

Calculating Family Expenses Using ServiceNow

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Team Members:

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Problem Statement:

Families spend money every day on food, bills, travel, and other needs. Writing down expenses in notebooks is not easy to manage, and mistakes can happen. There is no single system to record, organize, and track family expenses.

Objective:

- To create an application in ServiceNow to record and calculate family expenses.
- To create tables for members, categories, and daily expenses.
- To link all expenses with family members using relationships.
- To add business rules and approvals for better control.

Skills:

- ServiceNow basics
- Tables and Relationships
- Update Sets
- Business Rules
- Flow Designer

TASK INITIATION

Milestone 1 : Setting Up ServiceNow Instance

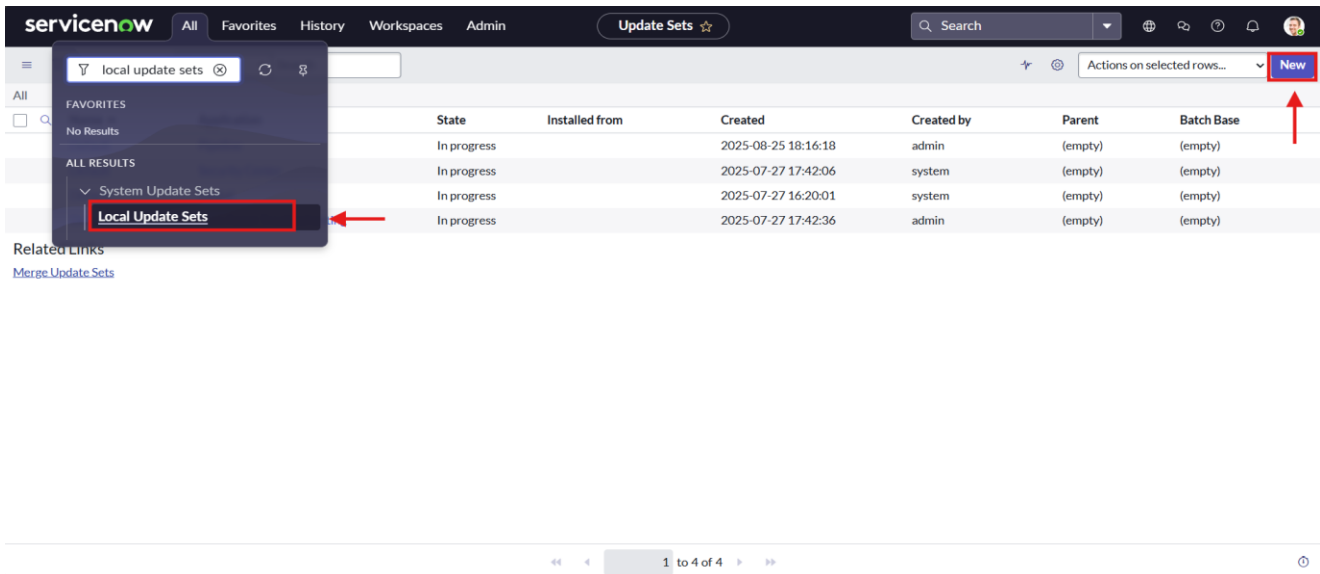
Activity 1: Create Instance

1. Go to developer.servicenow.com.
2. Sign up for a free developer account.
3. After logging in, click **Personal Developer Instance**.
4. Click **Request Instance** to create your own ServiceNow space.
5. Fill in the form and submit it.
6. You will get an email with your instance link, username, and password.
7. Log in with those details.
8. Now your ServiceNow instance is ready to use.

Milestone 2 : Creation of New Update Set

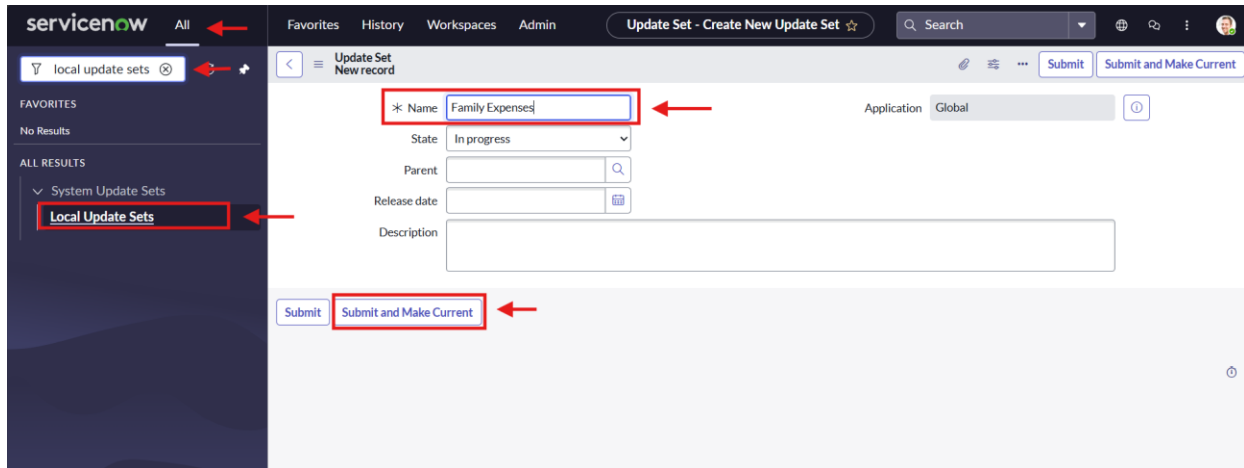
Activity 1: Create Update Set

1. Go to **All** in ServiceNow.
2. In the filter search box, type **Local Update Sets** and click on it.
3. Click on **New**.



State	Installed from	Created	Created by	Parent	Batch Base
In progress		2025-08-25 18:16:18	admin	(empty)	(empty)
In progress		2025-07-27 17:42:06	system	(empty)	(empty)
In progress		2025-07-27 16:20:01	system	(empty)	(empty)
In progress		2025-07-27 17:42:36	admin	(empty)	(empty)

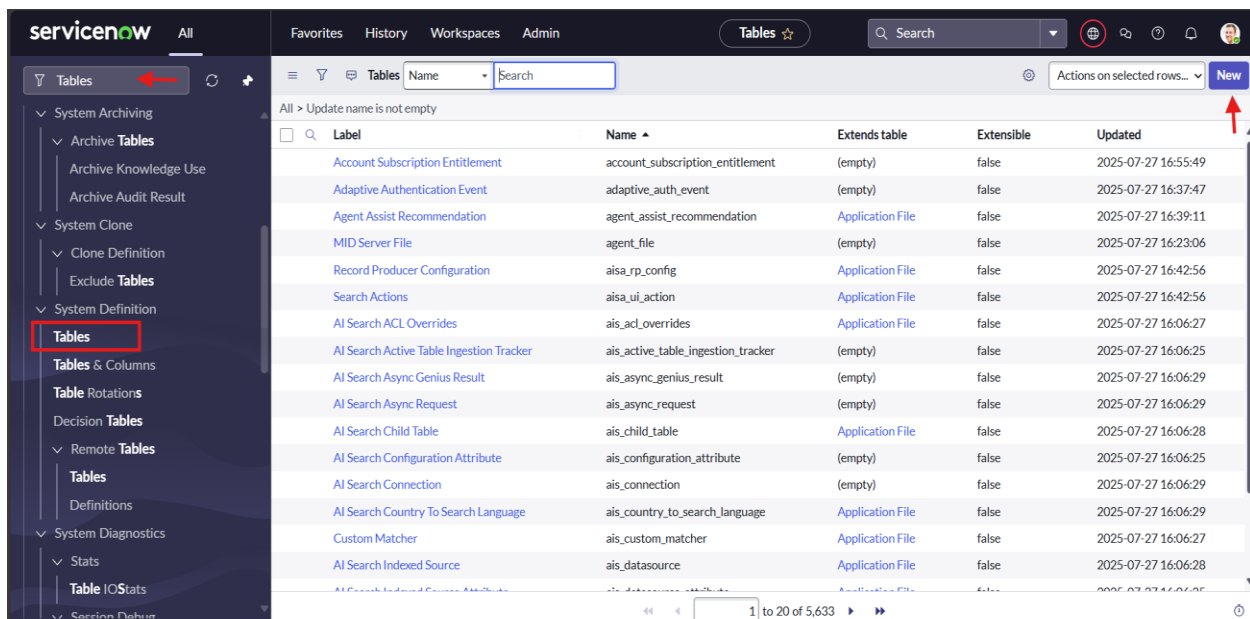
4. Enter the details:
 - **Name:** Family Expenses
5. Click on **Submit and Make Current**.



Milestone 3 : Creation of Table

Activity 1: Create Family Expenses Table

1. In ServiceNow, go to **All**.
2. In the filter search box, type **Tables**.
3. Click on **Tables** under *System Definition*.
4. Click on **New**.



Label	Name	Extends table	Extensible	Updated
Account Subscription Entitlement	account_subscription_entitlement	(empty)	false	2025-07-27 16:55:49
Adaptive Authentication Event	adaptive_auth_event	(empty)	false	2025-07-27 16:37:47
Agent Assist Recommendation	agent_assist_recommendation	Application File	false	2025-07-27 16:39:11
MID Server File	agent_file	(empty)	false	2025-07-27 16:23:06
Record Producer Configuration	aisa_rp_config	Application File	false	2025-07-27 16:42:56
Search Actions	aisa_ui_action	Application File	false	2025-07-27 16:42:56
AI Search ACL Overrides	ais_acl_overrides	Application File	false	2025-07-27 16:06:27
AI Search Active Table Ingestion Tracker	ais_active_table_ingestion_tracker	(empty)	false	2025-07-27 16:06:25
AI Search Async Genius Result	ais_async_genius_result	(empty)	false	2025-07-27 16:06:29
AI Search Async Request	ais_async_request	(empty)	false	2025-07-27 16:06:29
AI Search Child Table	ais_child_table	Application File	false	2025-07-27 16:06:28
AI Search Configuration Attribute	ais_configuration_attribute	(empty)	false	2025-07-27 16:06:25
AI Search Connection	ais_connection	(empty)	false	2025-07-27 16:06:29
AI Search Country To Search Language	ais_country_to_search_language	Application File	false	2025-07-27 16:06:29
Custom Matcher	ais_custom_matcher	Application File	false	2025-07-27 16:06:27
AI Search Indexed Source	ais_datasource	Application File	false	2025-07-27 16:06:28

5. Enter the details:
 - **Label:** Family Expenses
 - **Name:** (Auto-populated)
 - **New menu name:** Family Expenditure
6. Go to the header, right-click, and select **Save**.

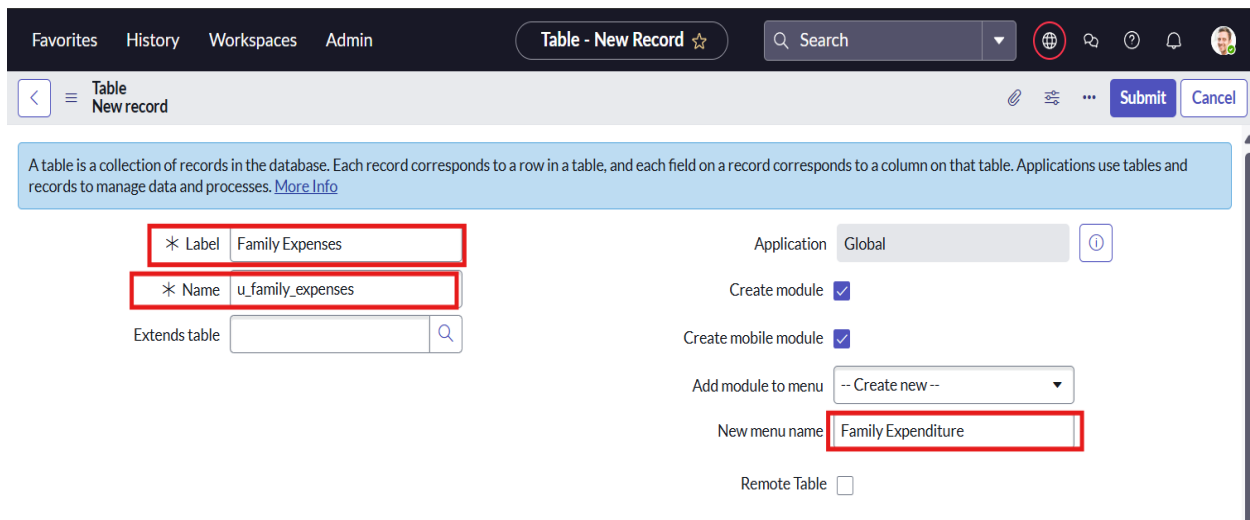


Table - New Record

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](#)

* Label: Family Expenses

* Name: u_family_expenses

Extends table:

Application: Global

Create module: ☒

Create mobile module: ☒

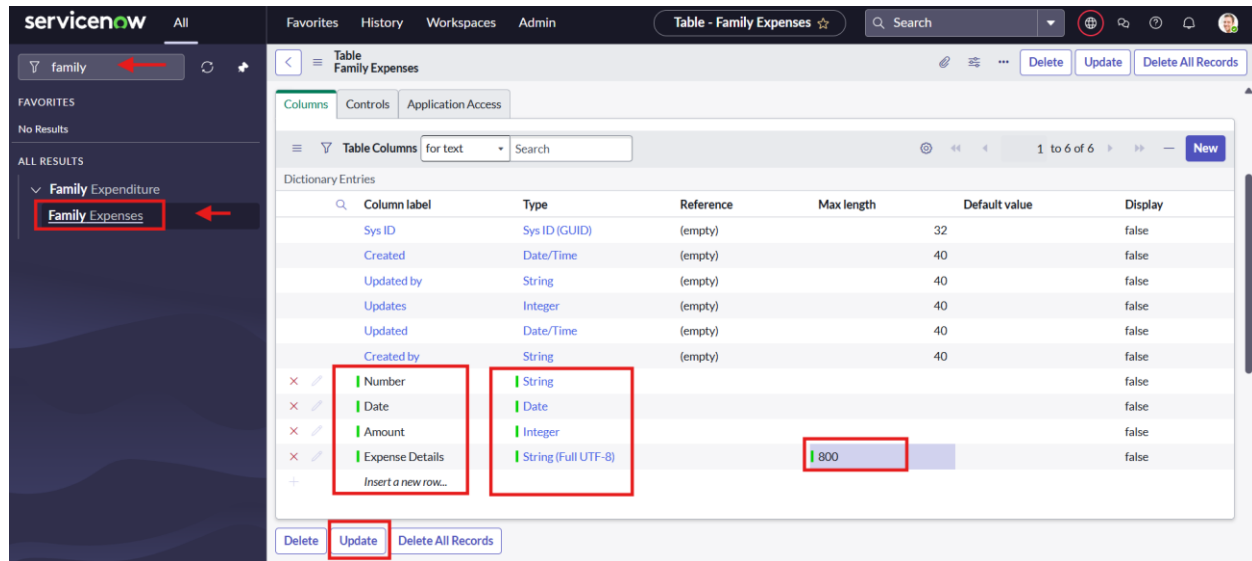
Add module to menu: -- Create new --

New menu name: Family Expenditure

Remote Table: ☐

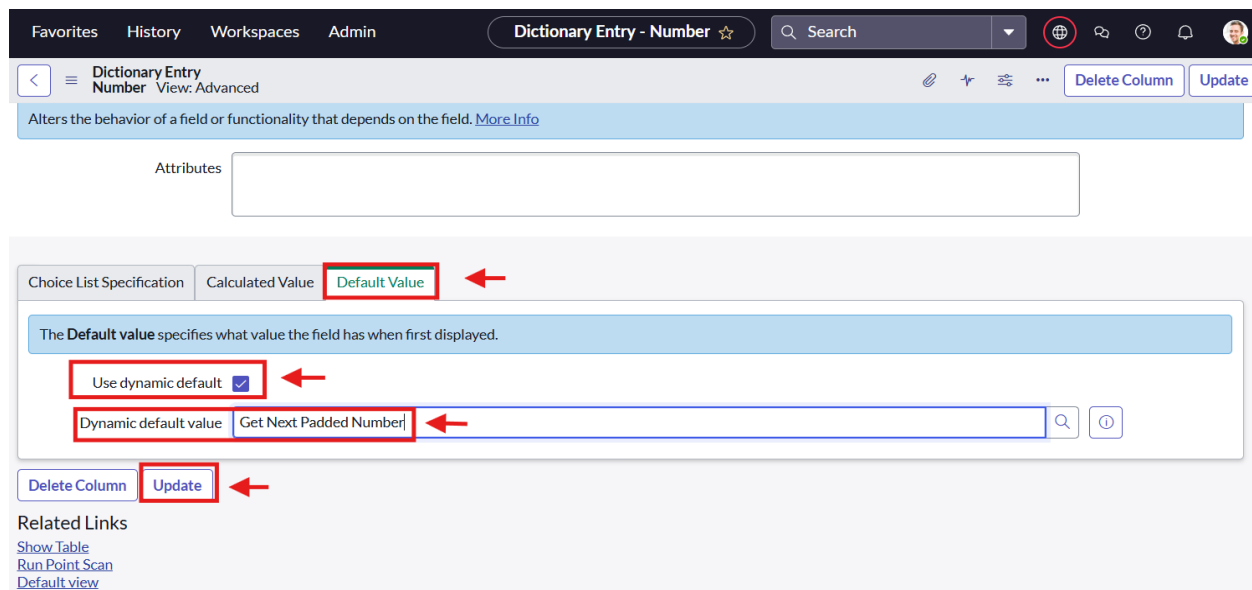
Activity 2: Create Table

1. In the **Family Expenses** table, go to the **Columns** section.
2. Double-click near **Insert a new row**.
3. Enter the details:
 - **Column label:** Number
 - **Type:** String
 - Again double-click.
 - **Column label:** Date
 - **Type:** Date
 - Again double-click.
 - **Column label:** Amount
 - **Type:** Integer
 - Again double-click.
 - **Column label:** Expense Details
 - **Type:** String
 - **Max length:** 800
4. Go to the header, right-click, and select **Save**.



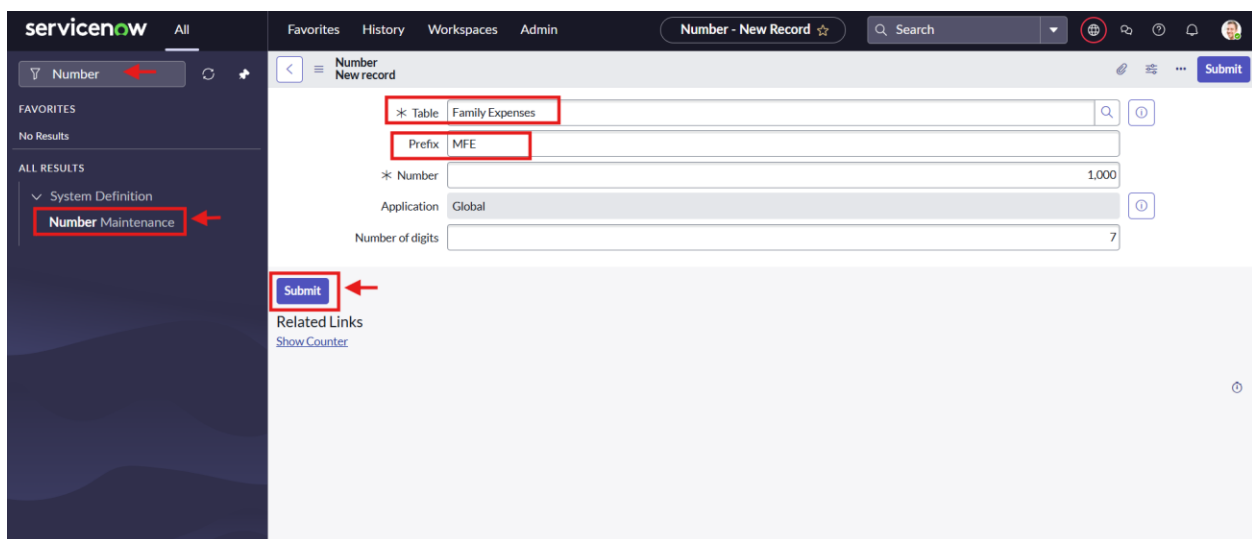
Activity 3: Configure Auto Number for Family Expenses Table

1. Open the **Family Expenses** table.
2. Double-click the **Number** field/column.
3. Scroll down and switch to **Advanced view**.
4. In **Default Value**:
 - Tick **Use dynamic default**.
 - Select **Get Next Padded Number**.
5. Click **Update**.



Activity 4: Create Number Maintenance

1. In ServiceNow, go to **All**.
2. In the search box, type **Number Maintenance** and select it.
3. Click **New**.
4. Enter the details:
 - **Table:** Family Expenses
 - **Prefix:** MFE
5. Click **Submit**.



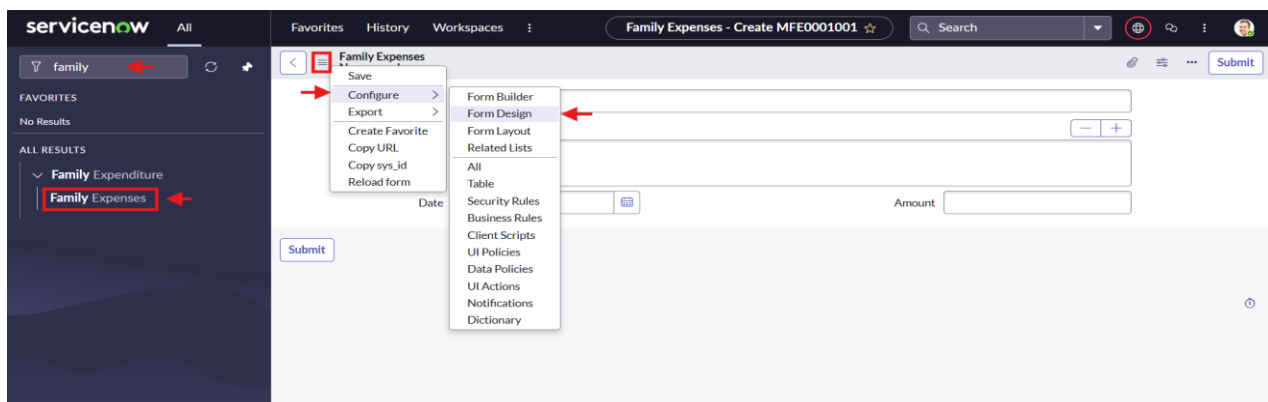
The screenshot shows the ServiceNow interface for creating a new Number record. The left sidebar has a search bar with 'Number' entered and a red arrow pointing to the search icon. Below the search bar, the 'ALL RESULTS' section shows 'System Definition' expanded, with 'Number Maintenance' highlighted by a red box and a red arrow. The main form area is titled 'Number - New Record'. It contains the following fields:

- * Table: Family Expenses (highlighted with a red box)
- Prefix: MFE (highlighted with a red box)
- * Number: 1,000
- Application: Global
- Number of digits: 7

 At the bottom left of the form, the 'Submit' button is highlighted with a red box and a red arrow. Below the form, there is a 'Related Links' section with a link to 'Show Counter'.

Activity 5: Configure the Form

1. In ServiceNow, go to **All** and search for **Family Expenses**.
2. Open **Family Expenses** and click on **New**.
3. In the header, right-click → select **Configure** → **Form Design**.

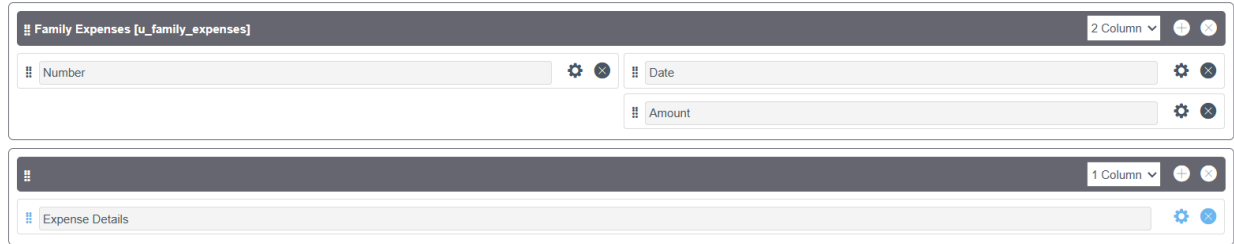


The screenshot shows the ServiceNow interface for configuring the Family Expenses form. The left sidebar has a search bar with 'family' entered and a red arrow pointing to the search icon. Below the search bar, the 'ALL RESULTS' section shows 'Family Expenditure' expanded, with 'Family Expenses' highlighted by a red box and a red arrow. The main form area is titled 'Family Expenses - Create MFE0001001'. A right-click context menu is open over the form header, with 'Configure' selected and 'Form Design' highlighted by a red arrow. The form contains the following fields:

- Date
- Amount

 At the bottom left of the form, the 'Submit' button is visible.

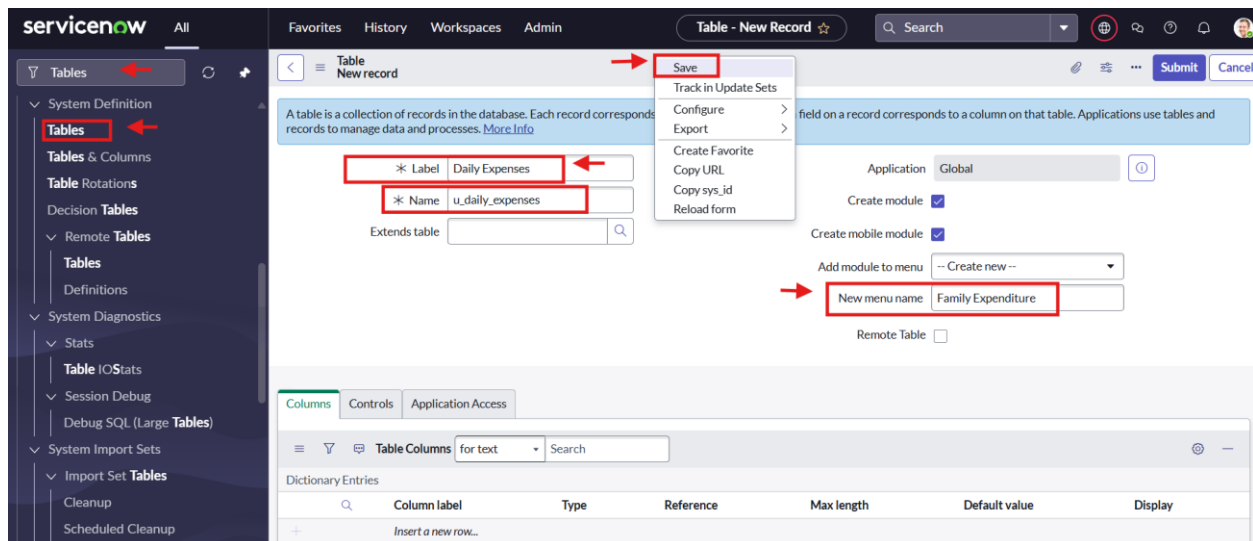
4. Arrange or drag & drop fields as needed.
5. For **Number** field: set it to **Read-Only** (using the gear icon).
6. For **Date** and **Amount** fields: set them as **Mandatory** (using the gear icon).
7. Click **Save**.



Milestone 4 : Creation of Daily Expenses Table

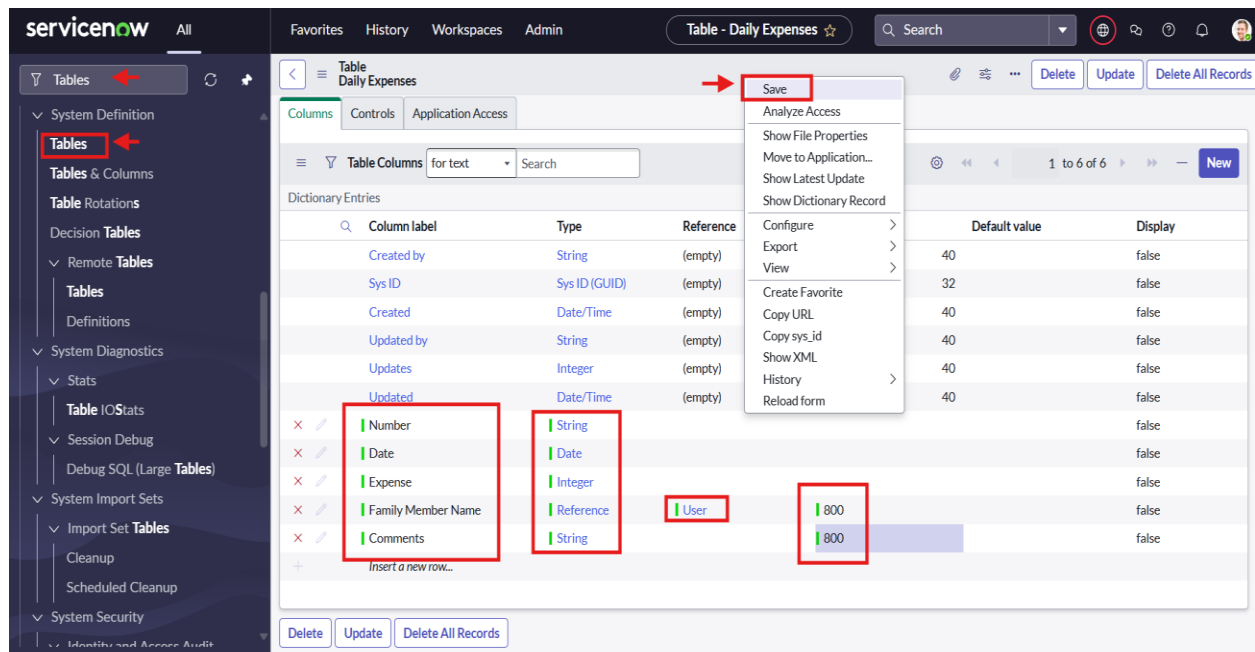
Activity 1: Create Daily Expenses Table

1. In ServiceNow, go to **All**.
2. In the search bar, type **Tables** and click on it.
3. Click on **New**.
4. Enter the details:
 - **Label:** Daily Expenses
 - **Name:** (Auto-populated)
 - **Add Module to menu:** Family Expenditure
5. In the header, right-click and click **Save**.



Activity 2: Add Columns (Fields) to Daily Expenses Table

1. In the **Daily Expenses** table, go to the **Columns** section.
2. Double-click on **Insert a new row** to add fields.
3. Add the following columns one by one:
 - **Column label:** Number → **Type:** String
 - **Column label:** Date → **Type:** Date
 - **Column label:** Expense → **Type:** Integer
 - **Column label:** Family Member Name → **Type:** Reference (Max length: 800) **Reference:** User there show sys_user
 - **Column label:** Comments → **Type:** String (Max length: 800)
4. After adding all columns, go to the header, right-click, and click **Save**.



The screenshot shows the ServiceNow interface for configuring the 'Table - Daily Expenses'. The 'Columns' tab is selected, and a new row is being added. The columns are: Number (String), Date (Date), Expense (Integer), Family Member Name (Reference, User, 800), and Comments (String, 800). The 'Save' button is highlighted in the top right.

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

Activity 3: Make Number Field Auto-Generate

1. In the **Daily Expenses** table, double-click on the **Number** field.
2. Scroll down and switch to **Advanced view**.
3. In **Default Value**:
 - Tick **Use dynamic default**.
 - Select **Get Next Padded Number**.
4. Click **Update**.

Dictionary Entry - Number

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: Get Next Padded Number

Delete Column | **Update**

Related Links

[Show Table](#)
[Run Point Scan](#)
[Default view](#)

Activity 4: Number Maintenance

1. In ServiceNow, go to **All**.
2. Search for **Number Maintenance** and open it.
3. Click on **New**.
4. Enter the details:
 - **Table:** Daily Expenses
 - **Prefix:** DFE (Daily Expenses)
5. Click **Submit**.

servicenow

number

FAVORITES

No Results

ALL RESULTS

System Definition

Number Maintenance

Number - New Record

* Table: Daily Expenses

Prefix: DFE

* Number: 1,000

Application: Global

Number of digits: 7

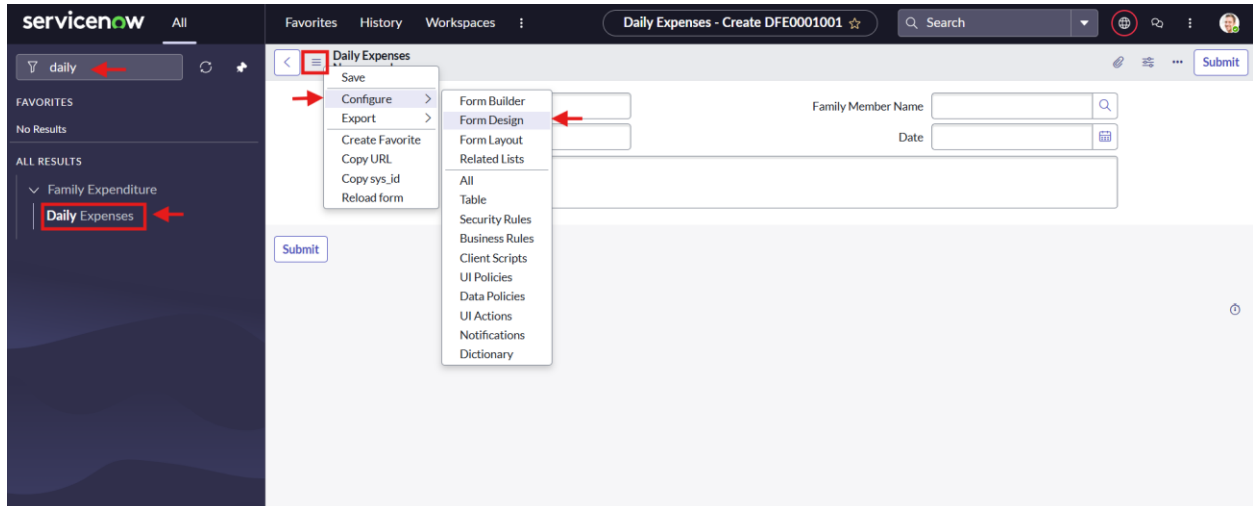
Submit

Related Links

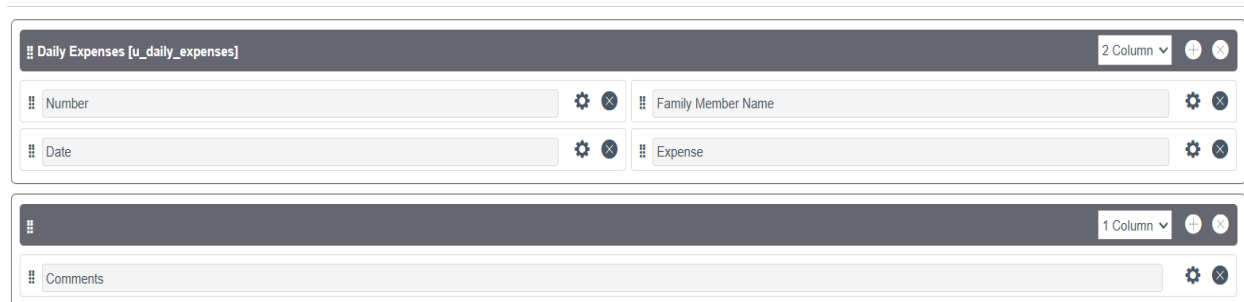
[Show Counter](#)

Activity 5: Configure the Form

1. In ServiceNow, go to **All** and search for **Daily Expenses**.
2. Open **Daily Expenses** and click on **New**.
3. In the header, right-click → choose **Configure** → **Form Design**.



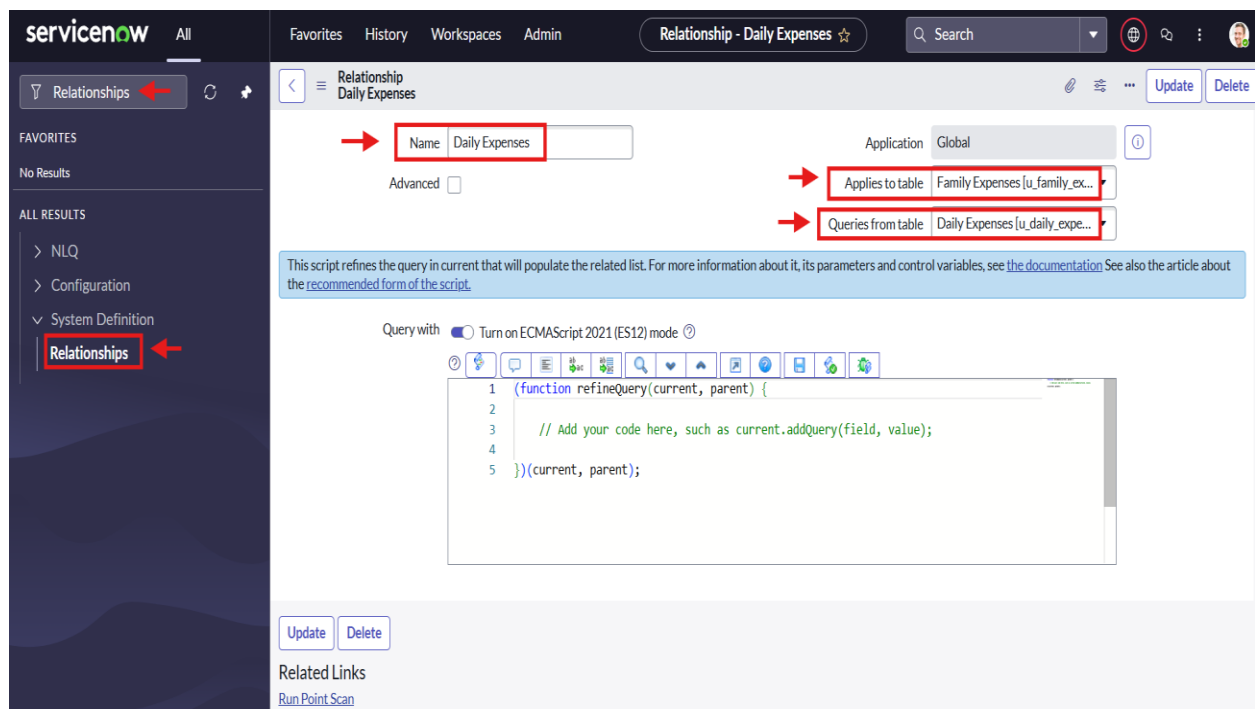
4. Arrange or drag & drop the fields as needed.
5. For the **Number** field: set it to **Read-Only** (using the gear icon).
6. For **Date** and **Family Member Name** fields: set them as **Mandatory** (using the gear icon).
7. Click **Save**.



Milestone 5 : Creation of Relationship between Tables

Activity 1: Link Family Expenses and Daily Expenses Tables

1. In ServiceNow, go to **All**.
2. In the search box, type **Relationships** and open it.
3. Click on **New**.
4. Enter the details:
 - **Name:** Daily Expenses
 - **Applies to table:** Family Expenses
 - **Related table:** Daily Expenses
5. Click **Save**.



The screenshot shows the ServiceNow interface for creating a new relationship. The left sidebar has 'Relationships' highlighted under 'System Definition'. The main form is titled 'Relationship - Daily Expenses'. The 'Name' field is set to 'Daily Expenses'. The 'Applies to table' dropdown is set to 'Family Expenses [u_family_ex...]'. The 'Queries from table' dropdown is set to 'Daily Expenses [u_daily_expe...]'. The 'Application' dropdown is set to 'Global'. Below the form, there is a section for 'Query with' and a code editor with the following JavaScript code:

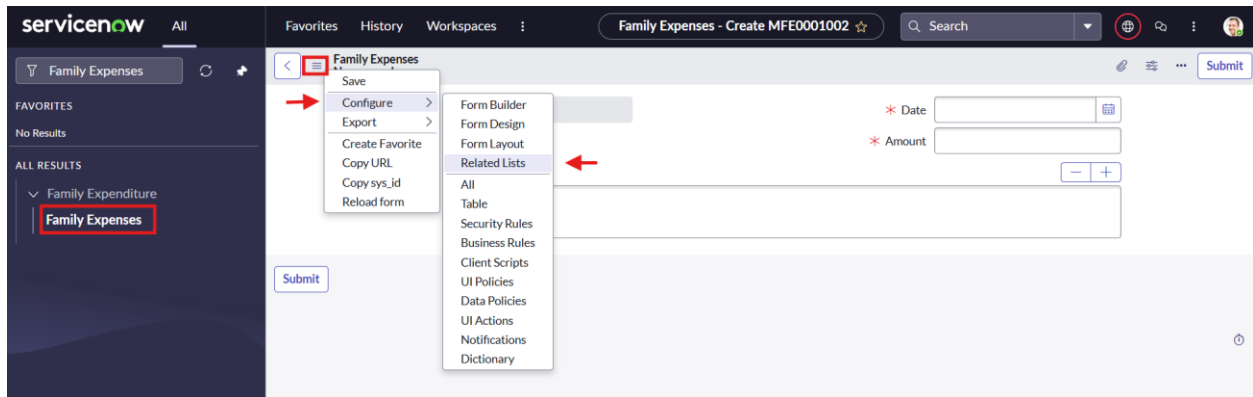
```
1 (function refineQuery(current, parent) {  
2  
3   // Add your code here, such as current.addQuery(field, value);  
4  
5 })(current, parent);
```

Buttons for 'Update' and 'Delete' are visible at the bottom of the form.

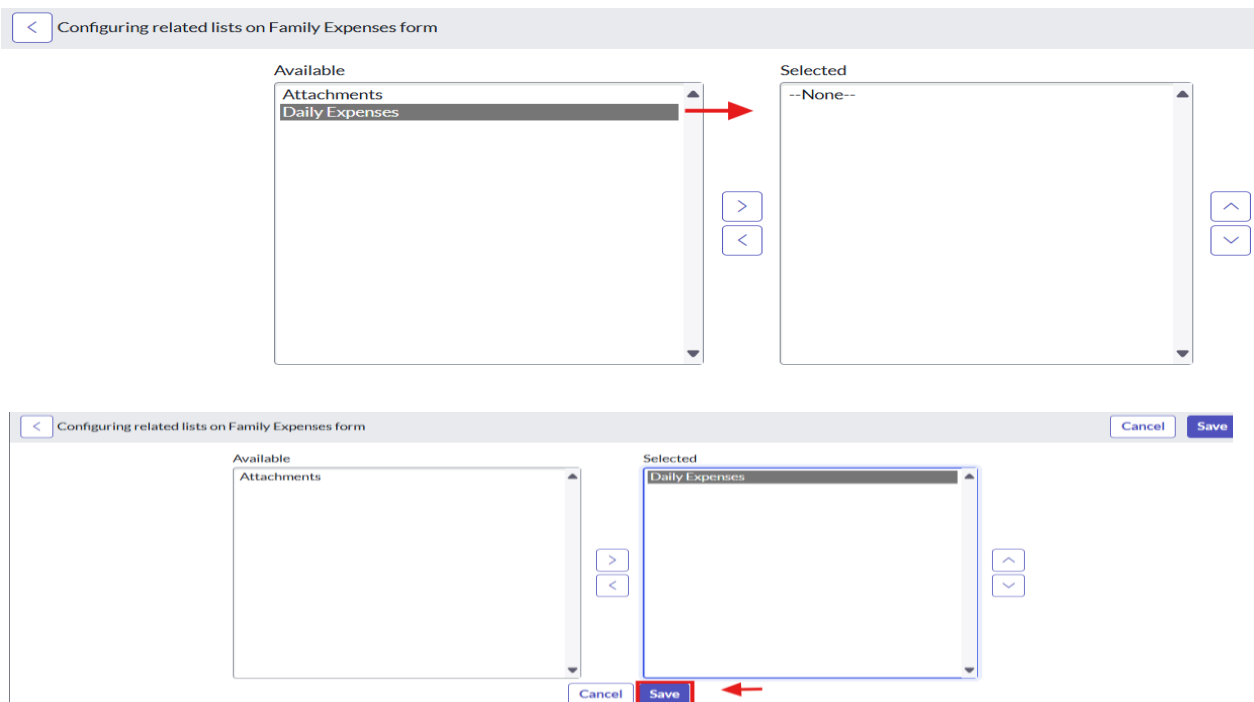
Milestone 6 : Configuring Related List on Family Expenses

Activity 1: Add Daily Expenses as Related List

1. In ServiceNow, go to **All** and search for **Family Expenses**.
2. Open **Family Expenses** and click on **New**.
3. In the header, right-click → choose **Configure** → **Related Lists**.



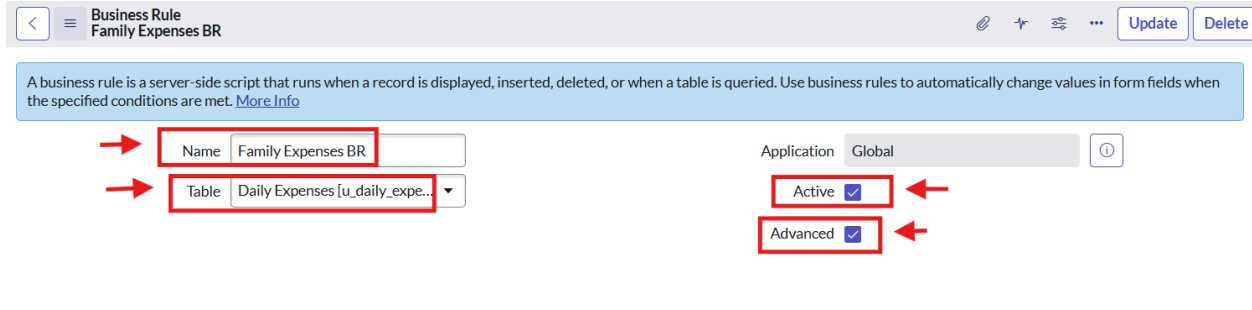
4. From the options, add **Daily Expenses** to the selected area.
5. Click **Save**.



Milestone 7 : Creation of Business Rules

Activity 1: Add Business Rule for Family Expenses

1. In ServiceNow, go to **All**.
2. In the search bar, type **Business Rules** and select it under *System Definition*.
3. Click on **New**.
4. Enter the details:
 - **Name:** Family Expenses BR
 - **Table:** Daily Expenses
 - Check **Advanced**.



Business Rule
Family Expenses BR

A business 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. [More Info](#)

Name: Family Expenses BR

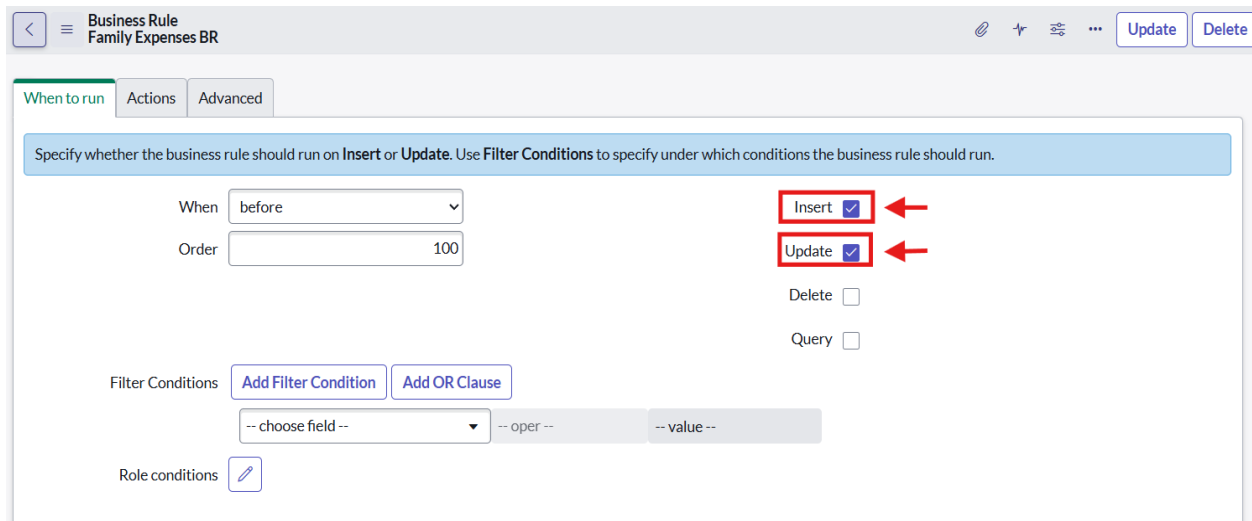
Table: Daily Expenses [u_daily_expenses]

Application: Global

Active: ☒

Advanced: ☒

5. Under When to run, check Insert and Update.



Business Rule
Family Expenses BR

When to run: before

Order: 100

Insert: ☒

Update: ☒

Delete: ☐

Query: ☐

Filter Conditions: [Add Filter Condition](#) [Add OR Clause](#)

Role conditions: [Edit](#)

6. In the Advanced section, paste the following script:

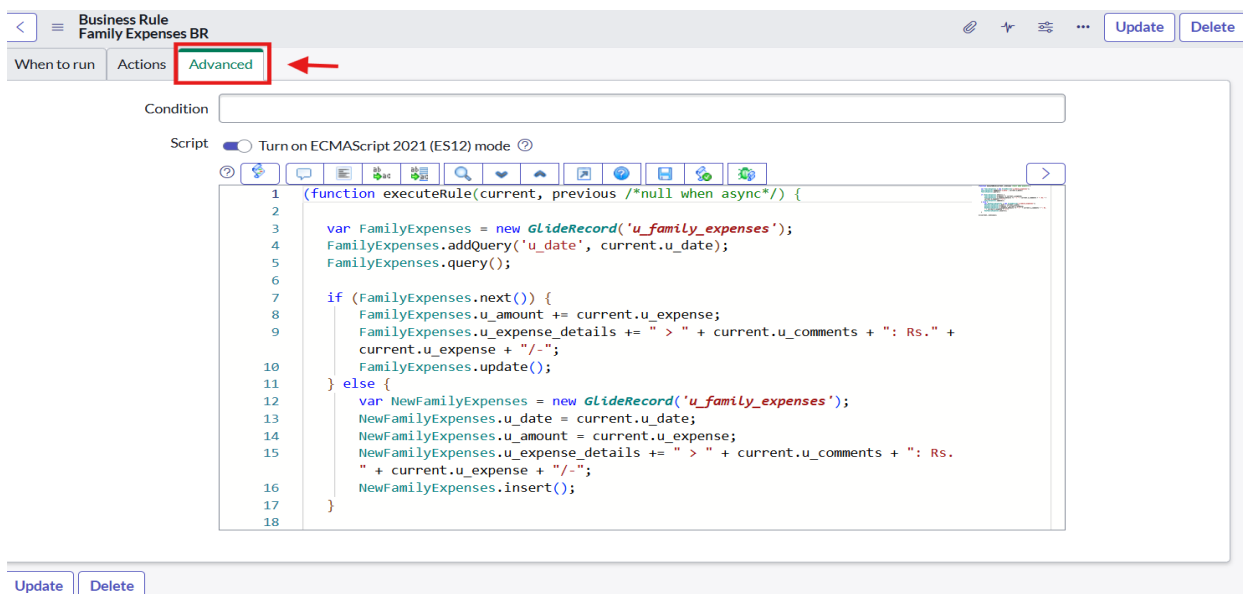
```
(function executeRule(current, previous /*null when async*/) {

    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);
```

7. Go to the header, right-click, and click Save.



Business Rule
Family Expenses BR

When to run | Actions | **Advanced** | Update | Delete

Condition

Script ☐ Turn on ECMAScript 2021 (ES12) mode

```

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
7     if (FamilyExpenses.next()) {
8         FamilyExpenses.u_amount += current.u_expense;
9         FamilyExpenses.u_expense_details += "> " + current.u_comments + ": Rs." +
10        current.u_expense + "/-";
11        FamilyExpenses.update();
12    } else {
13        var NewFamilyExpenses = new GlideRecord('u_family_expenses');
14        NewFamilyExpenses.u_date = current.u_date;
15        NewFamilyExpenses.u_amount = current.u_expense;
16        NewFamilyExpenses.u_expense_details += "> " + current.u_comments + ": Rs."
17        + current.u_expense + "/-";
18        NewFamilyExpenses.insert();
19    }
20 }

```

Update | Delete

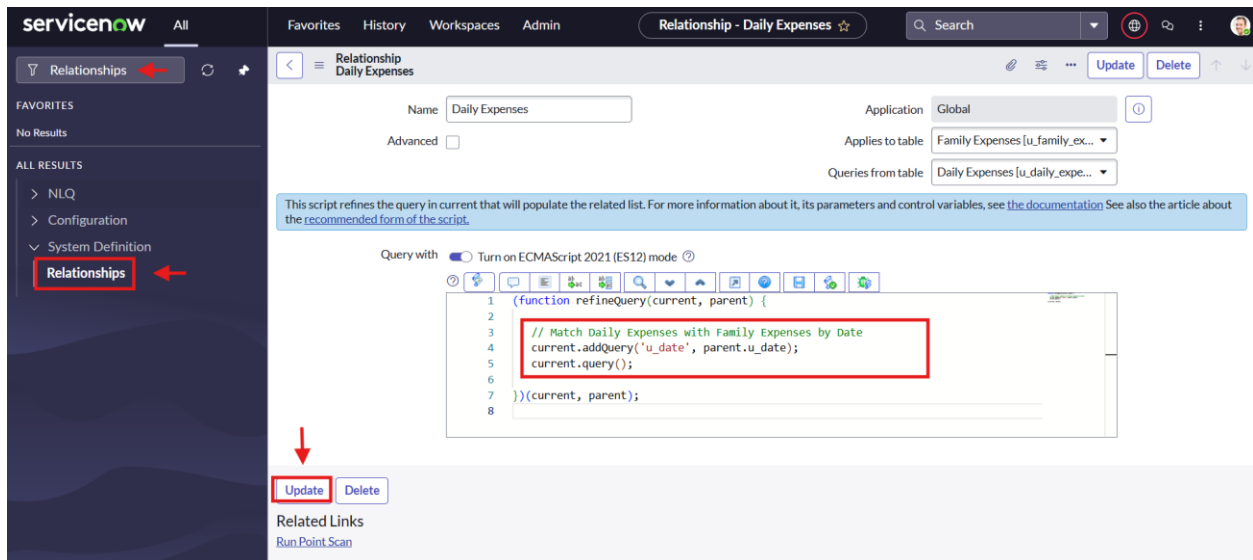
Milestone 8: Flow

Activity 1: Update Daily Expenses Relationship

1. In ServiceNow, go to **All**.
2. In the search box, type **Relationships** and open it.
3. Open the **Daily Expenses Relationship**.
4. For **Applies to table**, select **Family Expenses**.
5. In **Query with**, paste the following script:

```
(function refineQuery(current, parent) {  
  
    // Match Daily Expenses with Family Expenses by Date  
    current.addQuery('u_date', parent.u_date);  
    current.query();  
  
})(current, parent);
```

6. Click **Update**.



The screenshot shows the ServiceNow interface for configuring a relationship. On the left, the 'Relationships' link is highlighted in the 'System Definition' menu. The main panel displays the configuration for the 'Daily Expenses' relationship. The 'Applies to table' is set to 'Family Expenses' and the 'Queries from table' is set to 'Daily Expenses'. A script editor is open, showing the JavaScript code for refining the query. The 'Update' button at the bottom is highlighted with a red arrow.

Conclusion :

The project “**Calculating Family Expenses using ServiceNow**” was completed successfully.

We created tables, fields, relationships, and business rules to record and calculate daily expenses.

This system helps families keep all expense details in one place, check them easily, and avoid manual mistakes.

It makes tracking money simple and organized.

In the future, we can add reports and charts to see monthly and yearly expenses clearly.