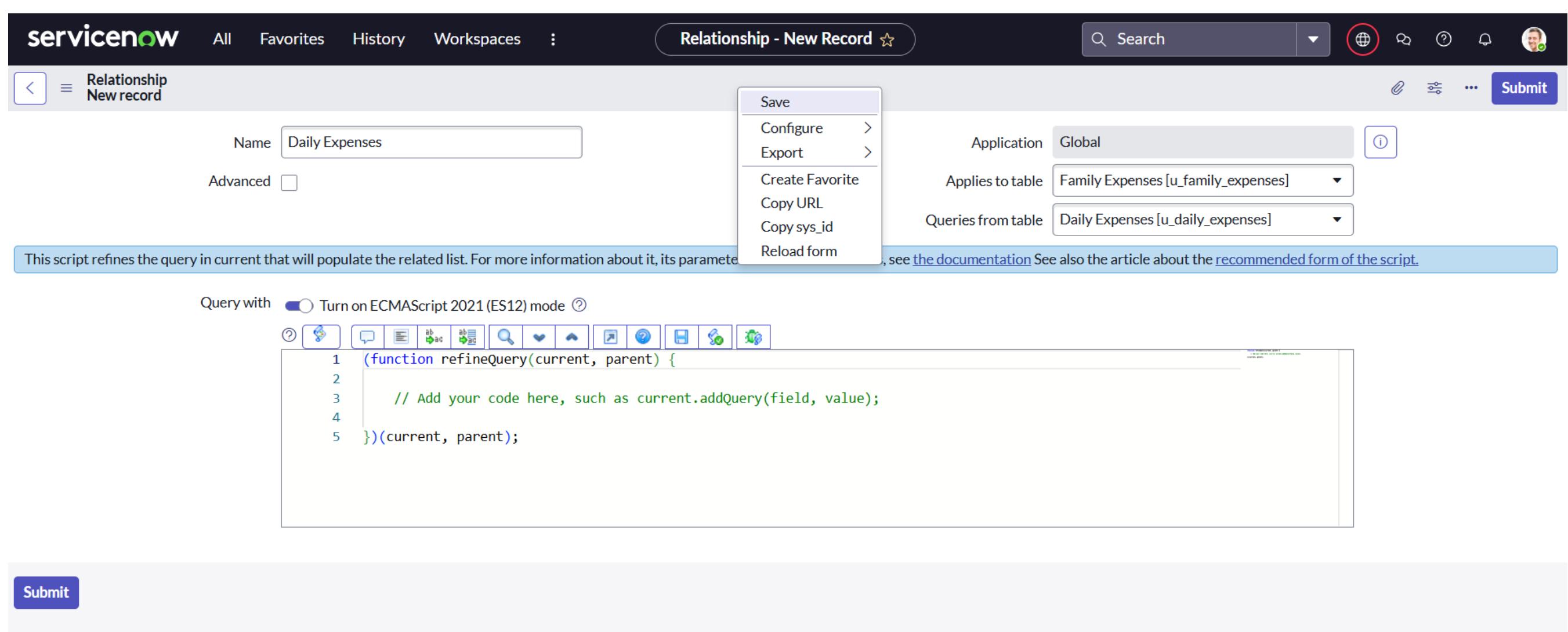


7. Click on Save.

## Milestone 6: Creation of Relationship

**Activity : Creation of Relationship between Family Expenses and Daily Expenses tables.**

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.



This script refines the query in current that will populate the related list. For more information about it, its parameters and how to use it, 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      // Add your code here, such as current.addQuery(field, value);
3  })(current, parent);

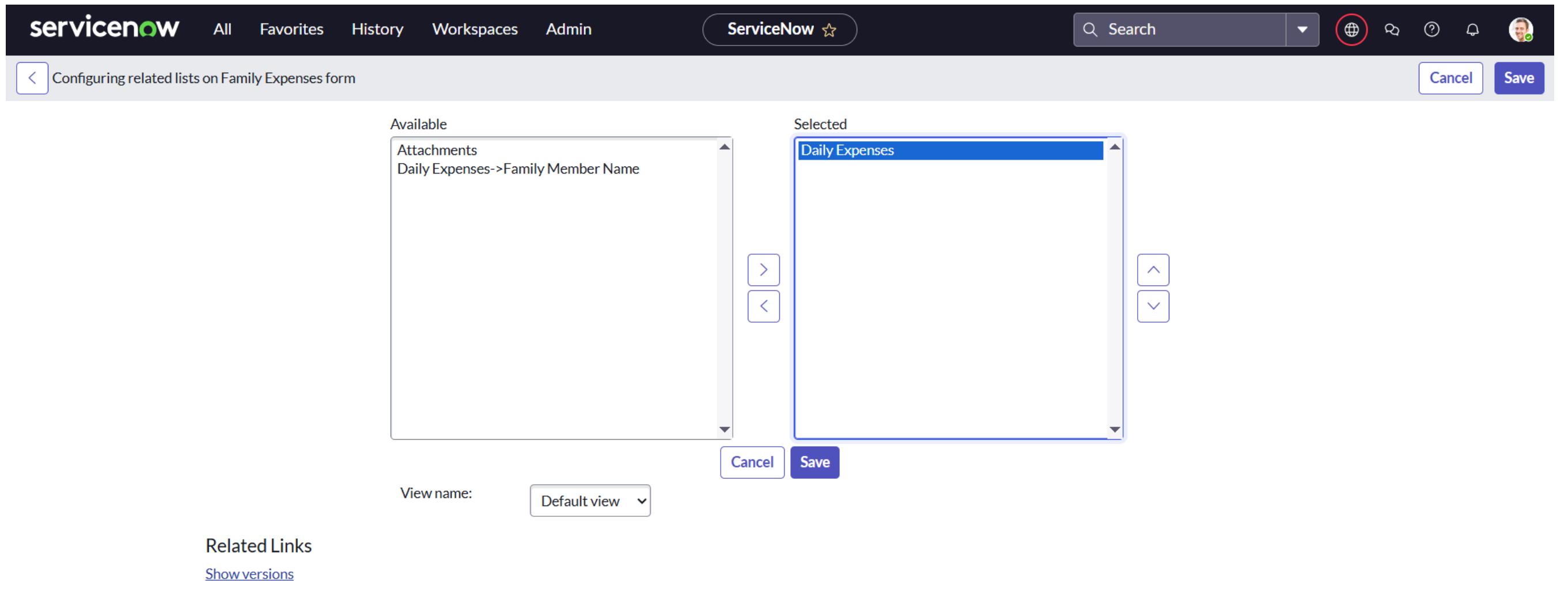
```

## Milestone 7: Configuring Related List on Family Expenses

**Activity : 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.

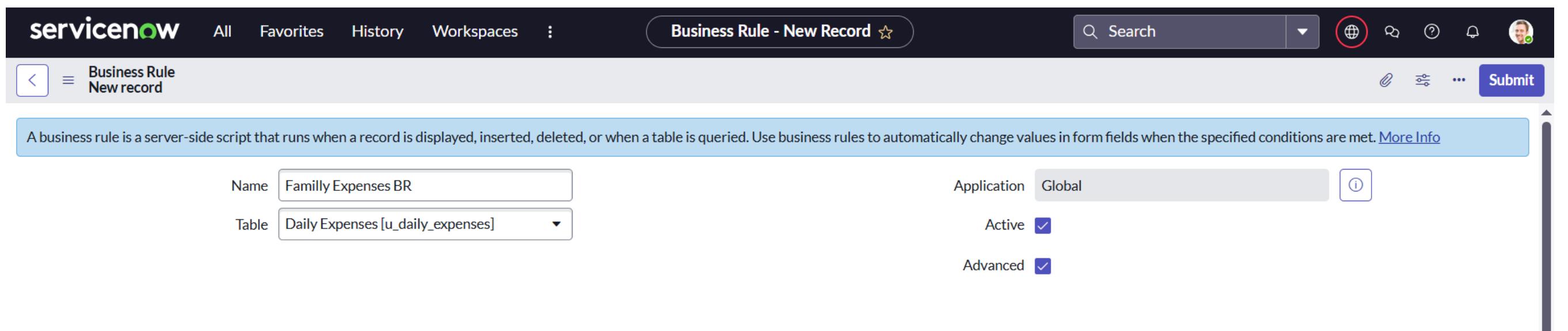


5. Click on Save

## Milestone 8: Creation of Business Rules

### Activity : 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



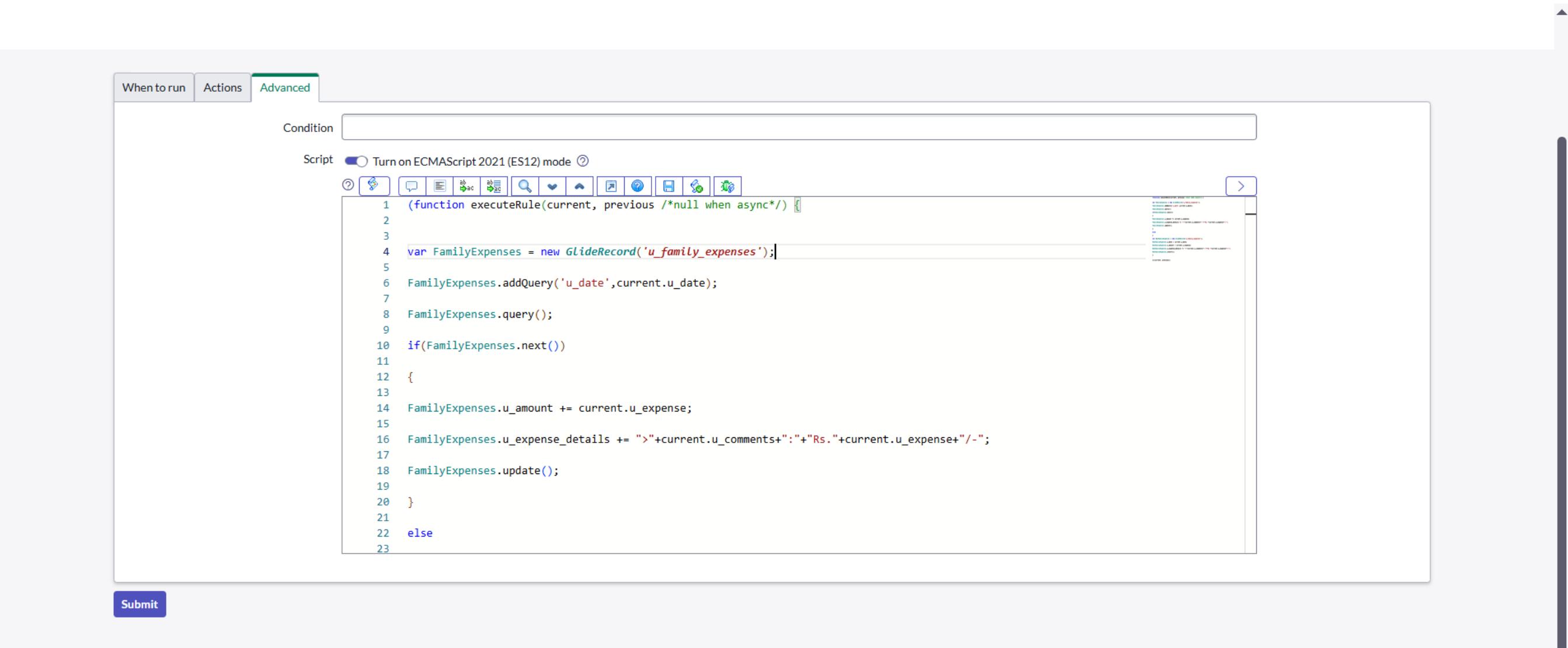
4. In when to run Check Insert and Update

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);
```



The screenshot shows a script editor window with the following details:

- When to run:** Advanced tab is selected.
- Condition:** An empty text input field.
- Script:**
  - Turn on ECMAScript 2021 (ES12) mode is checked.
  - The script code is pasted into the editor area.
  - A toolbar with various icons (e.g., copy, paste, search, etc.) is visible above the code area.
- Code Preview:** On the right side, there is a preview pane showing the execution results of the script.
- Submit:** A blue 'Submit' button is located at the bottom left of the editor.

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

# Milestone 9 : Configure the Relationship

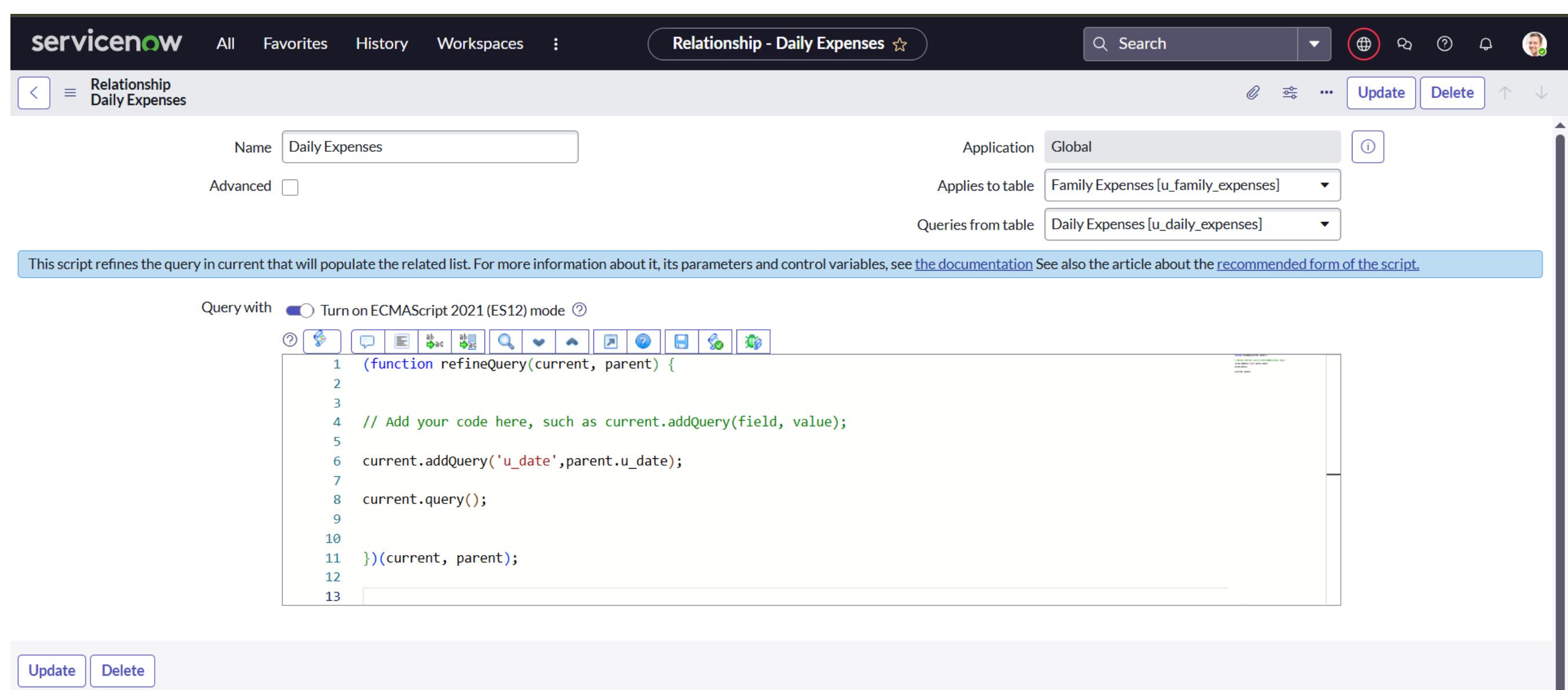
## Activity : Configure the Relationship

1. 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);
```



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
4 // Add your code here, such as current.addQuery(field, value);
5
6 current.addQuery('u_date',parent.u_date);
7
8 current.query();
9
10
11 })(current, parent);
12
13

```

5. Click on Update.

## Conclusion :

The project effectively demonstrates how ServiceNow can be used to manage and track family expenses with real-time monitoring, automated calculations, and user-friendly dashboards. It simplifies expense tracking, promotes financial discipline, and highlights the flexibility of



ServiceNow for solving practical, real-world problems.