

CALCULATING FAMILY EXPENSES USING SERVICE NOW

Submitted by

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BONAFIDE CERTIFICATE

This is to certify that the project report titled "**CALCULATING FAMILY EXPENSES USING SERVICE NOW**" is the Bonafide work of **DHIVYA R (910022104047)**, **PUGALARASI M (910022104054)**, **VIDYA S (910022104032)** who carried out the project work under my supervision in the Naan Mudhalvan Lab.

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ABSTRACT

The Family Expense Calculation System developed on the ServiceNow platform aims to provide an efficient and user-friendly solution for managing and tracking household expenses. The system enables users to record, categorize, and analyze daily financial transactions under various expense categories such as food, utilities, education, healthcare, and entertainment. Through its budget-setting and real-time tracking features, users can monitor their spending patterns and identify areas for financial improvement.

The system leverages ServiceNow's powerful automation, reporting, and integration capabilities to deliver a seamless experience with accurate and timely data updates. A customized dashboard presents clear visual reports and summaries, helping users make informed financial decisions. Additionally, the project ensures data privacy, scalability, and flexibility, making it suitable for families of different sizes and financial structures.

By offering a centralized and digital platform for expense management, this project promotes financial discipline, transparency, and control over family finances. Ultimately, the Family Expense Calculation System empowers users to make smarter budgeting decisions, reduce unnecessary spending, and achieve long-term financial stability.

Problem Statement:

The project aims to develop a comprehensive expense calculation system using the ServiceNow platform. This system will enable users to track and manage family expenses efficiently while offering essential features such as expense categorization, budget setting, real-time tracking, and reporting capabilities. By leveraging ServiceNow's robust and flexible framework, the system will ensure seamless integration, a user-friendly interface, and scalability to accommodate varying family sizes and financial complexities. The ultimate goal of this project is to empower users with intelligent tools that support informed financial decision-making and promote financial well-being within the family unit.

Objectives:

The main objective of this project is to develop a Family Expense Management System on the ServiceNow platform that enables efficient tracking, categorization, and budgeting of household expenses. The specific objectives are as follows:

- To provide real-time monitoring and interactive dashboards for better financial visibility.
- To generate insightful analytical reports that help users make informed financial decisions.
- To ensure scalability and adaptability for families of different sizes and financial needs.
- To promote financial discipline through detailed spending analysis and budgeting tools.
- To maintain data security and integrity using ServiceNow's built-in security features.

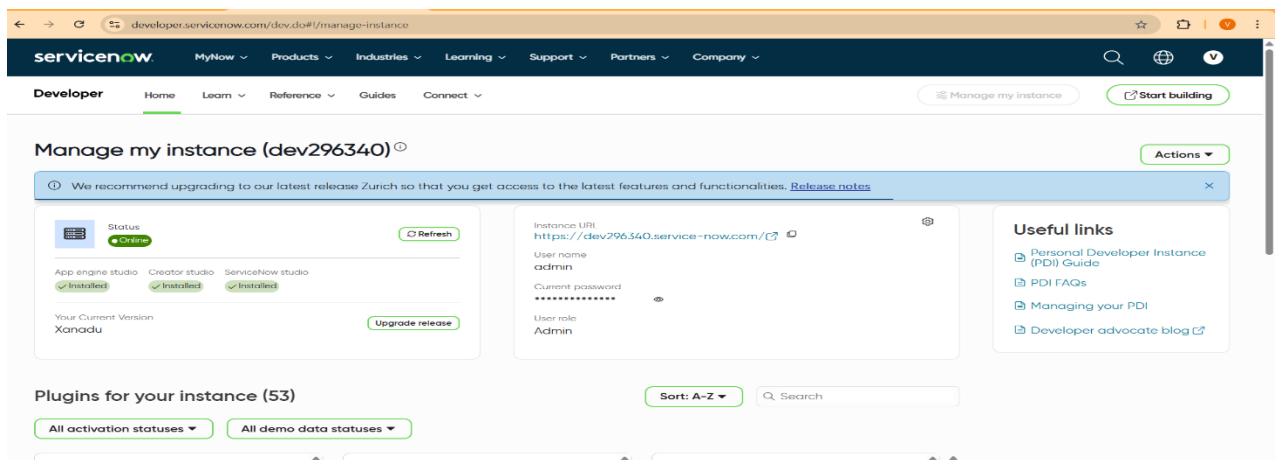
Skills:

TASK INITIATION

Milestone 1: Setting up ServiceNow Instance

Activity: 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.

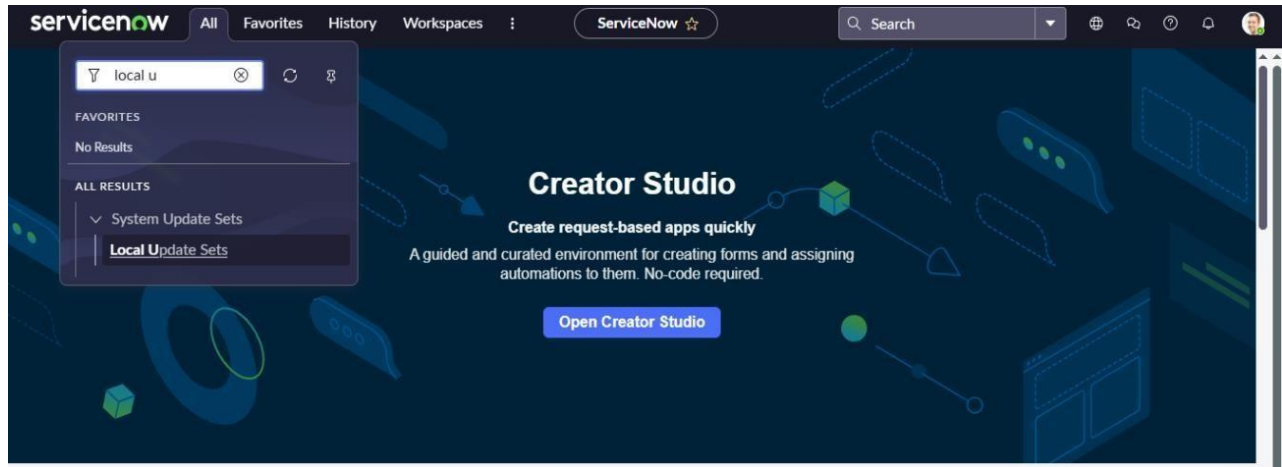


6. Log in to your ServiceNow instance using the provided credentials.
7. Now you will navigate to the ServiceNow.

Milestone 2: Creation of New Update Set

Activity: 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:

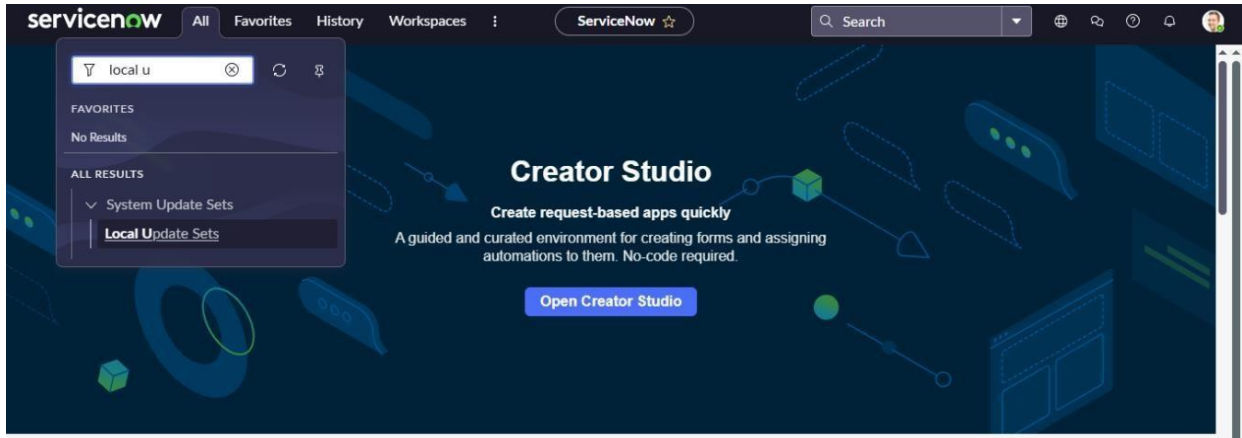
Name: Family Expenses

3. Then click on Submit and Make current

Milestone 3: Creation of Table

Activity: 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.

Milestone 4: Creation of Table

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.

servicenow All Favorites History Workspaces Table - New Record Search

Table New record Submit Cancel

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

Extends table ⓘ

Create module ☒

Create mobile module ☒

Add module to menu -- Create new --

New menu name Family Expenditure

Activity 2: Creation of Columns (Fields)

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

Give the details as:

- i. Column label: Number
- ii. Type: String

2. Double click on insert a new row again

Give the details as:

- i. Column label: Date
- ii. Type: Date

3. Double click on insert a new row again

Give the details as:

- i. Column label: Amount
- ii. Type: Integer

4. Double click on insert a new row again

Give the details as:

- i. Column label: Expense Details
- ii. Type: String
- iii. Max length: 800

Column label	Type	Reference	Max length	Default value	Display
Updated by	String	(empty)		40	false
Updates	Integer	(empty)		40	false
Updated	Date/Time	(empty)		40	false
Created by	String	(empty)		40	false
Created	Date/Time	(empty)		40	false
Sys ID	Sys ID (GUID)	(empty)		32	false
Number	String				false
Date	Date				false
Amount	Integer				false
Expense Details	String		800		false

5. 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:
 - i. Use dynamic default: check the box
 - ii. Dynamic default value: Get Next Padded Number
4. Click on Update.

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

5. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
6. Click on New.
7. Enter the below Details:
 - i. Table: Family Expenses

ii. Prefix: MFE

servicenow All Favorites History Workspaces Number - New Record

* Table Family Expenses

Prefix MFE

* Number 1,000

Application Global

Number of digits 7

Submit

Related Links
[Show Counter](#)

8. Click on Submit.

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

servicenow All Favorites History Family Expenses - Create MFE0001...

Number

Expense Detail

Amount

Date

Submit

Save
Configure
Export
Create Favorite
Copy URL
Copy sys_id
Reload form

Form Builder
Form Design
Form Layout
Related Lists
All
Table
Security Rules
Business Rules
Client Scripts
UI Policies
Data Policies
UI Actions
Notifications
Dictionary

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 5: Creation of Table (Daily Expenses)

Activity 1: Creation of Daily Expenses Table

1. Go to All > In the filter search for Tables > click on New.

2. Enter the Details:
 - i. Label: Daily Expenses
 - ii. Name: Auto-Populated
 - iii. 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.
Give the details as:

Column label: Number

Type: String

- Max length: 800

6. 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

The screenshot shows the 'Dictionary Entry' form for a 'Number' field. The 'Advanced' view is selected. The 'Default Value' tab is active, showing the 'Use dynamic default' checkbox checked and the 'Dynamic default value' set to 'Get Next Padded Number'. The 'Attributes' section is empty. The 'Delete Column' and 'Update' buttons are visible at the bottom.

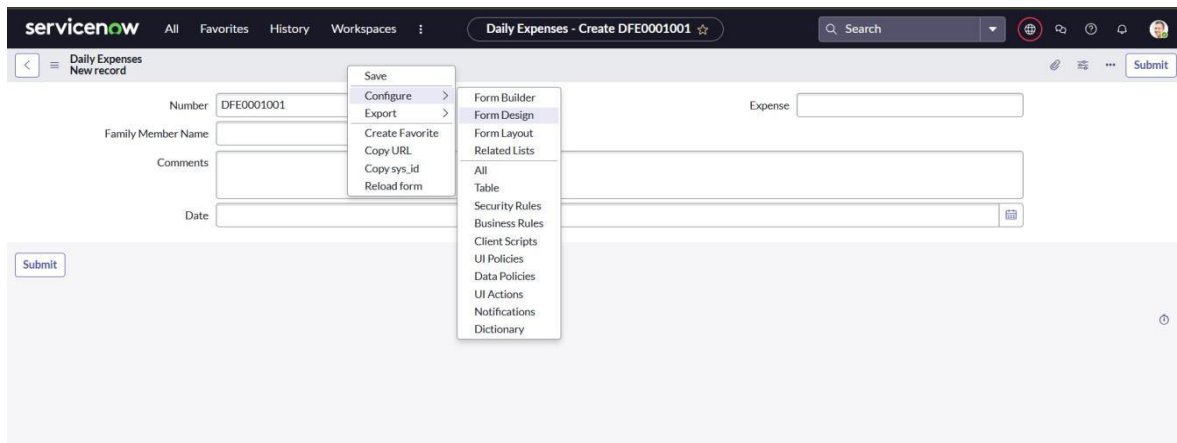
4. Click on Update.
5. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
6. Click on New.
7. Enter the below Details:
Table:Daily Expenses
Prefix:DFE

The screenshot shows the 'servicenow' 'Number - New Record' form. The 'Table' is 'Daily Expenses', 'Prefix' is 'DFE', 'Number' is '1,000', and 'Application' is 'Global'. The 'Number of digits' is '7'. The 'Submit' button is visible. Below the form, there is a 'Related Links' section with a link to 'Show Counter'.

8. Click on Submit

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



7. Customize or Drag Drop the form as per your requirement.
8. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
9. Make Date, Family Member Name Mandatory Field by clicking on the gear icon and checking Mandatory



10. Click on Save.

Milestone 6: Creation of Relationship

Activity: 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

Advanced ☐

Application: Global

Applies to table: Family Expenses [u_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, 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);
```

Submit

Milestone 7: Configuring Related List on Family Expenses

Activity: 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.

Configuring related lists on Family Expenses form

Available

- Attachments
- Daily Expenses -> Family Member Name

Selected

- Daily Expenses

View name: Default view

Cancel Save

Related Links

Show versions

5. Click on Save

Milestone 8: Creation of Business Rules

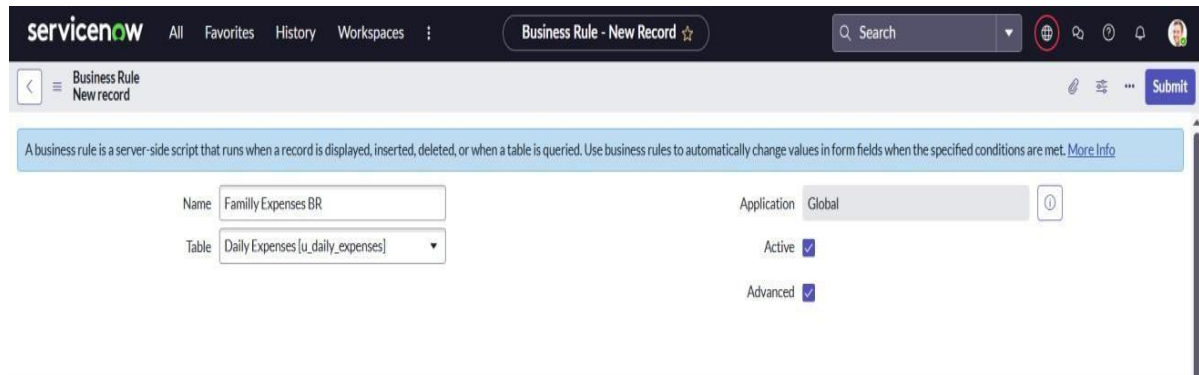
Activity: Creation of Business Rules

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 'Name' field is set to 'Family Expenses BR' and the 'Table' dropdown is set to 'Daily Expenses [u_daily_expenses]'. The 'Application' dropdown is set to 'Global'. The 'Active' checkbox is checked, and the 'Advanced' checkbox is also checked. A blue information banner at the top states: '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](#)'. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', a search bar, and a 'Business Rule - New Record' button. The bottom right corner has a 'Submit' button.

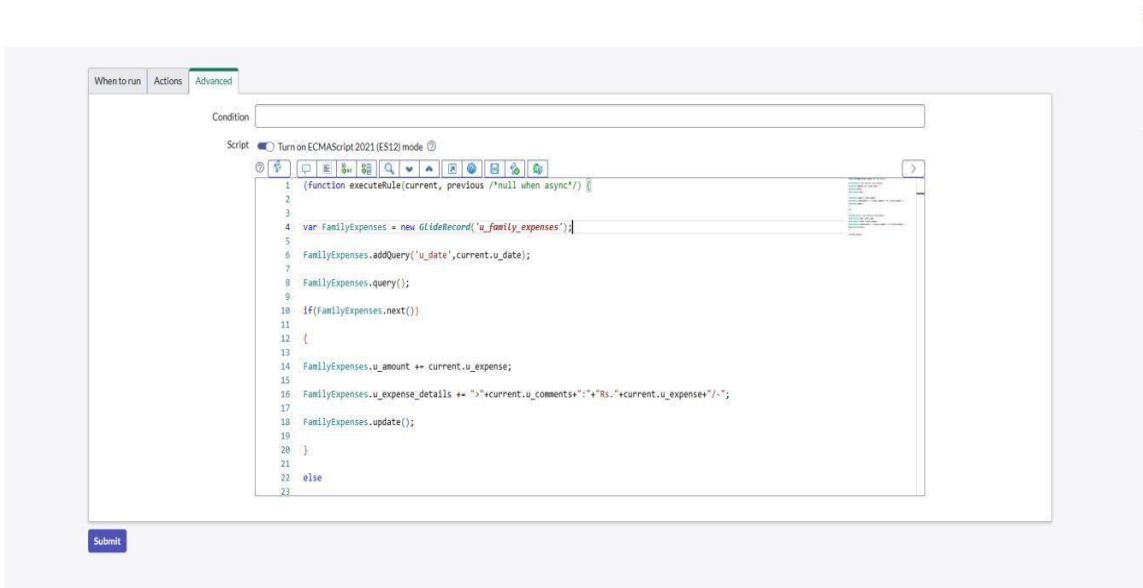
4. In when to run Check Insert and Update
5. In Advance View (we write the code): Write the below

```
(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 9: Configure the Relationship

Activity: Configure the Relationship

1. 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.

```
(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);
```

The screenshot shows the ServiceNow 'Refine Query' interface for a relationship named 'Daily Expenses'. The interface includes a header with the ServiceNow logo and navigation tabs (All, Favorites, History, Workspaces). The main section contains a form with the following fields: 'Name' (Daily Expenses), 'Application' (Global), 'Applies to table' (Family Expenses [u_family_expenses]), and 'Queries from table' (Daily Expenses [u_daily_expenses]). Below the form, there is a blue informational banner stating: '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.' Underneath the banner, there is a section titled 'Query with' with a toggle switch for 'Turn on ECMAScript 2021 (ES12) mode'. Below this, a code editor displays the following JavaScript code:

```
1 (function refineQuery(current, parent) {  
2  
3  
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);  
12  
13
```

 At the bottom of the interface, there are 'Update' and 'Delete' buttons.

5. Click on Update.

Conclusion:

The project “Calculating Family Expenses using ServiceNow” demonstrates how technology can streamline and simplify household financial management. By leveraging the features of ServiceNow, the system provides efficient expense tracking, categorization, budgeting, and reporting while ensuring scalability, data security, and ease of use. The customized components, such as tables, forms, and business rules, enable a user-friendly and automated solution that promotes financial awareness and discipline. Overall, the project highlights the potential of ServiceNow as a versatile platform capable of supporting real-world applications beyond traditional IT service management.