

Calculating Family Expenses using ServiceNow

Project Title : Calculating family expenses using service now

Team ID: NM2025TMID15609

Team Size: 4

Team Leader: Jyothika Kottu

Team Member: Lavanya Tuthika

Team Member: Kamadi Sowmya Sri

Team Member: Kadimi Santhosh Vardhan

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)**

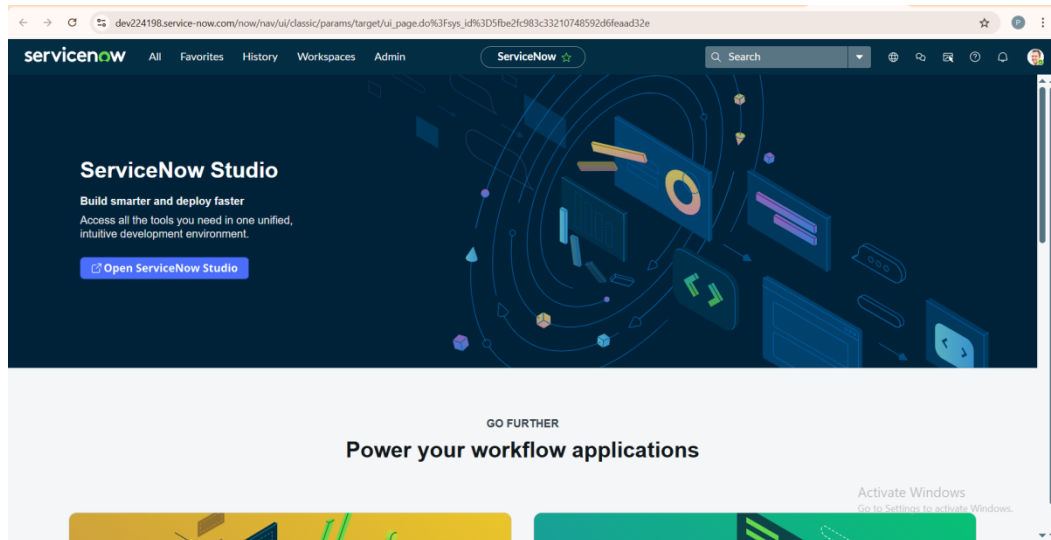
TASK INITIATION

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.

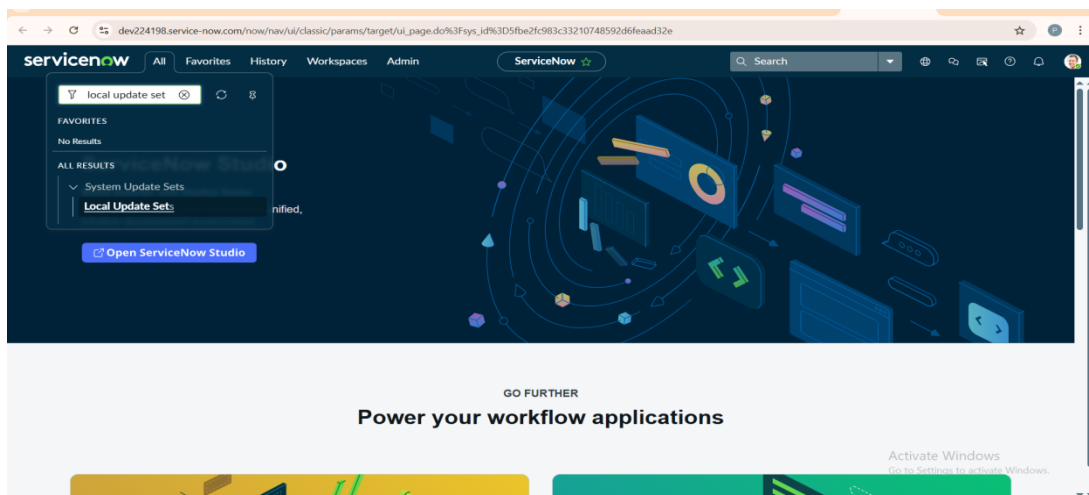
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.
5. You'll receive an email with the instance details once it's ready.
6. Log in to your ServiceNow instance using the provided credentials.
7. Now you will navigate to the ServiceNow.



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.



dev224198.service-now.com/now/nav/ui/classic/params/target/sys_update_set_list.do%3Fsysparm_userpref_module%3D50047c06c0a016c0135a14cebc8191b%26sysparm_clear_stack%3Dtrue

servicenow All Favorites History Workspaces Admin Update Sets Search

Update Set New record Submit Submit and Make Current

* Name New Update Set Application Global

State In progress

Parent

Release date

Description

Submit Submit and Make Current

Activate Windows
Go to Settings to activate Windows.

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%26sys...

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 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:

Dictionary Entry
Number View: Advanced

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

Lookup using list

Delete Column | Update

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 : 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.

serviceNow All Favorites History Table - Family Expenses Search

Table - Family Expenses

Columns | Controls | Application Access

Table Columns for text Search

Dictionary Entries

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

Number New record

* Table: Family Expenses

Prefix: MFE

* Number: 1,000

Application: Global

Number of digits: 7

Submit

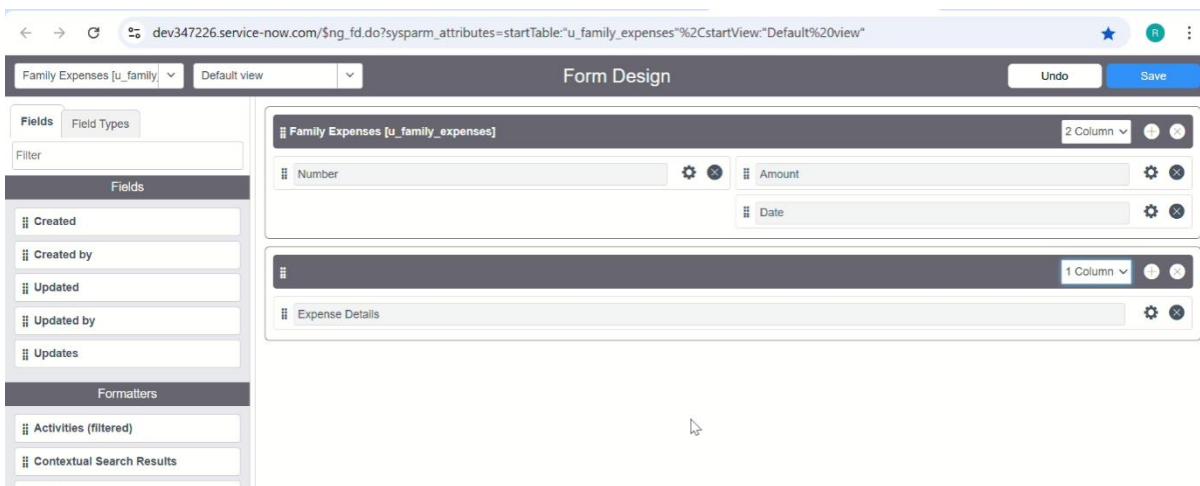
Related Links

[Show Counter](#)

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.



Milestone 4: Table(Daily Expenses)

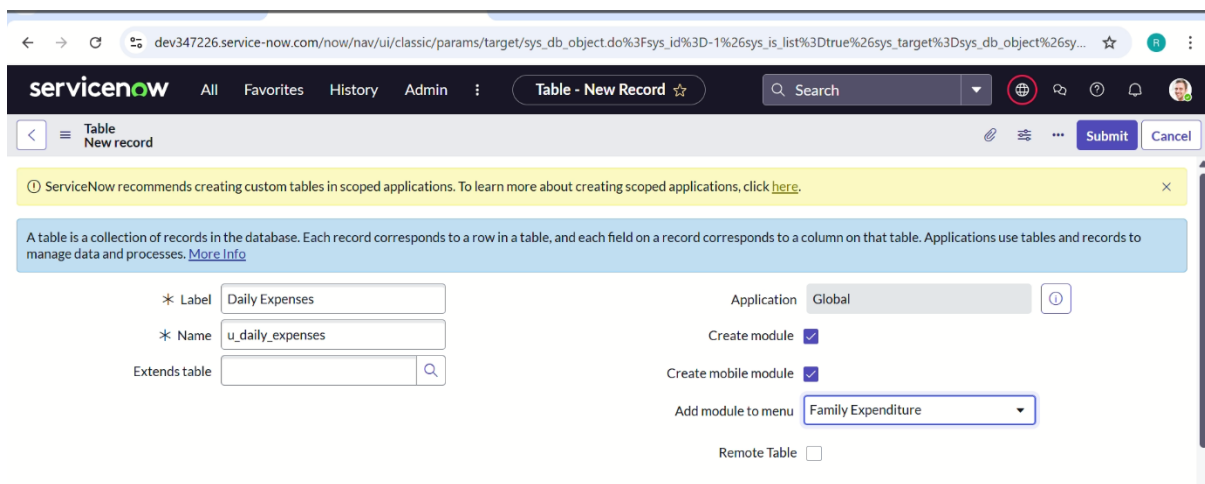
Activity 1: Creation of Table(Daily Expenses)

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.

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

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	

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.

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.

The screenshot shows the configuration interface for a 'Dictionary Entry Number' field. The 'Advanced View' is selected. Under the 'Default Value' tab, the 'Use dynamic default' checkbox is checked, and the 'Dynamic default value' is set to 'Get Next Padded Number'. A 'Lookup using list' button is also visible. The interface includes '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 : Daily Expenses
 - Prefix : DFE

8. Click on Submit.

The screenshot shows the 'Number - New Record' form in ServiceNow. The form is for the 'Daily Expenses' table. The 'Prefix' field is set to 'DFE'. The 'Number' field is set to '1,000'. The 'Application' field is set to 'Global'. The 'Number of digits' field is set to '7'. There is a 'Submit' button at the bottom left. Below the 'Submit' button, there are 'Related Links' and a link to 'Show Counter'.

The screenshot shows the 'Form Design' interface for the 'Daily Expenses' table. The form is titled 'Daily Expenses [u_daily_expenses]'. It has a '2 Column' layout. The fields are: 'Number', 'Family Member Name', 'Date', and 'Expense'. The 'Number' field is set to be 'Read-Only'. The 'Date', 'Family Member Name', and 'Expense' fields are set to be 'Mandatory'. There is a 'Comments' field at the bottom. The interface includes a 'Fields' list on the left and a 'Formatters' list at the bottom left.

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 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.

Relationship - New Record

Name: Daily Expenses

Application: Global

Applies to table: Family Expenses [u_family_expense]

Queries from table: Daily Expenses [u_daily_expense]

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   // Add your code here, such as current.addQuery(field, value);
4
5 })(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

Configuring related lists on Family Expenses form

Available: Attachments

Selected: Daily Expenses

Buttons: > < ^ v

Buttons: Cancel Save

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

The screenshot shows the ServiceNow 'Business Rule - New Record' form. The browser address bar displays a URL from dev347226.service-now.com. The top navigation bar includes 'All', 'Favorites', 'History', and a 'Business Rule - New Record' button. Below the navigation bar, the form title is 'Business Rule New record'. A blue informational box explains that a business rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. The form fields are as follows: 'Name' is 'Family Expenses BR', 'Table' is 'Daily Expenses [u_daily_expens...', 'Application' is 'Global', 'Active' is checked, and 'Advanced' is checked. At the bottom, there are tabs for 'When to run', 'Actions', and 'Advanced'. The 'When to run' tab is selected, and a blue box prompts the user to specify whether the business rule should run on 'Insert' or 'Update' and to use 'Filter Conditions' to specify under which conditions the business rule should run.

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

Business Rule New record Submit

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

The screenshot shows a 'Business Rule' configuration window with the title 'New record'. A blue instruction bar at the top states: 'Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions the business rule should run.'

The configuration area includes:

- When:** A dropdown menu currently set to 'before'.
- Order:** A text input field containing the number '100'.
- Action checkboxes:**
 - Insert:** Checked (indicated by a blue checkmark).
 - Update:** Checked (indicated by a blue checkmark).
 - Delete:** Unchecked.
 - Query:** Unchecked.
- Filter Conditions:** A section with two buttons: 'Add Filter Condition' and 'Add OR Clause'. Below these is a row of three dropdown menus: '-- choose field --', '-- oper --', and '-- value --'.
- Role conditions:** A section with a single edit icon button.

A 'Submit' button is located at the bottom left of the configuration area.

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

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

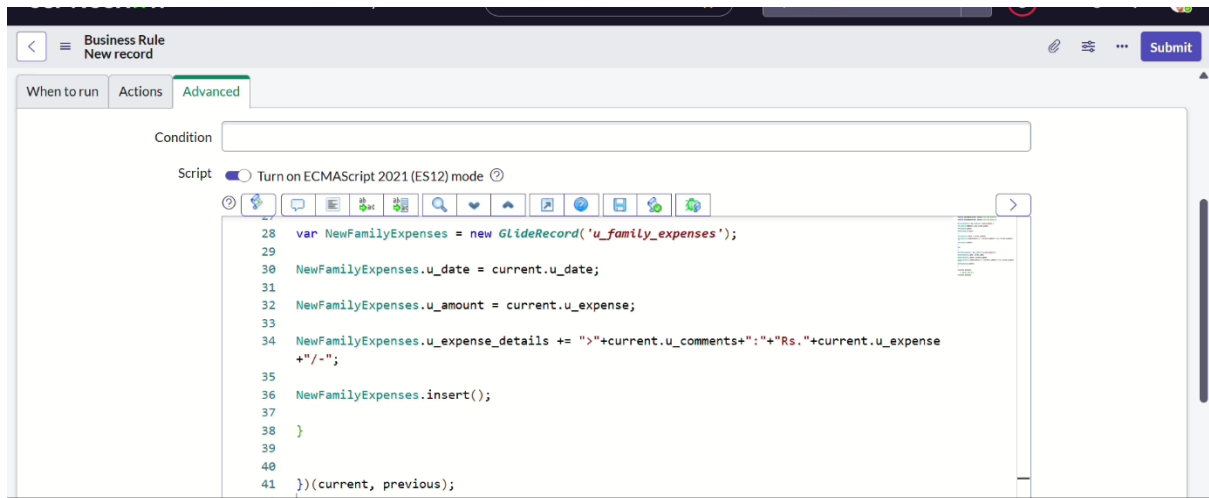
```
varFamilyExpenses = new GlideRecord('u_family_expenses');
FamilyExpenses.addQuery('u_date',current.u_date);
FamilyExpenses.query();
if(FamilyExpenses.next())
{
FamilyExpenses.u_amount += current.u_expense;
FamilyExpenses.u_expense_details
">" + current.u_comments + ":" + "Rs." + current.u_expense + "/-";
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.



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.

ServiceNow

Relationship Daily Expenses

Name:

Application:

Advanced: ☐

Applies to table:

Queries from table:

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

```
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);
```