CALCULATING FAMILY EXPENSES USING SERVICE NOW

Team Id : NM2025TMID16426

Team Members : 3

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Team Member : Buela Jasmine C

Team Member : Hamdu Nisha M

Problem Statement : Managing family finances can often be challenging and time-intensive, frequently lacking proper organization, real-time visibility, and detailed reporting. Traditional approaches like manual logs or standalone budgeting applications fall short in offering a centralized, flexible, and scalable solution tailored to the diverse financial requirements of modern households. To bridge this gap, the proposed project aims to develop a family expense management system using the ServiceNow platform. By harnessing ServiceNow's powerful automation, seamless integration, and intuitive interface, the system will enable families to efficiently track, categorize, and analyze their expenses in real time—ultimately delivering a smart, scalable, and user-friendly financial management solution.

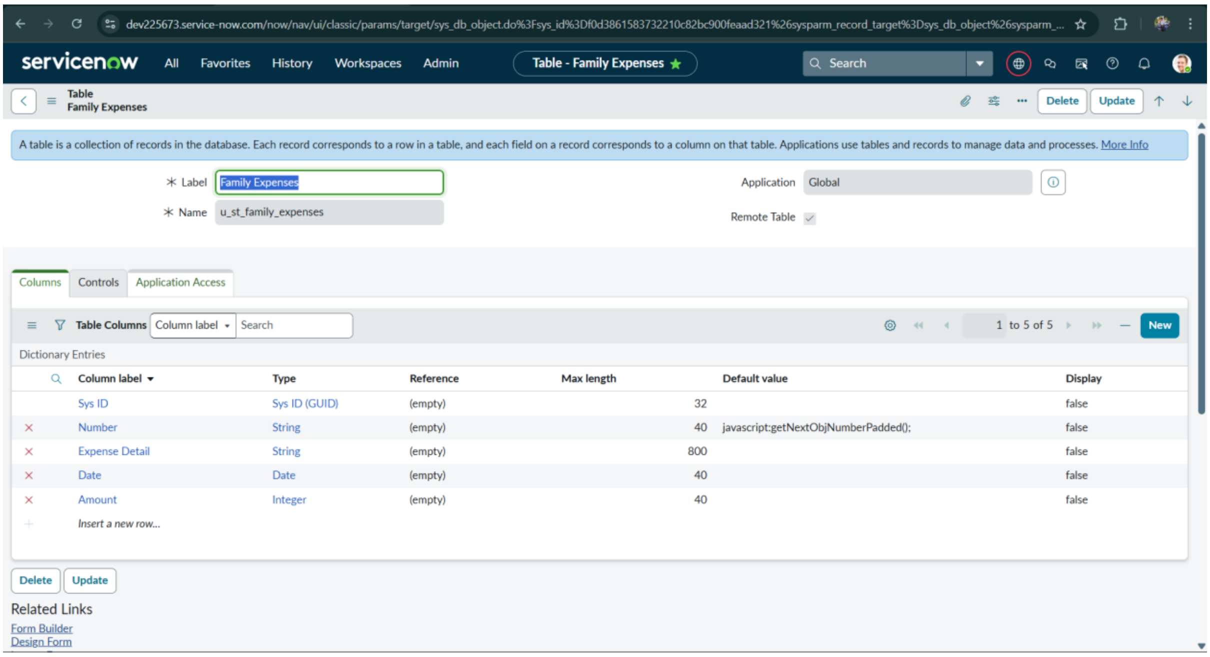
Objective : The project aims to develop a comprehensive expense calculation system using ServiceNow. This system will enable users to track and manage family expenses efficiently. It will include features such as expense categorization, budget setting, real-time tracking, and reporting capabilities. 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.

Skills Required: IOT Open Hardware platforms, Data Structures

TASK INITIALATION

Activity 1 : Creation of New Update Set

1. Open Service Now
2. Go to All >> In the filter search for Local Update set > click on New.
3. Enter the Details as: Name : Family Expenses
4. Then click on Submit and Make current.


dev225673.service-now.com/now/nav/ui/classic/params/target/sys_db_object.do%3Fsys_id%3Df0d3861583732210c82bc900feaad321%26sysparm_record_target%3Dsys_db_object%26sysparm_...
servicenow
All
Favorites
History
Workspaces
Admin
Table - Family Expenses
Search
Table
Family Expenses
Delete
Update

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_st_family_expenses	Remote Table	✓

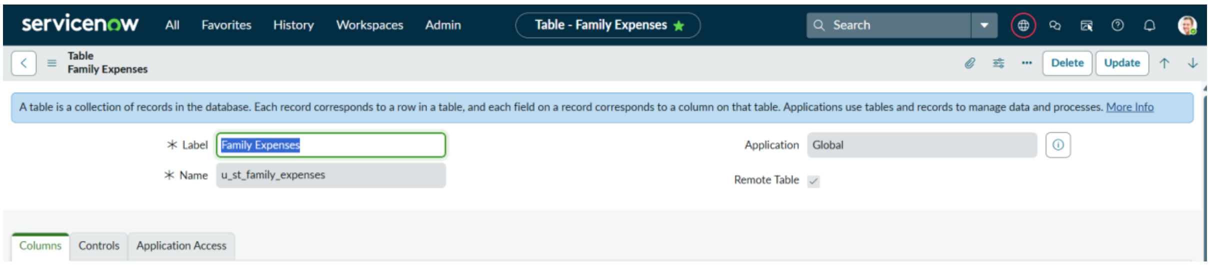
Column label	Type	Reference	Max length	Default value	Display
Sys ID	Sys ID (GUID)	(empty)	32		false
Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
Expense Detail	String	(empty)	800		false
Date	Date	(empty)	40		false
Amount	Integer	(empty)	40		false
Insert a new row...					

Activity 2 : Creation of Table.

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



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_st_family_expenses

Application: Global

Remote Table: ✓

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:

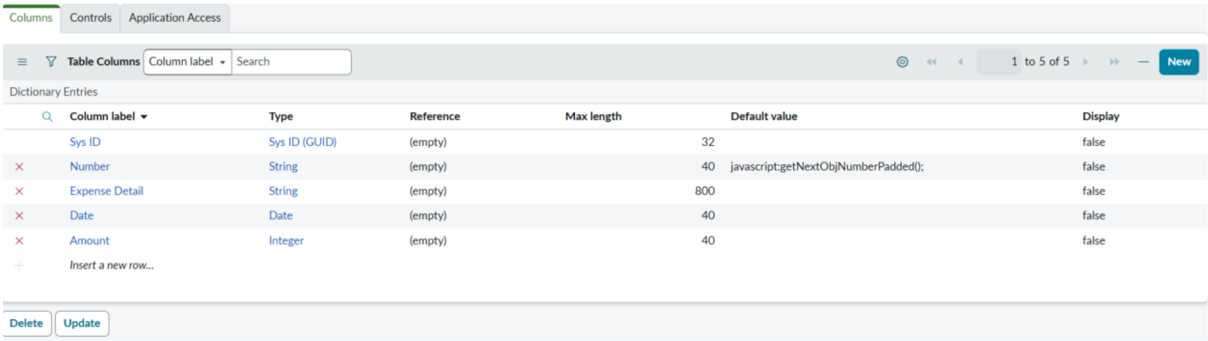
  Column label : Amount

  Type : Integer
- Double click on insert a new row again
- Give the details as:

  Column label : Expense Details

  Type : String

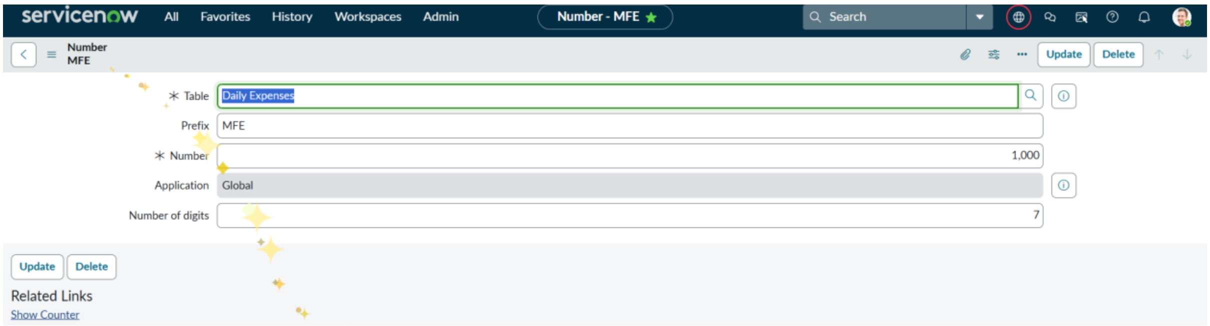
  Max length : 800
- Go to the Header and right click there>> click on Save.



Column label	Type	Reference	Max length	Default value	Display
Sys ID	Sys ID (GUID)	(empty)	32		false
Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
Expense Detail	String	(empty)	800		false
Date	Date	(empty)	40		false
Amount	Integer	(empty)	40		false
Insert a new row...					

3. Making Number Field an Auto-Number

- Double click 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
- Click on Update.
- Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
- Click on New.
- Enter the below Details:
  Table : Family Expenses
  Prefix : MFE
- Click on Submit

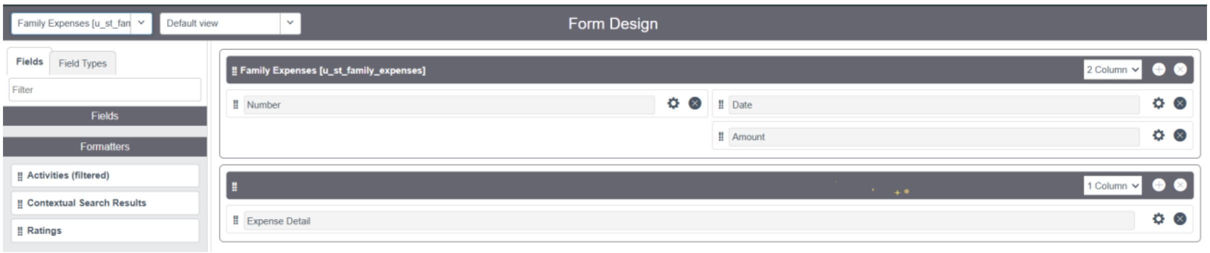


✱ Table	Daily Expenses
Prefix	MFE
✱ Number	1,000
Application	Global
Number of digits	7

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.
- Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
- Make Date, Amount Mandatory Field by clicking on the gear icon and checking Mandatory
- Click on Save.



Activity 3 : Creation of Table(Daily Expenses).

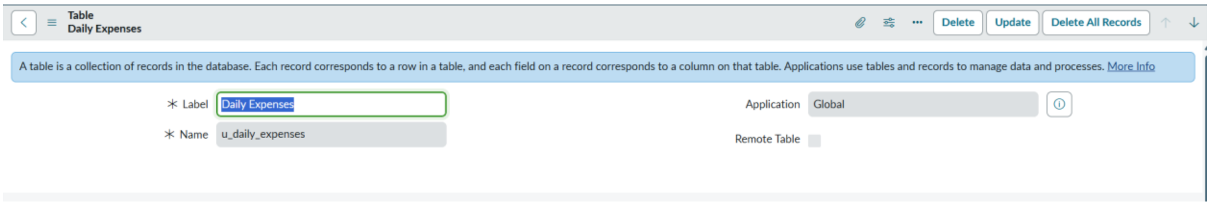
1. Creation of Daily Expenses Table.

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



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	Remote Table	□

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

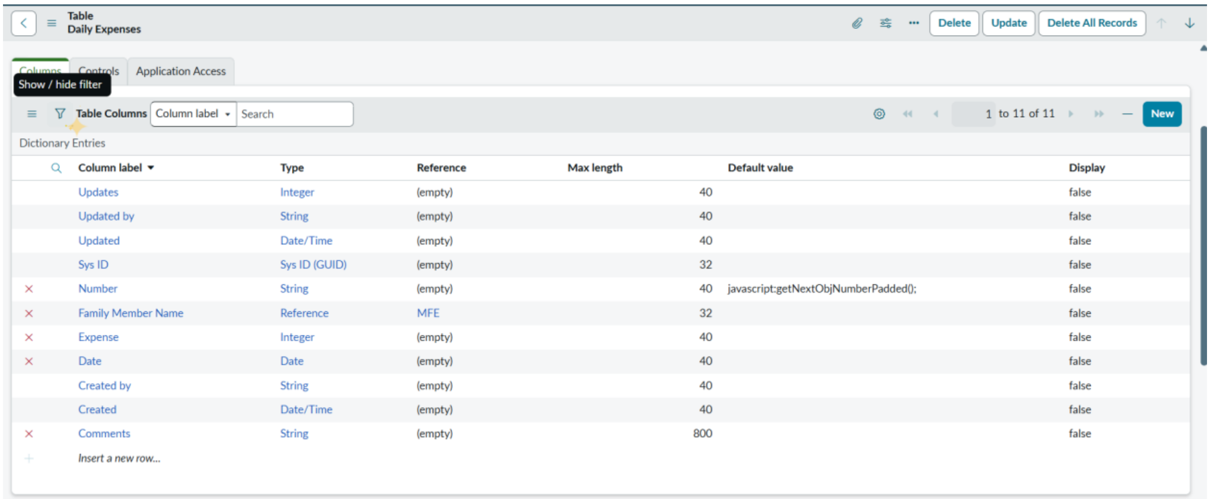
  Type : Reference

  Max length : 800
- ➢ Double click on insert a new row again
- ➢ Give the details as:

  Column label : Comments

  Type : String

  Max length : 800
- ➢ Go to the Header and right click there>> click on Save.



Dictionary Entries

	Column label	Type	Reference	Max length	Default value	Display
	Updates	Integer	(empty)	40		false
	Updated by	String	(empty)	40		false
	Updated	Date/Time	(empty)	40		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
×	Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
×	Family Member Name	Reference	MFE	32		false
×	Expense	Integer	(empty)	40		false
×	Date	Date	(empty)	40		false
	Created by	String	(empty)	40		false
	Created	Date/Time	(empty)	40		false
×	Comments	String	(empty)	800		false
+	*Insert a new row...*					

3. Making Number Field an Auto-Number.

- ➢ Double click on the Number Field/Column.
- ➢ Go down and double click on Advanced view
- ➢ In Default Value:

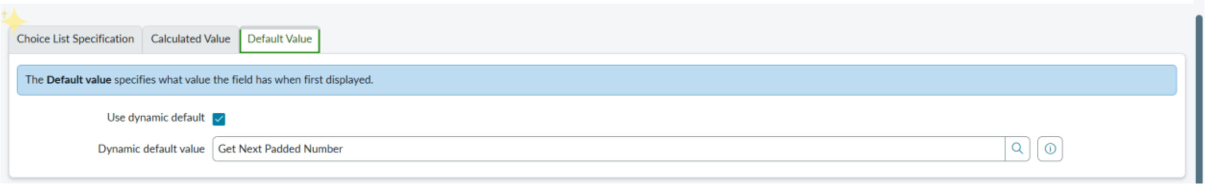
Use dynamic default : check the box

Dynamic default value : Get Next Padded Number

- ➢ Click on Update.
- ➢ Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
- ➢ Click on New.
- ➢ Enter the below Details:

  Table : Family Expenses

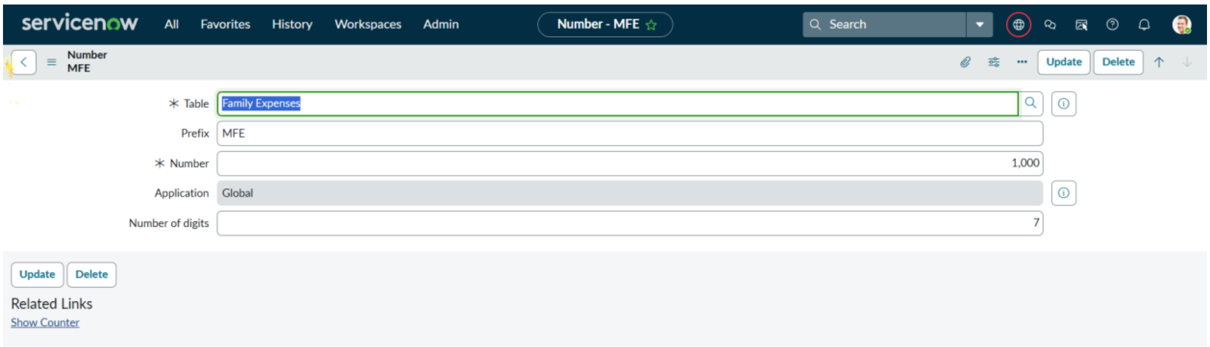
  Prefix : MFE
- ➢ Click on Submit.



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

Use dynamic default ☑

Dynamic default value: Get Next Padded Number

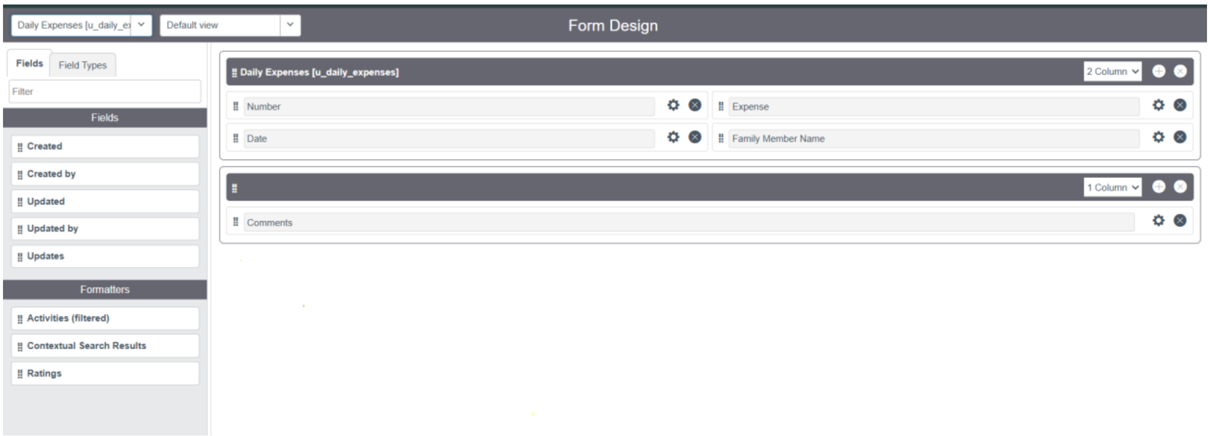


✱ Table	Family Expenses
Prefix	MFE
✱ Number	1,000
Application	Global
Number of digits	7

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.
- ➢ 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.



Activity 4 : Creation of Relationship.

1. **Creation of Relationship between Family Expenses and Daily Expenses tables**

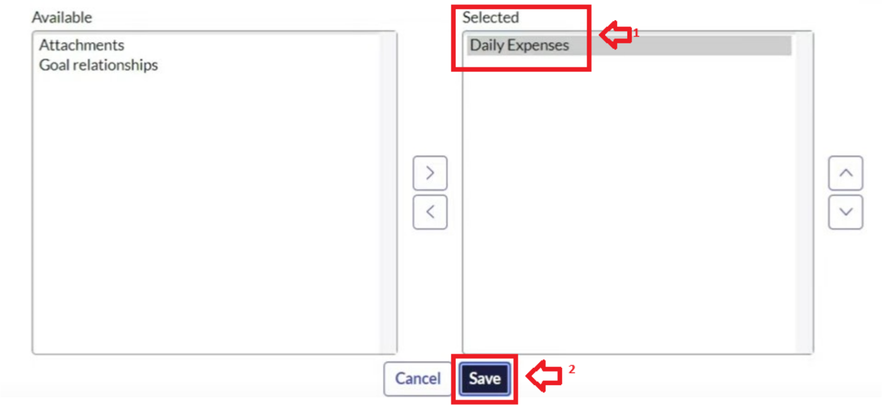
- Go to All >> In the filter search for Relationships >> Open Relationships
- Click on New.
- Enter the details:
  Name : Daily Expenses
  Applies to table : Select Family Expenses
  Daily Expenses : Select Daily Expenses
- Click Save.

Activity 5 : Configuring Related List on Family Expenses.

1. **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



Activity 6 : Activity 4 : Creation of Relationship.

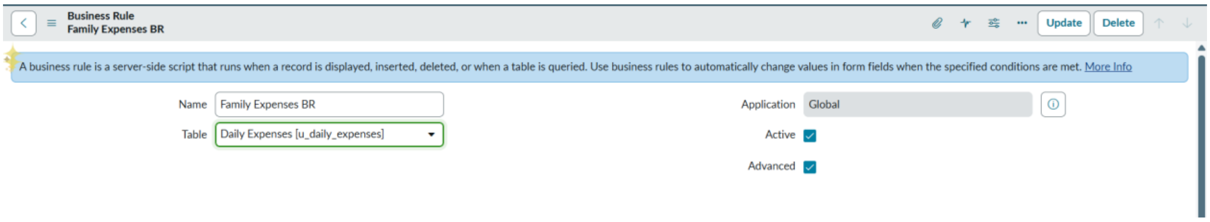
1. **Creation of Business Rules**

- 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
- 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);
- Go to the Header and right click there>> click on Save.



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

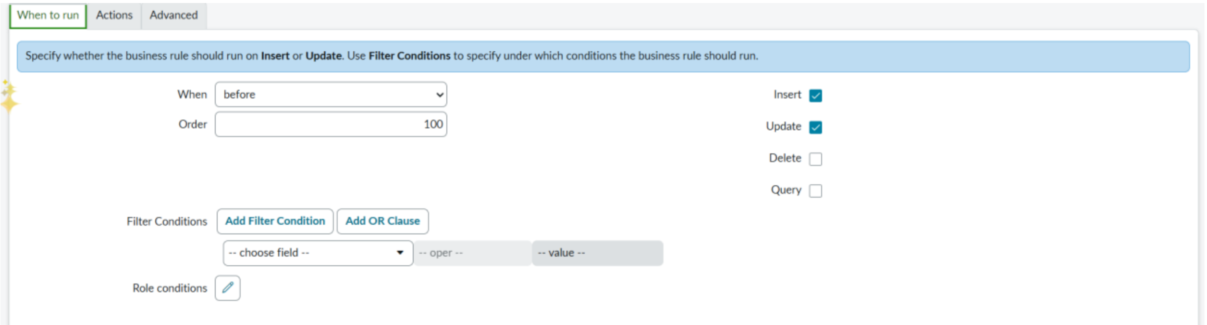
Name: Family Expenses BR

Table: Daily Expenses [u_daily_expenses]

Application: Global

Active ☑

Advanced ☑



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

Order: 100

Insert ☑

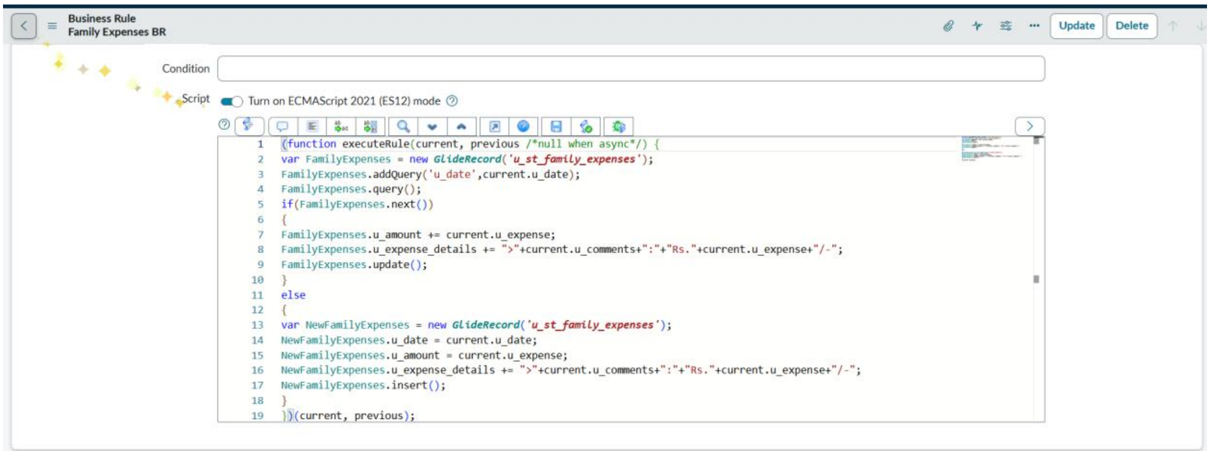
Update ☑

Delete ☐

Query ☐

Filter Conditions: -- choose field -- | -- oper -- | -- value --

Role conditions



Condition

Script ● Turn on ECMAScript 2021 (ES12) mode

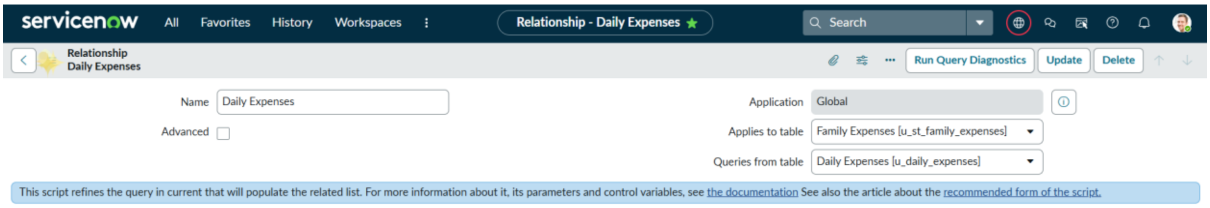
```
(function executeRule(current, previous /*null when async*/) {
var FamilyExpenses = new GlideRecord('u_st_family_expenses');
FamilyExpenses.addQuery('u_date',current.u_date);
FamilyExpenses.query();
if(FamilyExpenses.next())
{
FamilyExpenses.u_amount += current.u_expense;
FamilyExpenses.u_expense_details += ">"+current.u_comments+":"+"Rs."+current.u_expense+"/-";
FamilyExpenses.update();
}
else
{
var NewFamilyExpenses = new GlideRecord('u_st_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);
```

Activity 7 : Configure the Relationship.

1. 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



Name: Daily Expenses

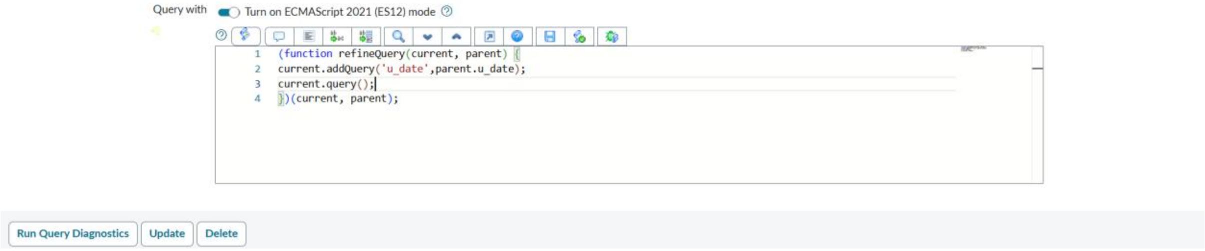
Advanced □

Application: Global

Applies to table: Family Expenses [u_st_family_expenses]

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.



```
(function refineQuery(current, parent) {
current.addQuery('u_date',parent.u_date);
current.query();
})(current, parent);
```

Conclusion :

By harnessing the power of the ServiceNow platform, this project aims to create a reliable and user-friendly solution for managing family expenses. Key features such as real-time tracking, smart categorization, budget control, and detailed reporting will make it easier for families to monitor and manage their finances effectively. The use of IoT open hardware platforms and optimized data structures will further enhance automation, performance, and scalability. In the long run, this solution will not only streamline daily financial tasks but also promote better spending habits and financial awareness, supporting long-term financial health and stability within households.