

Calculating Family Expenses using ServiceNow

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Team Size: 4

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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)**

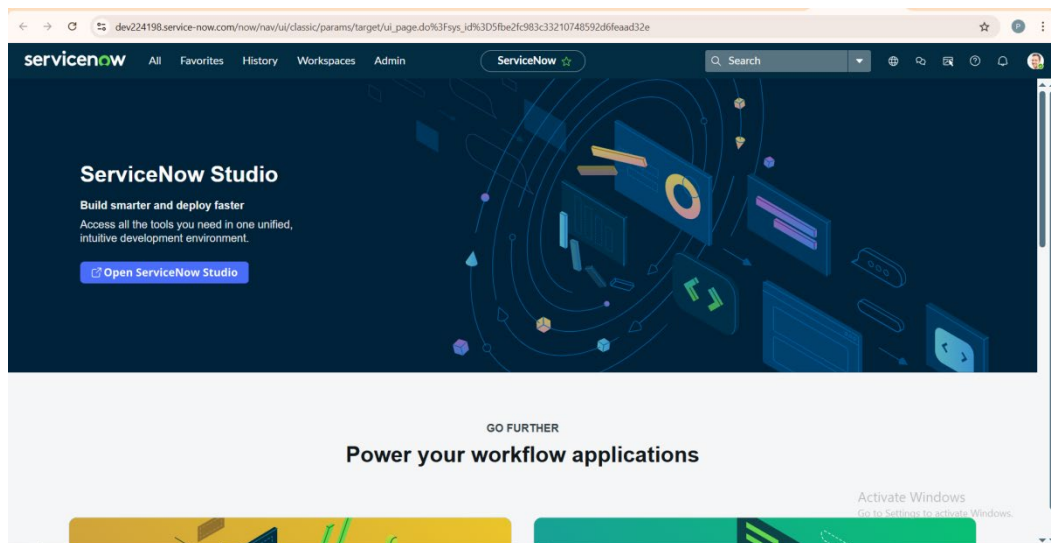
TASK INITIATION

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.

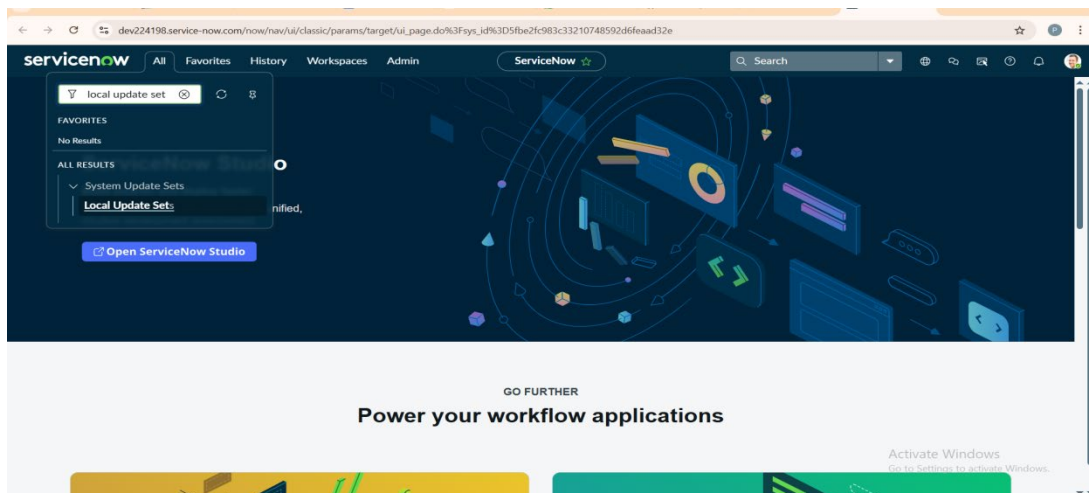
5. You'll receive an email with the instance details once it's ready.
6. Log in to your ServiceNow instance using the provided credentials.
7. Now you will navigate to the ServiceNow.



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.



The screenshot shows the 'Update Set' form in ServiceNow. The browser address bar displays a URL with a long alphanumeric string. The ServiceNow header includes navigation links: All, Favorites, History, Workspaces, Admin, and an 'Update Sets' button. A search bar is also present. The form itself has a title bar 'Update Set New record' and buttons for 'Submit' and 'Submit and Make Current'. The main form area contains the following fields:

- * Name: New Update Set
- State: In progress (dropdown)
- Parent: (empty field with search icon)
- Release date: (empty field with calendar icon)
- Description: (empty text area)

At the bottom right, there is a 'Activate Windows' watermark with the text '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.

The screenshot shows the 'Table - New Record' form in ServiceNow. The browser address bar displays a URL. The ServiceNow header includes navigation links: All, Favorites, History, Admin, and a 'Table - New Record' button. A search bar is also present. The form has a title bar 'Table New record' and buttons for 'Submit' and 'Cancel'. A yellow banner at the top states: 'ServiceNow recommends creating custom tables in scoped applications. To learn more about creating scoped applications, click [here](#).' Below this is a blue box with text: '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](#)'. The main form area contains the following fields:

- * Label: Family Expenses
- * Name: u_family_expenses
- Extends table: (empty field with search icon)
- Application: Global
- Create module: ☒
- Create mobile module: ☒
- Add module to menu: -- Create new -- (dropdown)
- 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

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

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 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
<input type="button" value="x"/> <input type="button" value="edit"/>	Number	String				false
<input type="button" value="x"/> <input type="button" value="edit"/>	Date	Date				false
<input type="button" value="x"/> <input type="button" value="edit"/>	Amount	Integer				false
<input type="button" value="x"/> <input type="button" value="edit"/>	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.

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

Expense Details 1 Column

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:

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 Daily Expenses Application Global ⓘ

* Name u_daily_expenses Create module ☒

Extends table Create mobile module ☒

Add module to menu Family Expenditure

Remote Table ☐

Column label : Family Member Name

Type : Reference

Max length : 800

The screenshot shows the 'Table Columns' configuration page for the 'Daily Expenses' table in ServiceNow. The page includes a search bar and a list of columns. The 'Comments' column is highlighted with a blue selection bar.

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.

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

Delete Column 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
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

Number New record Submit

* Table Daily Expenses

Prefix DFE

* Number 1,000

Application Global

Number of digits 7

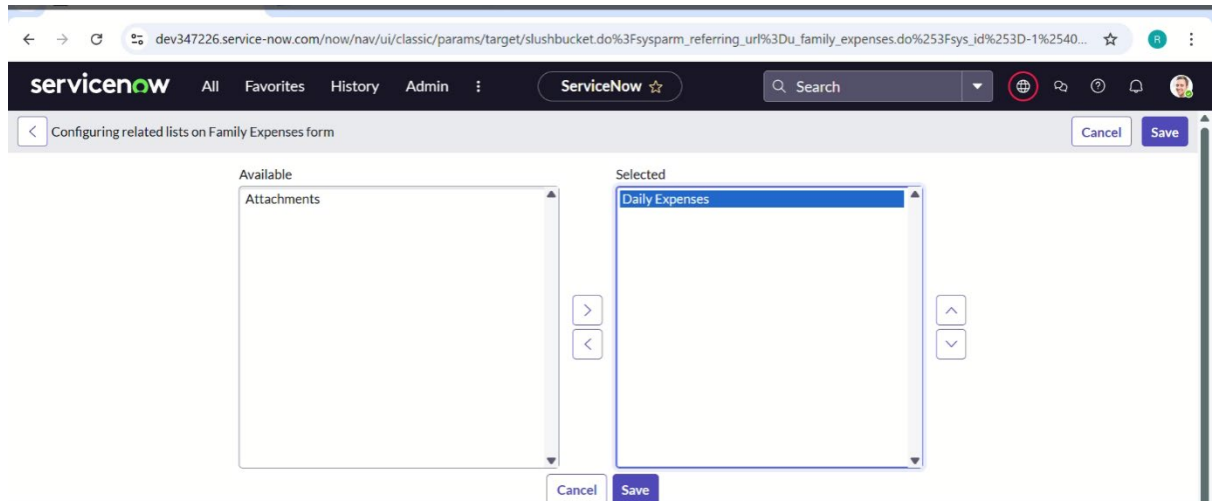
Submit

Related Links
[Show Counter](#)

Activity 4: Configure the Form

Activity 1: Configuring Related List on Family Expenses

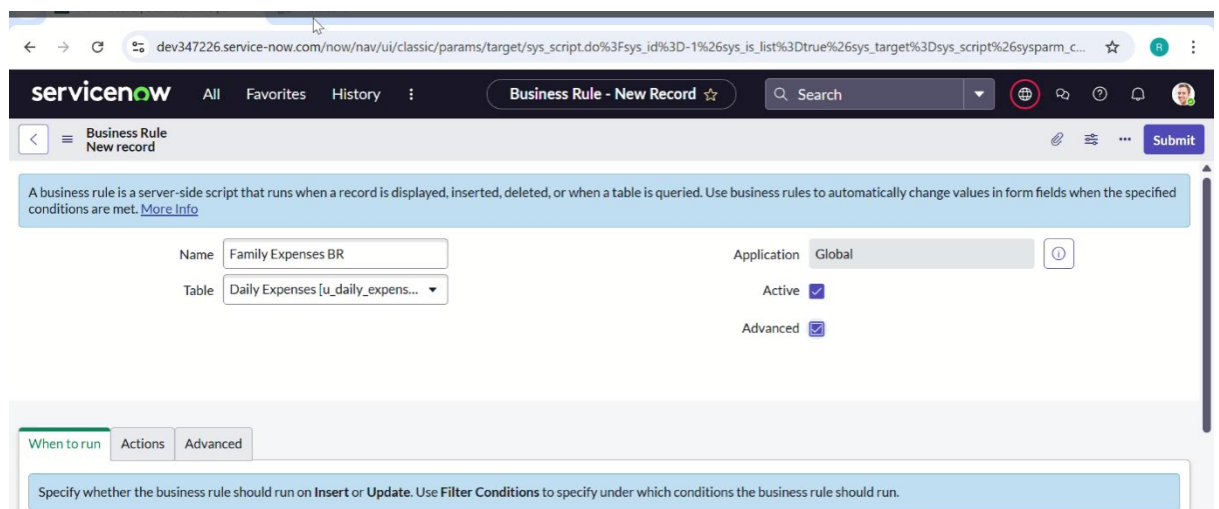
1. Go to All >> In the filter search for Family Expenses >> Open Family Expenses
2. Click on New
3. Go to the Header and right click there>> click on Configure >> Select Related Lists
4. Add Daily Expenses to the Selected Area.
5. Click on Save



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



4. In when to run Check Insert and Update

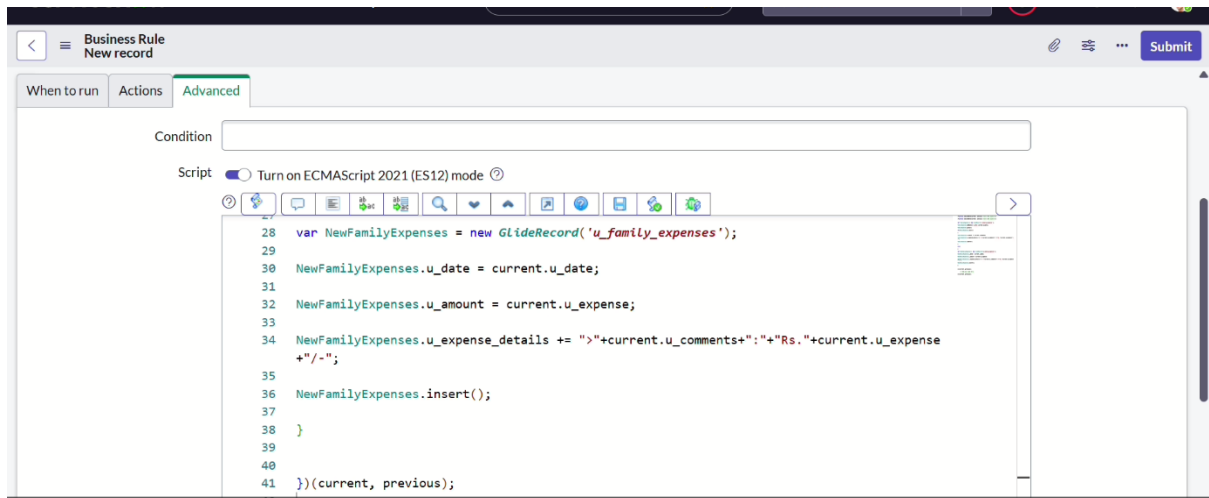
The screenshot shows the 'Business Rule' configuration page for a 'New record'. At the top, a blue banner states: 'Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions the business rule should run.' Below this, the 'When' dropdown is set to 'before' and the 'Order' is '100'. On the right, the 'Insert' and 'Update' checkboxes are checked, while 'Delete' and 'Query' are unchecked. The 'Filter Conditions' section includes buttons for 'Add Filter Condition' and 'Add OR Clause', and a template: '-- choose field -- -- oper -- -- value --'. A 'Role conditions' icon is also present. A 'Submit' button is at the bottom left.

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);
```

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.

