

# Calculating Family Expenses

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## **Objective:**

*To design and implement an automated expense management system using ServiceNow that tracks daily family expenses and aggregates them into family-level summaries with minimal manual effort.*

## **TASK INITIATION**

### **Milestone 1 : Setting up ServiceNow Instance**

#### **Activity 1: Setting up ServiceNow Instance**

- ✓ Sign up for a developer account on the ServiceNow Developer site "<https://developer.servicenow.com>".
  - ✓ Once logged in, navigate to the "Personal Developer Instance" section.
  - ✓ Click on "Request Instance" to create a new ServiceNow instance.
  - ✓ Fill out the required information and submit the request.
  - ✓ You'll receive an email with the instance details once it's ready.
  - ✓ Log in to your ServiceNow instance using the provided credentials.
  - ✓ Now you will navigate to the ServiceNow.
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# Project Documentation: Calculating Family Expenses Using ServiceNow

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## 1. INTRODUCTION

### 1.1 Project Overview

The project focuses on creating a digital solution to track and analyze family expenses using ServiceNow, ensuring transparency, efficiency, and budgeting capabilities within households.

### 1.2 Purpose

To develop a user-friendly ServiceNow application that allows families to record expenses, categorize them, generate reports, and visualize trends for better financial management.

## 2. IDEATION PHASE

### 2.1 Problem Statement

Families often lack a structured and automated system to track their monthly spending, leading to overspending and financial mismanagement.

### 2.2 Empathy Map Canvas

Says: "I wish I had a better way to track expenses."

Thinks: "Are we spending too much this month?"

Does: Notes down expenses manually or uses spreadsheets.

Feels: Stressed about lack of clarity and control over finances.

### 2.3 Brainstorming

- Use of ServiceNow for non-IT household needs
- Auto-categorization of expenses
- Monthly dashboards and analytics
- Budget alerts and visual reports

## 3. REQUIREMENT ANALYSIS

### 3.1 Customer Journey Map

Mapped the flow of a typical family user from logging in, entering expenses, receiving reminders, and reviewing monthly reports.

### 3.2 Solution Requirement

- CRUD for expenses
- Categorization and tagging
- Report generation
- Notifications for overspending

### 3.3 Data Flow Diagram

Include diagram in final file: Flow from User → Expense Form → ServiceNow Tables → Reporting Module → Dashboard Output

### 3.4 Technology Stack

- Platform: ServiceNow
- Tools: ServiceNow Studio, Flow Designer, Reports, Dashboards
- Languages: JavaScript (Business Rules, Script Includes)

## 4. PROJECT DESIGN

### 4.1 Problem Solution Fit

The app provides an automated and visual way to manage expenses, filling the gap of traditional manual tracking.

### 4.2 Proposed Solution

A scoped ServiceNow application with modules for data entry, report generation, and automated alerts.

### 4.3 Solution Architecture

- Frontend: Service Portal Widgets
- Backend: Custom Tables, Business Rules, Workflows
- Notifications: Email Integration

## 5. PROJECT PLANNING & SCHEDULING

### 5.1 Project Planning

- Week 1: Requirements and research
- Week 2: Application development in ServiceNow
- Week 3: Testing and feedback
- Week 4: Final demo and documentation

## Table Design:

### 1. Family Expenses Table

Table Name: u\_family\_expenses

Purpose: To record aggregated expenses by date

Field Name	Type	Properties
Number	String	Auto-generated, Read-only
Date	Date	Mandatory
Amount	Integer	Summed from daily expenses
Expense Details	String	Max length: 800

### 2. Daily Expenses Table

Table Name: u\_daily\_expenses

Purpose: To record each individual expense entry

Field Name	Type	Properties
Number	String	Auto-generated, Read-only
Date	Date	Mandatory
Expense	Integer	
Family Member Name	Reference	Mandatory, refers to sys_user
Comments	String	Max length: 800
Family Expense	Reference	Refers to u_family_expenses

## Table Relationship:

Relationship Name: Daily Expenses

Applies to Table: u\_family\_expenses

Referenced Table: u\_daily\_expenses

Query Script:

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

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## Business Rule:

Name: Family Expenses BR

Table: u\_daily\_expenses

When to Run: On Insert and Update

Script:

```
(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);
```

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## Auto-Numbering:

Configured using Number Maintenance

For Family Expenses:

- Table: u\_family\_expenses
- Prefix: MFE

For Daily Expenses:

- Table: u\_daily\_expenses
- Prefix: MDE

## Form Design:

Customized Forms for better data entry and visibility.

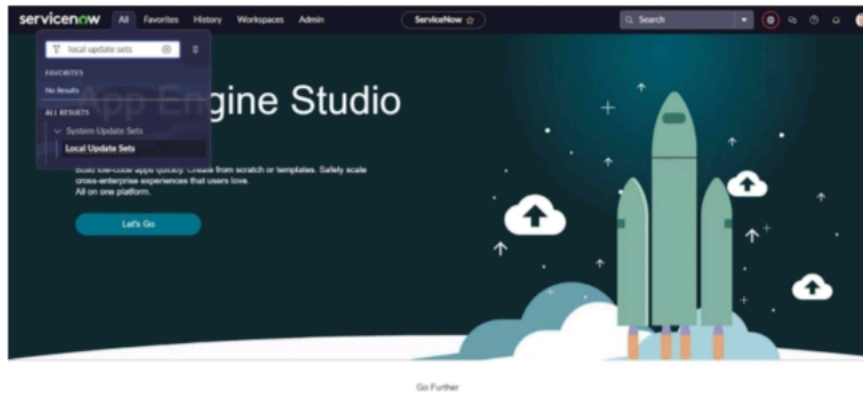
- Read-only Field: Number
- Mandatory Fields:

## RESULTS

### Milestone 2 : Creation of New Update Set

#### Activity 2: Creation of New Update Set

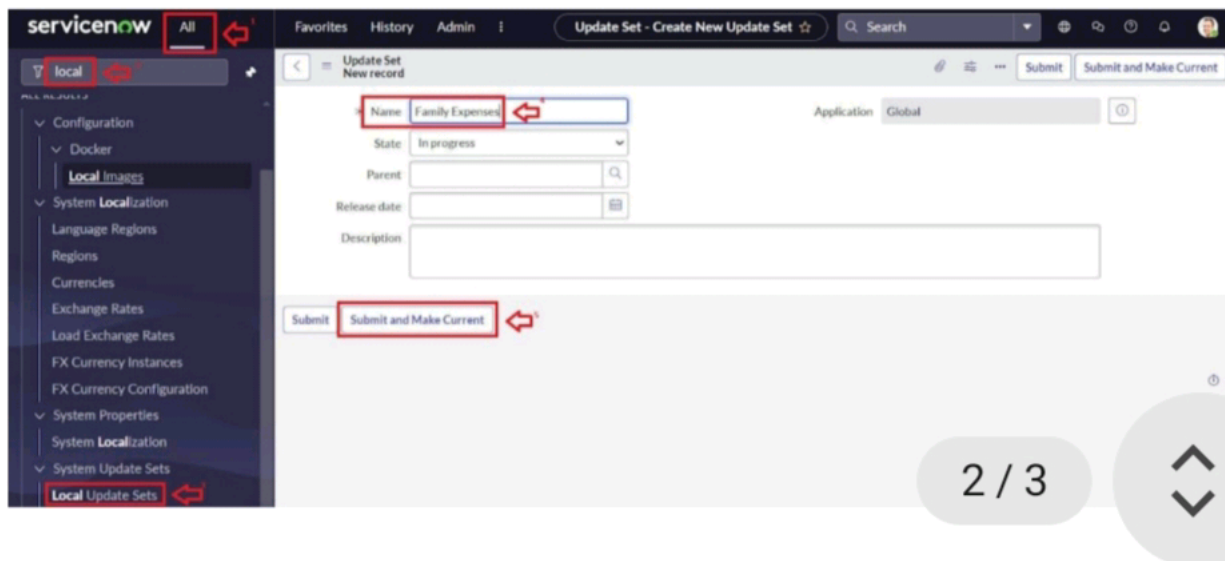
Go to All >> In the filter search for Local Update set > click on New.



Enter the Details as:

**Name : Family Expenses**

Then click on **Submit and Make current**.



## Milestone 3 : Creation of Table

### Activity 1: Creation of Table

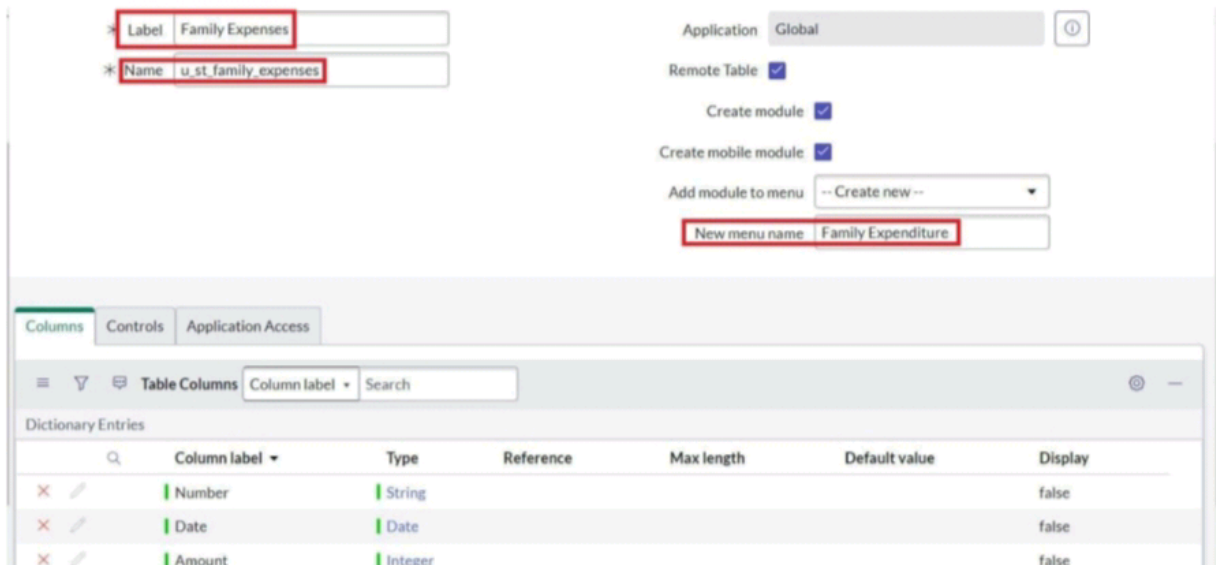
Go to All > In the filter search for Tables > click on New.

Enter the Details:

**Label : Family Expenses**







**Name : Auto-Populated**

**New menu name : Family Expenditure**



The screenshot shows the configuration interface for creating a new table. The 'Label' field is set to 'Family Expenses' and the 'Name' field is set to 'u\_st\_family\_expenses'. The 'Application' is set to 'Global'. The 'Remote Table' checkbox is checked. The 'Create module' checkbox is checked. The 'Create mobile module' checkbox is checked. The 'Add module to menu' dropdown is set to '-- Create new --'. The 'New menu name' field is set to 'Family Expenditure'.

Below the configuration fields, there is a section for 'Table Columns' with a search bar and a table of 'Dictionary Entries'.

	Column label	Type	Reference	Max length	Default value	Display
 	Number	String				false
 	Date	Date				false
 	Amount	Integer				false

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

## 7. RESULTS

### 7.1 Output Screenshots:

- Family Members Table.
- Daily Expenses form and records.
- Family Expenses list view with Number, Date, Amount, Expense Details.
- Business Rule code.
- Report Output.

## 8. ADVANTAGES & DISADVANTAGES

### Advantages:

- Automated expense summarization.
- Easy to add daily expenses.
- Report generation.
- Scalable for different family sizes.

### Disadvantages:

Basic UI (ServiceNow default forms).

- Requires ServiceNow platform access.

## 9. CONCLUSION

The "Calculating Family Expenses" project successfully demonstrates how ServiceNow can be used beyond IT service management. It automates manual tasks, offers visibility into financial data, and helps families control their spending patterns.

## 10. FUTURE SCOPE

- Adding Monthly and Yearly sum...