Calculating Family Expenses using ServiceNow

Team ID: LTVIP2026TMIDS91120

Team Size: 5

Team Leader: MUMMIDI VEERA VENKATA DURGA PRAVEEN KUMAR

Team Member: AKULA VENKATA RAMA KRISHNA

Team Member: MOTAPOTHU HIMA SAI SINDHU

Team Member: BHARATH ADHITYA NAKKA

Team Member: DADALA GANGADHAR

Problem Statement:

There is currently no efficient system in place to track, categorize, and analyze family expenses in a way that is integrated, automated, and accessible in real-time. This leads to poor budget planning, missed payments, overspending, and a lack of financial visibility.

Objective:

To design and implement a solution using **ServiceNow** that allows family members to:

1. **Input and categorize expenses** easily via a user-friendly interface or mobile portal.
2. **Automate recurring expenses** (e.g., rent, subscriptions).
3. **Track total and category-wise spending** on a monthly/weekly basis.
4. **Set spending limits and receive alerts** when thresholds are crossed.
5. **Generate reports and dashboards** to visualize trends and support better financial decisions.
6. **Share visibility and responsibilities** across family members via roles or user groups.

Skills:

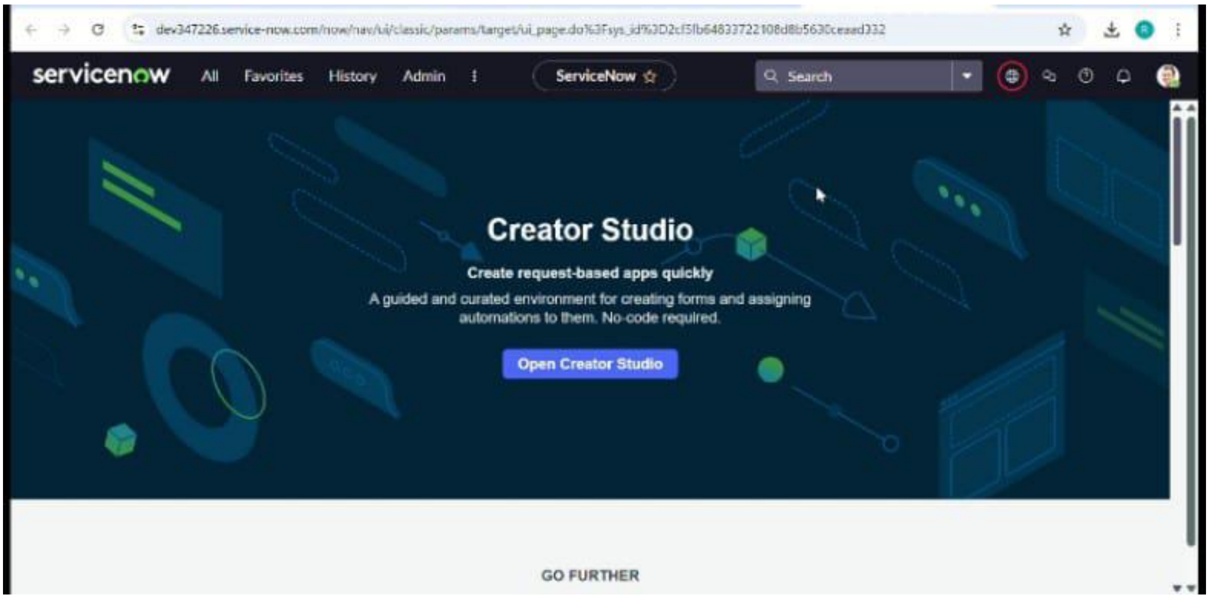
- **ServiceNow App Development** (App Engine Studio)
- **Custom Tables & Data Modeling**
- **Form Design & UI Customization**
- **Flow Designer** (for automation)
- **Business Rules & Scripting**
- **Reporting & Dashboards**
- **User Roles & Access Control (ACLs)**

TASK INITIATION

Milestone 1 : Instance

Activity 1: Setting up ServiceNow instance

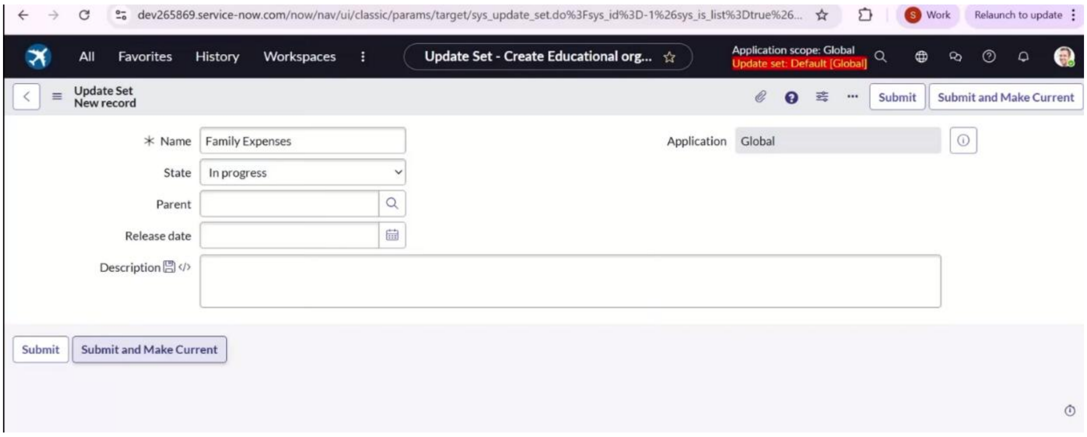
1. Sign up for a developer account on the ServiceNow Developer site “https://developer.servicenow.com”.
2. Once logged in, navigate to the "Personal Developer Instance" section.
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.
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.


servicenow
All
Favorites
History
Admin
ServiceNow
Search
Creator Studio
Create request-based apps quickly
A guided and curated environment for creating forms and assigning automations to them. No-code required.
Open Creator Studio
GO FURTHER

Milestone 2: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.


All
Favorites
History
Workspaces
Update Set - Create Educational org...
Application scope: Global
Update set: Default [Global]
Work
Relaunch to update
Submit
Submit and Make Current

dev265869.service-now.com/now/nav/ui/classic/params/target/sys_update_set.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26...

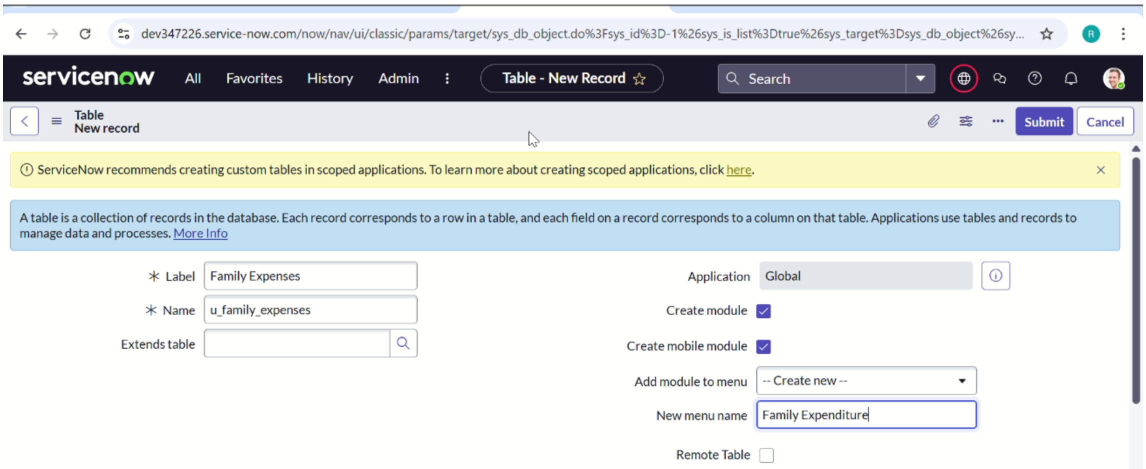
Update Set
New record

* Name	Family Expenses	Application	Global
State	In progress		
Parent			
Release date			
Description			

Milestone 3: Table(Family Expenses)

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.



dev347226.service-now.com/now/nav/ui/classic/params/target/sys_db_object.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_db_object%26sy...

Table
New record

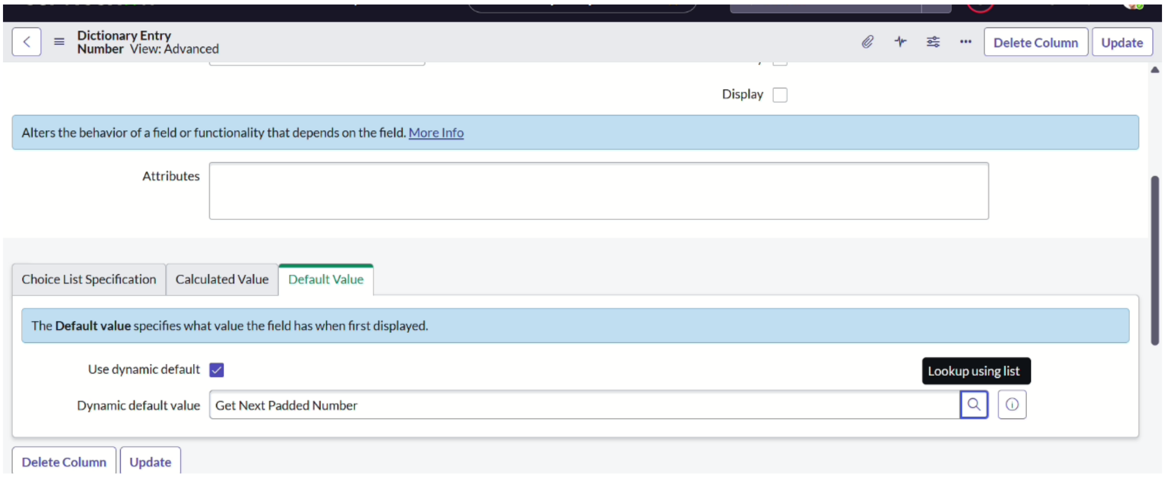
ServiceNow recommends creating custom tables in scoped applications. To learn more about creating scoped applications, click here.

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	Application	Global
* Name	u_family_expenses	Create module	☑
Extends table		Create mobile module	☑
		Add module to menu	-- Create new --
		New menu name	Family Expenditure
		Remote Table	□

Activity 2: Creation of Family Expenses Table

1. Near Columns Double click near insert a new row.
2. 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



Display □

Alters the behavior of a field or functionality that depends on the field. More Info

Attributes

Choice List Specification | Calculated Value | Default Value

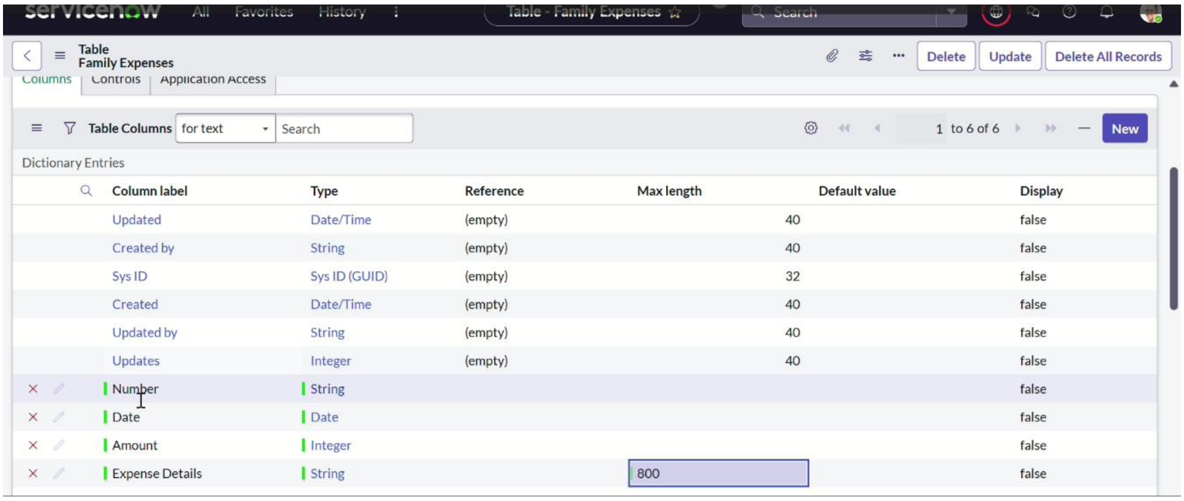
The **Default value** specifies what value the field has when first displayed.

Use dynamic default ☑

Dynamic default value: Get Next Padded Number

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



Column label	Type	Reference	Max length	Default value	Display
Updated	Date/Time	(empty)	40		false
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
Number	String				false
Date	Date				false
Amount	Integer				false
Expense Details	String		800		false

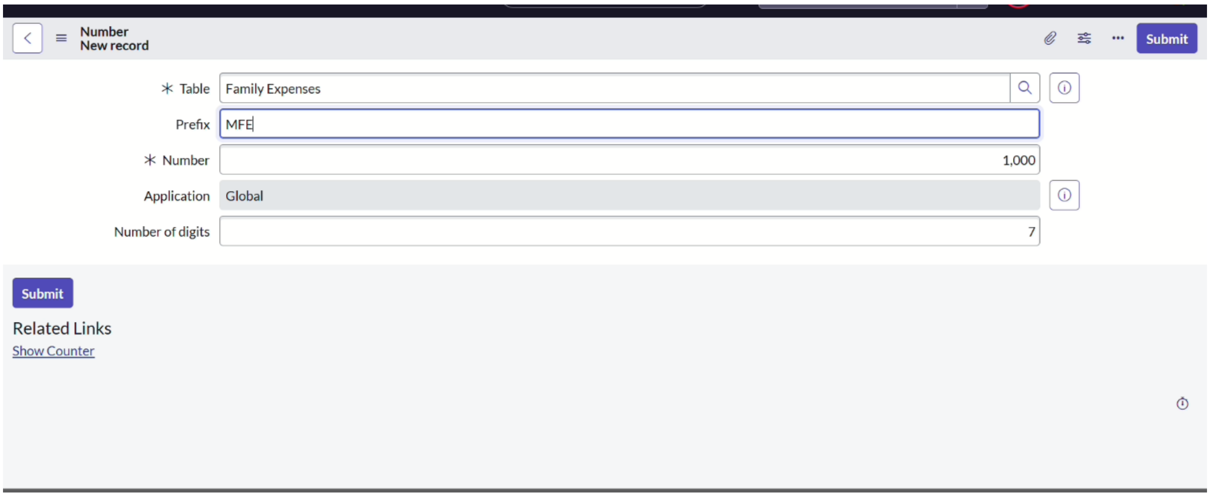
Activity 3: Making Number Field an Auto-Number

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.

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
8. Click on Submit

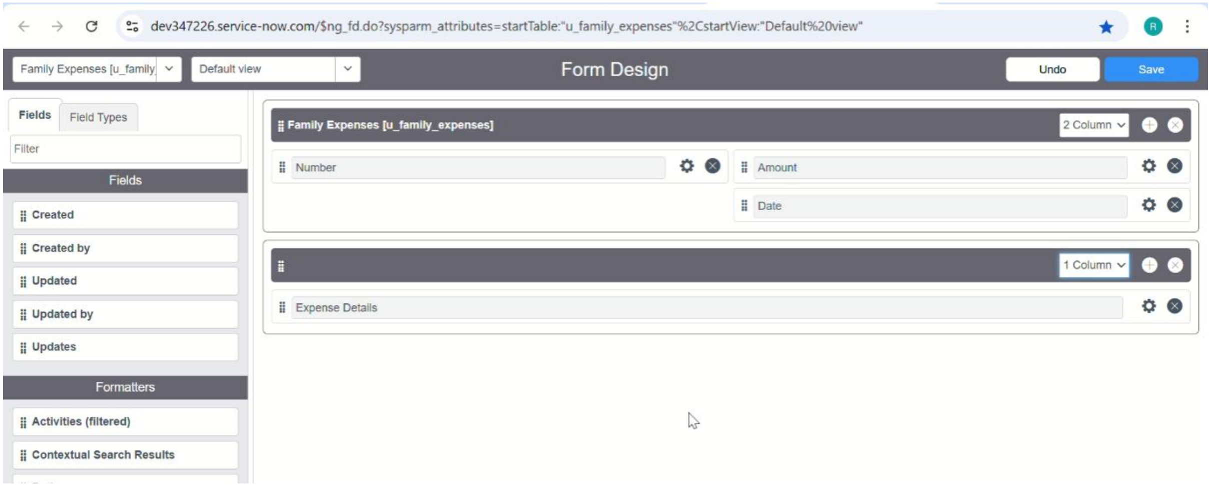


* Table	Family Expenses
Prefix	MFE
* Number	1,000
Application	Global
Number of digits	7

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.

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.

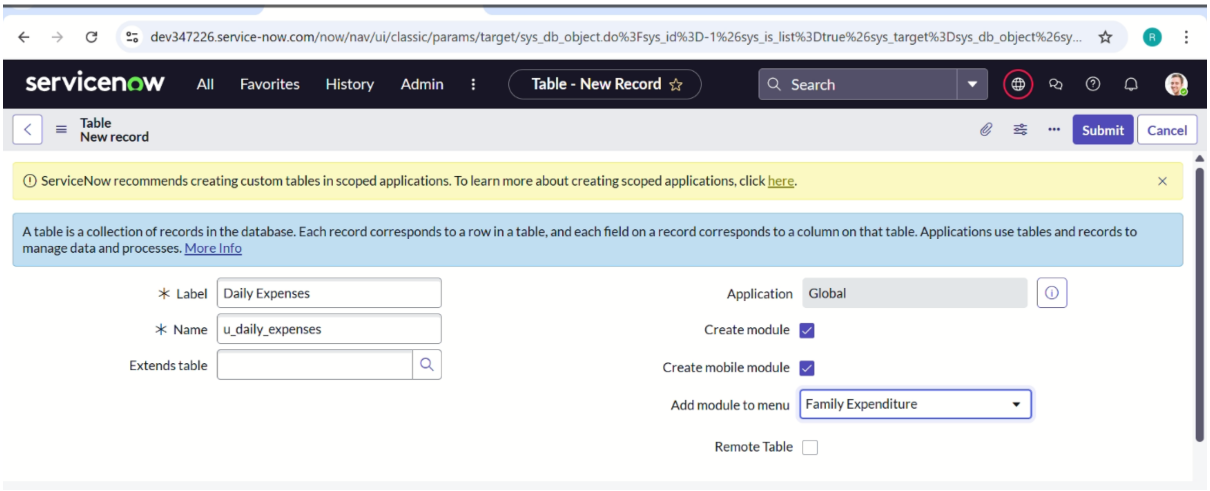

dev347226.service-now.com/$ng_fd.do?sysparm_attributes=startTable:"u_family_expenses"%2CstartView:"Default%20view"
Family Expenses [u_family
Default view
Form Design
Undo
Save
Fields
Field Types
Filter
Fields
Created
Created by
Updated
Updated by
Updates
Formatters
Activities (filtered)
Contextual Search Results
Family Expenses [u_family_expenses]
2 Column
Number
Amount
Date
1 Column
Expense Details

Milestone 4: Table(Daily Expenses)

Activity 1: Creation ofTable(Daily Expenses)

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

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


dev347226.service-now.com/now/nav/ui/classic/params/target/sys_db_object.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_db_object%26sy...
servicenow
All
Favorites
History
Admin
Table - New Record
Search
Table
New record
Submit
Cancel

ServiceNow recommends creating custom tables in scoped applications. To learn more about creating scoped applications, click here.

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	Daily Expenses	Application	Global
* Name	u_daily_expenses	Create module	☑
Extends table		Create mobile module	☑
		Add module to menu	Family Expenditure
		Remote Table	□

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 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

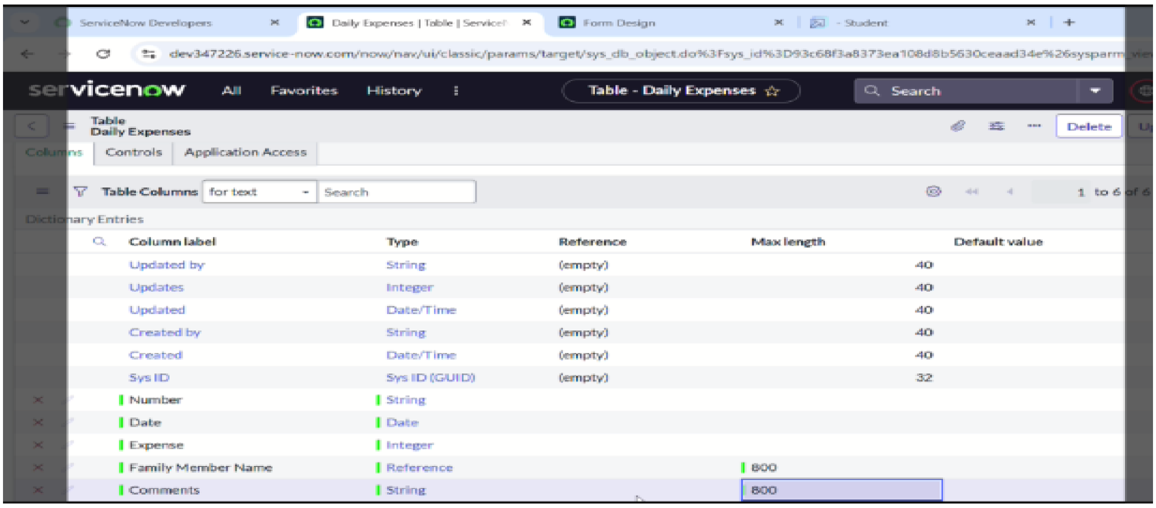
7. Double click on insert a new row again
8. Give the details as:

   Column label : Family Member Name
   Type : Reference
   Max length : 800

9. Double click 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.



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

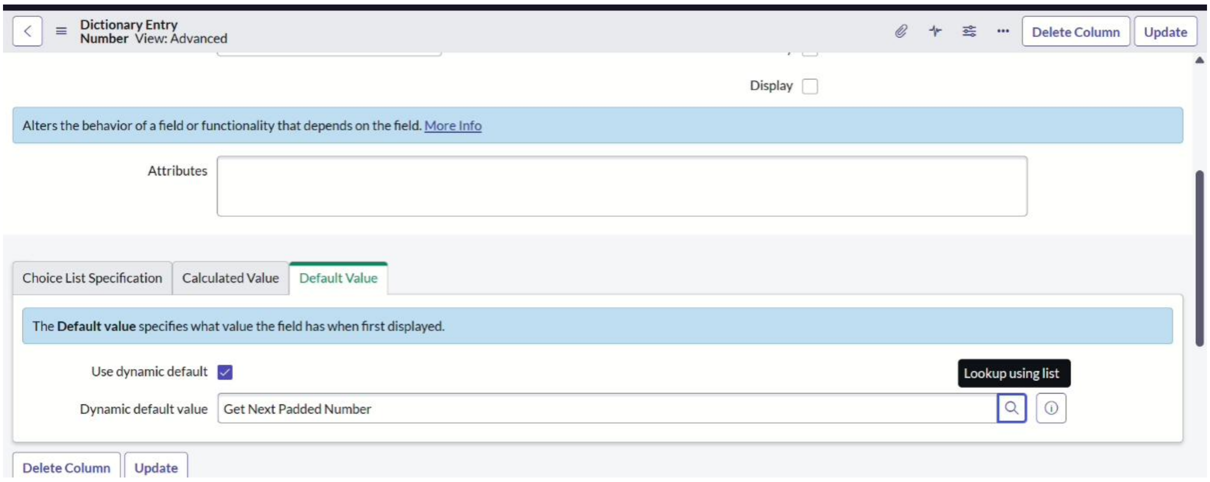
Activity 3: Making Number Field an Auto-Number

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.

5. Go to All >>In the filter search for Number Maintenance >> select Number Maintenance
6. Click on New.



Dictionary Entry
Number View: Advanced

Display □

Alters the behavior of a field or functionality that depends on the field. More Info

Attributes

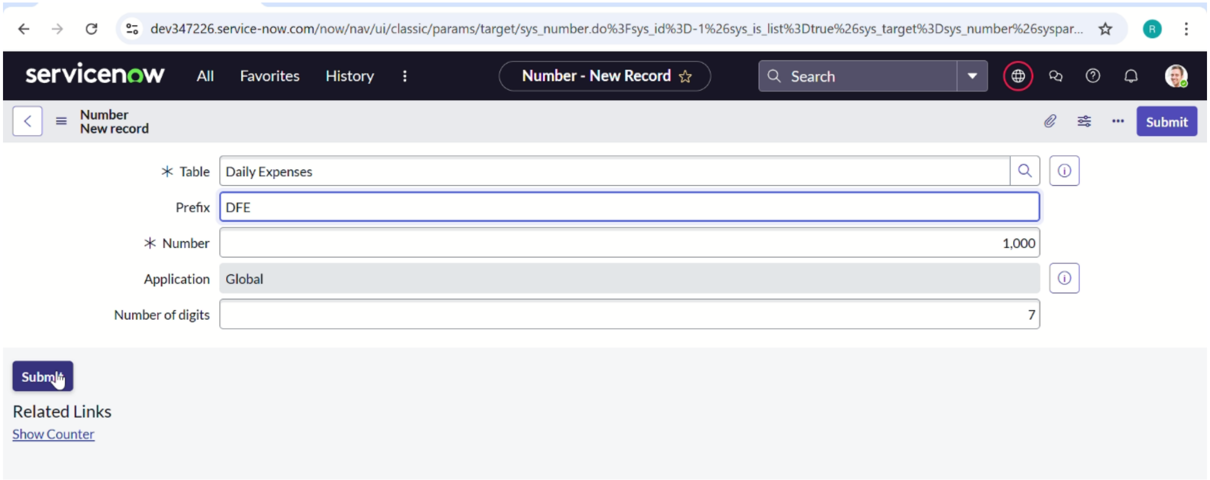
Choice List Specification | Calculated Value | Default Value

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

Use dynamic default ☑

Dynamic default value: Get Next Padded Number

7. Enter the below Details:
   Table : Daily Expenses
   Prefix : DFE
8. Click on Submit.


dev347226.service-now.com/now/nav/ui/classic/params/target/sys_number.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_number%26syspar...
servicenow
All
Favorites
History
Number - New Record
Search
Submit
Submit

Number
New record

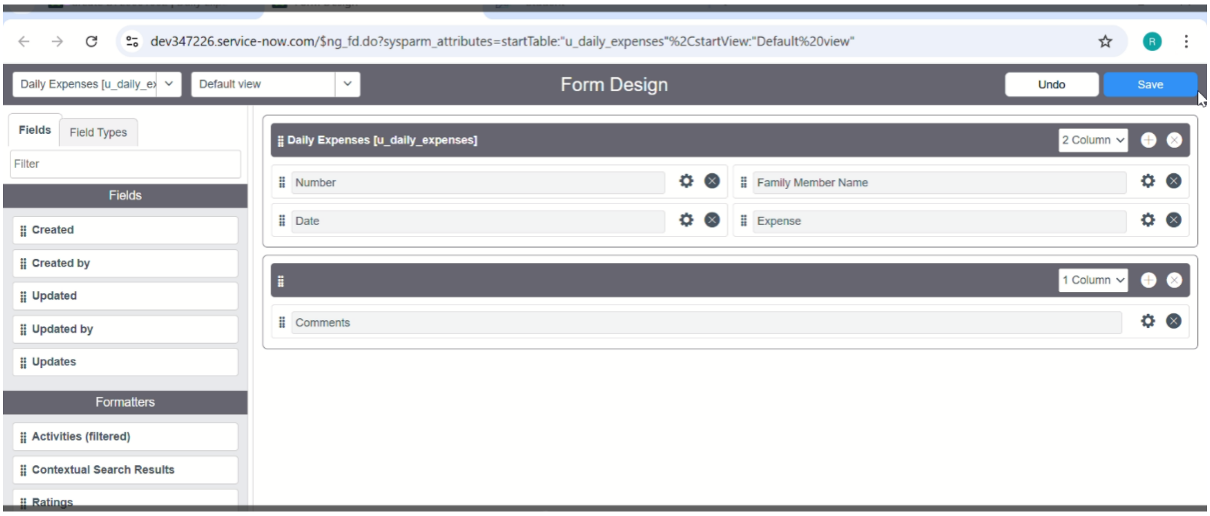
✱ Table	Daily Expenses
Prefix	DFE
✱ Number	1,000
Application	Global
Number of digits	7

Related Links
Show Counter

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.



dev347226.service-now.com/$ng_fd.do?sysparm_attributes=startTable:"u_daily_expenses"%2CstartView:"Default%20view"

Daily Expenses [u_daily_expenses] — 2 Column

Number	Family Member Name
Date	Expense

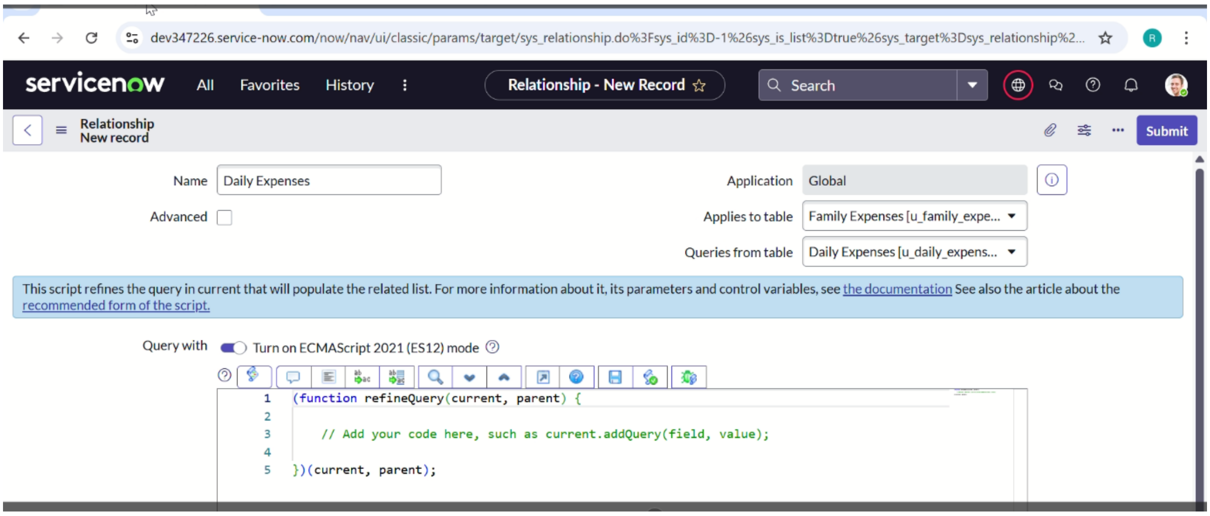
1 Column

Comments

Milestone 5: Creation of Relationship

Activity 1: 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.



dev347226.service-now.com/now/nav/ui/classic/params/target/sys_relationship.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_relationship%2...

Name: Daily Expenses
Advanced: □
Application: Global
Applies to table: Family Expenses [u_family_expe...
Queries from table: Daily Expenses [u_daily_expens...

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

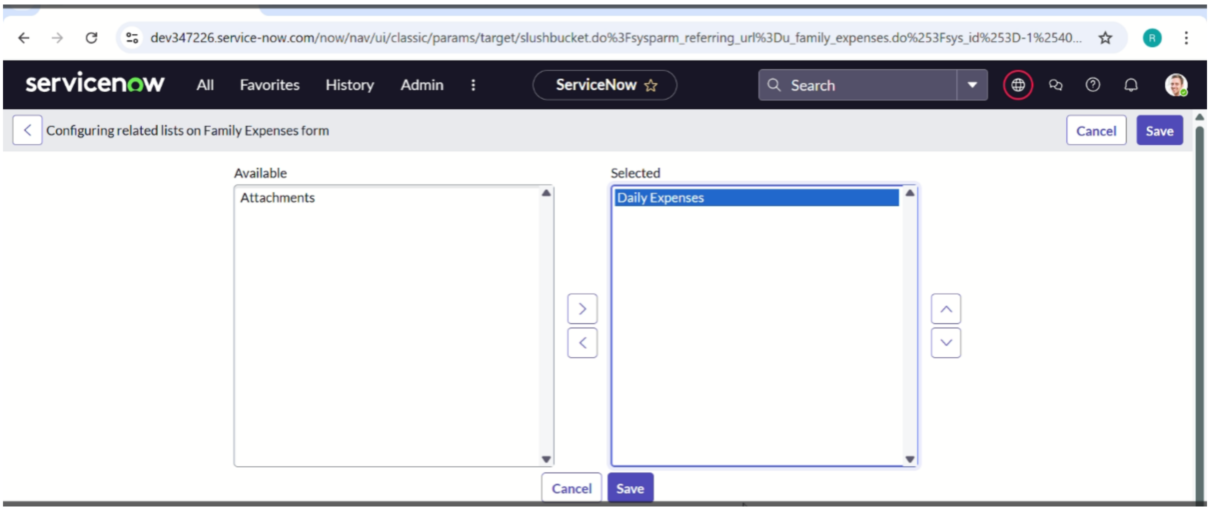
```
(function refineQuery(current, parent) {

    // Add your code here, such as current.addQuery(field, value);

})(current, parent);
```

Milestone 6: Configuring Related List on Family Expenses

Activity 1: 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



dev347226.service-now.com/now/nav/ui/classic/params/target/slushbucket.do%3Fsysparm_referring_url%3Du_family_expenses.do%253Fsys_id%253D-1%2540...

Configuring related lists on Family Expenses form

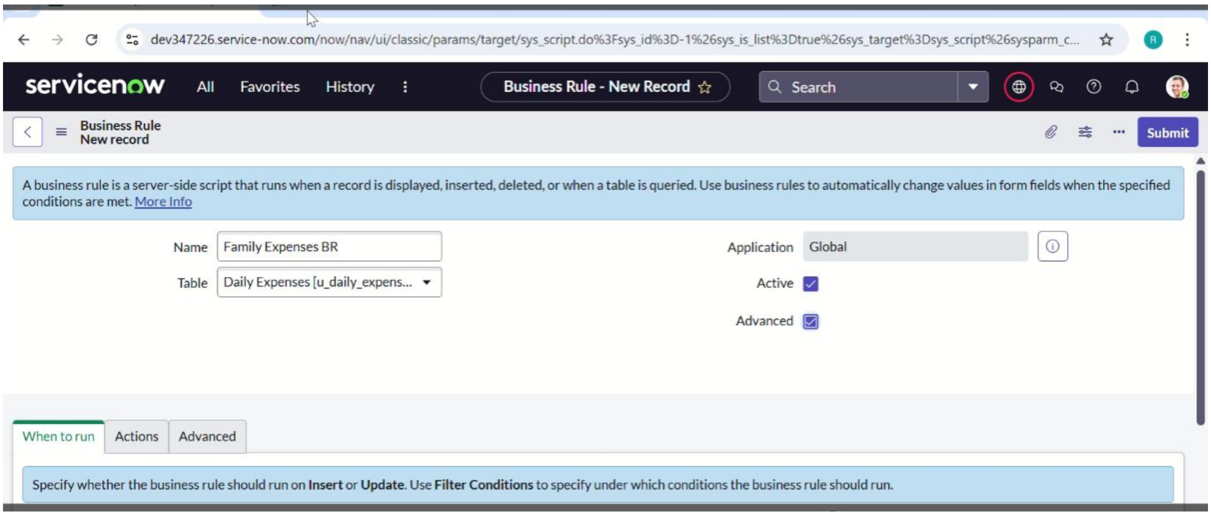
Available: Attachments

Selected: Daily Expenses

Milestone 7: Business Rules

Activity 1: 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


dev347226.service-now.com/now/nav/ui/classic/params/target/sys_script.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_script%26sysparm_c...
servicenow
All
Favorites
History
Business Rule - New Record
Search
Submit

Business Rule
New record

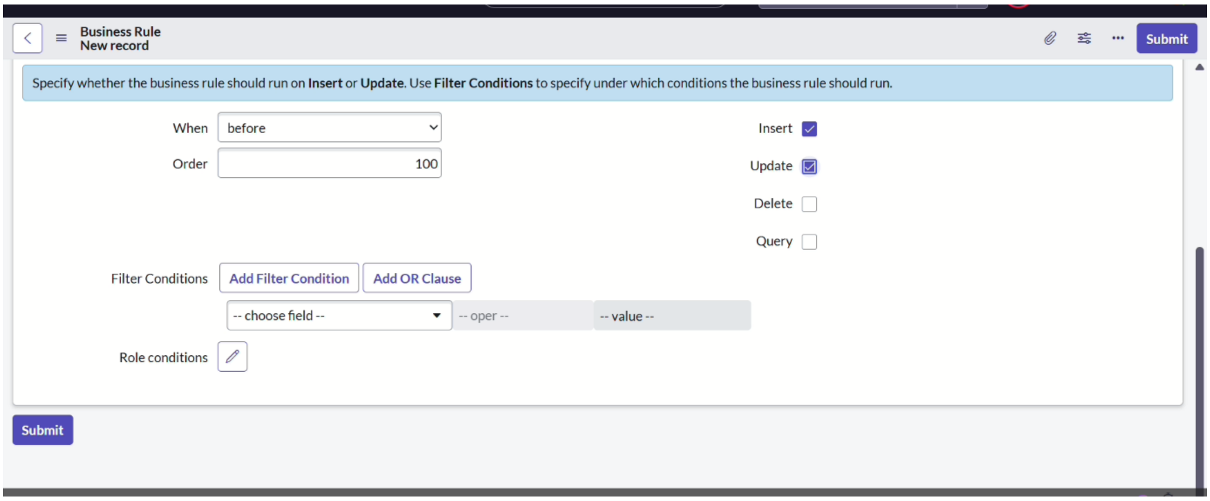
A business rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. Use business rules to automatically change values in form fields when the specified conditions are met. More Info

Name	Family Expenses BR	Application	Global
Table	Daily Expenses [u_daily_expens...	Active	☑
		Advanced	☑

When to run
Actions
Advanced

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

4. In when to run Check Insert and Update



Business Rule
New record

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

When	before	Insert	☑
Order	100	Update	☑
		Delete	□
		Query	□

Filter Conditions: Add Filter Condition | Add OR Clause

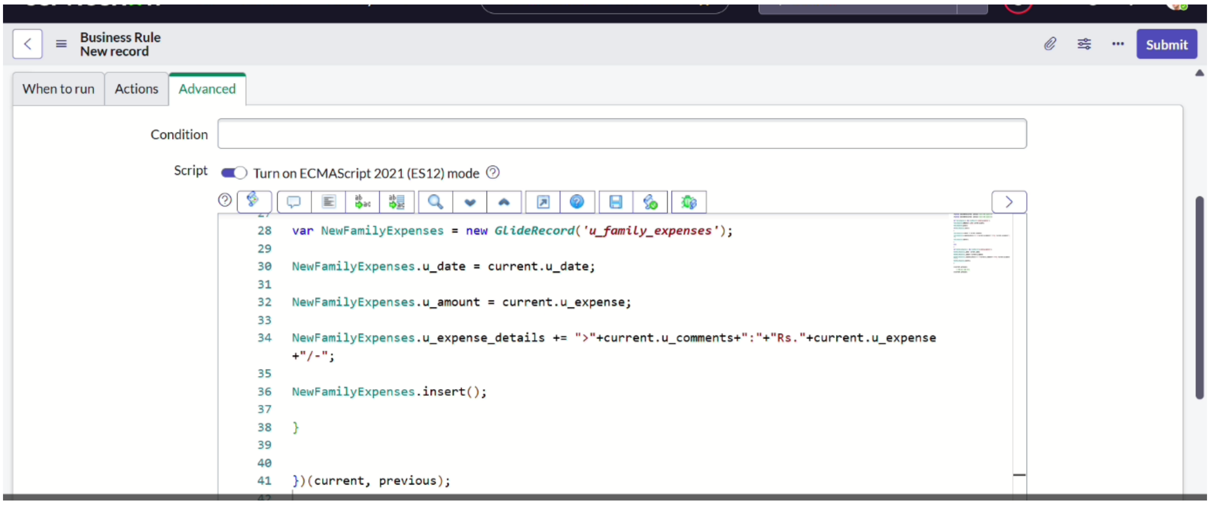
-- choose field -- | -- oper -- | -- value --

Role conditions

5. In Advance(we write the code): Write the below code >>

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

varFamilyExpenses = 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
        {
        varNewFamilyExpenses = 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);
```

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



Business Rule
New record

When to run | Actions | Advanced

Condition

Script ● Turn on ECMAScript 2021 (ES12) mode

```
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);
```

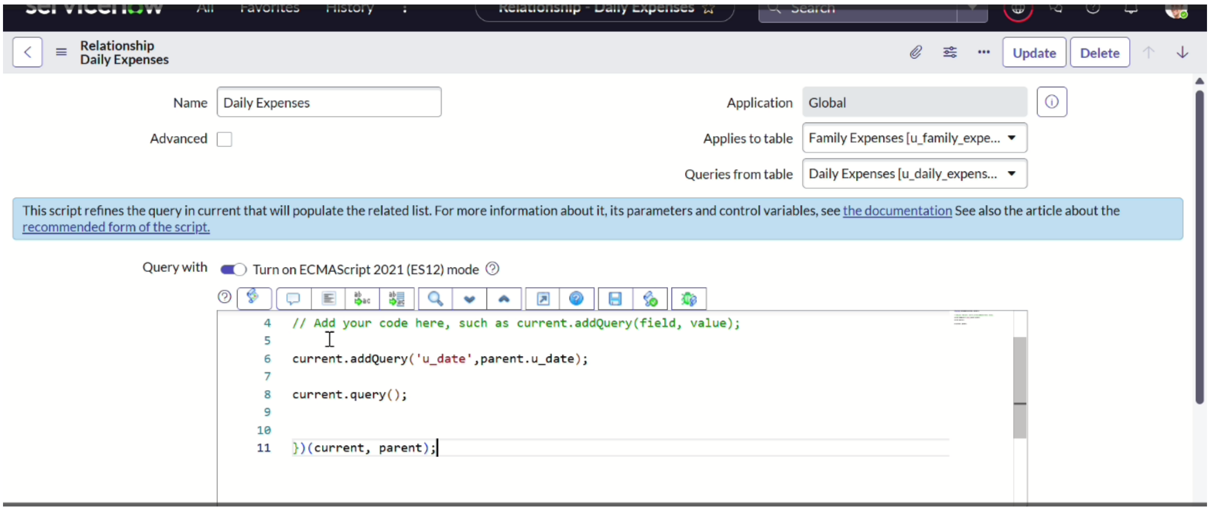
Milestone 8: Relationship

Activity 1: 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.

```
(functionrefineQuery(current, parent) {

// Add your code here, such as current.addQuery(field, value);
        current.addQuery('u_date',parent.u_date);
        current.query();

})(current, parent);
```

5. Click on Update.



Relationship
Daily Expenses

Name: Daily Expenses

Advanced: □

Application: Global

Applies to table: Family Expenses [u_family_expe...

Queries from table: Daily Expenses [u_daily_expens...

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

```
// Add your code here, such as current.addQuery(field, value);

current.addQuery('u_date',parent.u_date);

current.query();


})(current, parent);
```

Github_Link: https://github.com/PraveenMummidi29/calculating-family-expenses-using-service-now

Project_Demo_Video_Link:https://drive.google.com/file/d/1Aqku-6yywRngiDb-dZXEQOVuC0pfcD0h/view?usp=sharing