Calculating Family Expenses using Service Now

Team ID : NM2025TMID19299

Name	NM ID	Position
HARI HARAN V	**045ED8AF1481EF6A19545B765FBD3481**	**Leaded**
HARISH C	**F93A22F0A052FCD8CE7444317A2F896E**	**Member**
HEMNATH M	**704292BFC0A9C30BA454F5AA18D1E516**	**Member**
HUSNA SULTANA A	**0188548578AB2E1A3B8401E9835D1429**	**Member**

TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
-	**ABSTRACT**	**4**
1	**Introdution**	**5**
	1.1 Current Issues	**5**
	1.2 Service Now	**6**
	1.3 Uses of Service now in Family Expenses	**7**
2	**Develeoping the Family Expense Calculation System in Servicenow Developer Instance**	**8**
	2.1. Setting up ServiceNow Instance	**8**
	2.2. Creation of New Update Set	**8**
	2.3. Creation of New Update Set	**9**
	2.4. Creation of Table(Daily Expenses)	**10**
	2.5. Creation of Family Expenses Table	**13**

	2.6. Creation of Relationship between Family Expenses and Daily Expenses tables	**16**
	2.7. Configuring Related List on Family Expenses	**16**
	2.8. Creation of Business Rules	**17**
	2.9. Configure the Relationship	**19**
	2.10. Conclusion	**19**
3	**Chapter : 3 – Purpose of Tables and Future Analysis**	**20**
	3.1 Family Expense Table	**20**
	3.2 Daily Expense Table	**21**
	3.3 Purpose of Creating These Tables	**21**
	3.4 Future Analysis with the Tables	**23**
4	**Chapter : 4 -- Real-World Applications of Family Expense Management**	**23**
	4.1 Tracking Monthly Household Expenses	**23**

	4.2 Identifying Highest Spending Family Member	**23**
	4.3 Category-wise Expense Analysis	**23**
	4.4 Budget vs. Actual Comparison	**24**
	4.5 Saving Opportunity Identification	**24**
	4.6 Predicting Future Expenses	**24**
	4.7 Emergency Expense Tracking	**25**
	4.8 Visual Reports and Dashboards	**25**
5	**Chapter : 5 -- Implementation with Problems and Visualization**	**26**
	5.1 Problems in Family Expenses Table	**27**
	5.2 Problems in Daily Expenses Table	**28**
6	**Conclusion**	**30**

Abstract

The project *"Calculating Family Expenses using ServiceNow"* is aimed at designing and implementing a comprehensive expense management system by leveraging the capabilities of the ServiceNow platform. In today's fast-paced lifestyle, families often face challenges in systematically tracking and controlling their expenditures, which can lead to financial mismanagement and stress. To address this issue, the proposed system provides a centralized platform where users can record, categorize, and analyze family expenses in a structured manner.

The system incorporates essential features such as expense categorization into predefined groups (e.g., food, utilities, education, healthcare, and entertainment), budget setting for each category, and real-time expense tracking to prevent overspending. It also includes automated reporting and visualization tools that help families gain deeper insights into their spending patterns. By using ServiceNow's workflow automation, database management, and integration capabilities, the project ensures a seamless user experience, data accuracy, and scalability to support families of different sizes and financial structures.

The solution emphasizes user-friendly design, ensuring that even non-technical users can manage their financial data effortlessly. Furthermore, the system's adaptability allows it to be extended with advanced features such as alerts for budget limits, monthly summaries, and potential integration with external financial tools. Ultimately, the project provides a robust framework to promote financial awareness, informed decision-making, and long-term financial stability for families.

Chapter : 1 : Introduction

Managing family expenses has become an essential aspect of modern life, as financial stability plays a critical role in ensuring the overall well-being of households. With the increasing number of daily expenditures and diverse financial commitments, families often find it challenging to monitor their spending effectively. Traditional methods, such as manual tracking or using spreadsheets, are time-consuming, error-prone, and lack real-time insights. This creates the need for a smarter, automated, and user-friendly solution that simplifies financial management.

The project *"Calculating Family Expenses using ServiceNow"* addresses this challenge by utilizing the powerful capabilities of the ServiceNow platform to develop an expense management system tailored for families. ServiceNow, known for its robust workflow automation, data handling, and integration features,

provides a strong foundation for building scalable and efficient applications beyond its conventional IT service management use.

This system allows users to record and categorize expenses under various heads, set budgets for each category, and track them in real time. The platform further provides detailed reports and analytics, helping families identify spending patterns, control unnecessary expenditures, and make informed financial decisions. With a focus on user experience, the system is designed to be intuitive and accessible, ensuring that even users with minimal technical knowledge can operate it with ease.

By integrating advanced functionalities such as automated alerts for budget limits, monthly expenditure summaries, and data visualization, the project not only streamlines the expense management process but also encourages families to develop better financial discipline. Ultimately, this project contributes towards promoting financial awareness, transparency, and long-term financial well-being within the family unit.

1. Current Issues:

Managing family expenses manually or through basic digital tools comes with several challenges that often result in financial mismanagement. Some of the key issues identified are:

1. **Lack of Centralized Tracking**
   - Families usually depend on notebooks, spreadsheets, or different mobile apps for expense tracking, which leads to scattered and unorganized financial data.

1. **Difficulty in Categorization**
   - Expenses are not always properly classified under categories like food, utilities, healthcare, or education. This makes it hard to understand where the majority of money is being spent.
2. **Time-Consuming Process**
   - Manual entry and calculation of expenses require significant time and effort, often discouraging consistent tracking.
3. **Inaccurate Budget Monitoring**
   - Without automated tools, families may overshoot their budget unknowingly, since there is no real-time alert mechanism.
4. **Limited Analytical Insights**
   - Basic methods of tracking do not provide detailed insights, such as monthly trends, spending patterns, or comparative analysis across categories.
5. **Data Security and Reliability**
   - Using third-party tools or manual records may compromise financial data security and lack reliability for long-term record keeping.
6. **Scalability Issues**
   - As family size and expenses grow, traditional methods fail to scale, making it increasingly difficult to manage finances effectively.

1. Service Now:

ServiceNow is a **cloud-based platform** that provides digital workflows to automate and streamline business processes across different industries. Originally developed for IT Service Management (ITSM), ServiceNow has now expanded into areas such as Human Resources, Customer Service, Security Operations, and custom application development.

The key strength of ServiceNow lies in its ability to:

- **Automate workflows** – Reduces manual work by handling routine and repetitive tasks automatically.
- **Centralize data** – Stores and manages information in a single system of record, improving accessibility and accuracy.
- **Support custom applications** – Allows developers and users to create applications tailored to specific needs without complex coding.
- **Provide reporting and dashboards** – Offers real-time insights into processes, trends, and performance metrics.
- **Ensure scalability and security** – Handles large-scale operations with strong data protection measures.

ServiceNow is widely used by organizations because it increases efficiency, enhances user experience, and reduces operational costs. In this project, ServiceNow is utilized beyond its traditional business uses, serving as a platform to build a **family expense management system** that helps users track, categorize, and analyze their financial activities in a simple and effective way.

1. Uses of Service Now in Family Expenses:

The selection of ServiceNow as the platform for developing the *"Calculating Family Expenses"* system brings several advantages, as it provides powerful tools for automation, integration, and scalability. The following are the key uses of ServiceNow in this project:

1. **Centralized Platform**
   - ServiceNow offers a single, unified platform where all family expense data can be stored, tracked, and managed efficiently.
2. **Workflow Automation**
   - Routine tasks such as recording expenses, categorizing them, and generating reports can be automated, reducing manual effort and improving accuracy.
3. **Real-Time Tracking**
   - ServiceNow enables real-time expense monitoring, ensuring that users are always aware of their financial status and budget utilization.
4. **Customization and Scalability**
   - The platform supports customization to adapt to different family sizes, expense categories, and financial complexities. It can easily scale as the family's financial requirements grow.
5. **Reporting and Analytics**
   - ServiceNow provides built-in reporting and dashboard features that can generate monthly summaries, visualizations, and detailed insights into spending patterns.
6. **Integration Capabilities**
   - The system can be integrated with other financial tools, applications, or external data sources, further enhancing functionality.
7. **User-Friendly Interface**
   - ServiceNow's intuitive design and form-based structure make it easy for non-technical users to enter and analyze expense data without difficulty.
8. **Data Security and Reliability**
   - ServiceNow ensures secure data storage with role-based access, protecting sensitive financial information from unauthorized use.

Chapter : 2 : Develeoping the Family Expense Calculation System in Servicenow Developer Instance

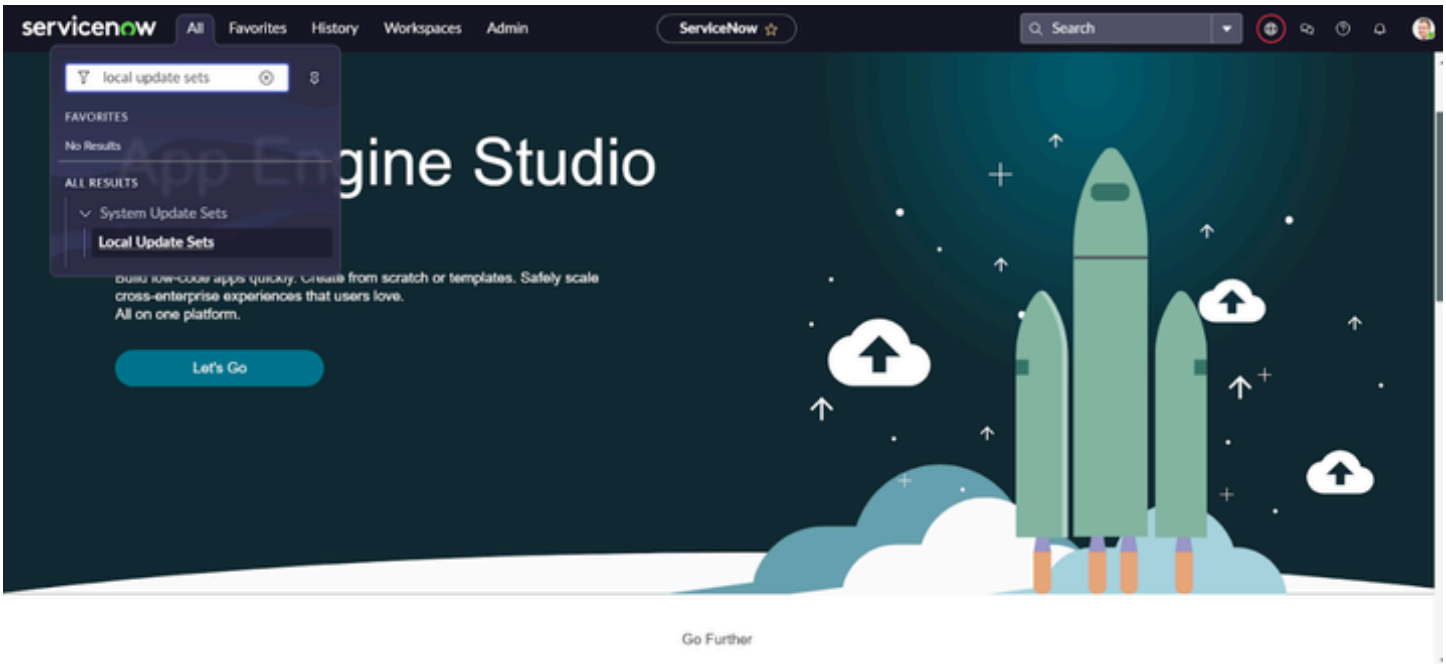
2.1. Setting up ServiceNow Instance

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.

2.2. **Creation of New Update Set**

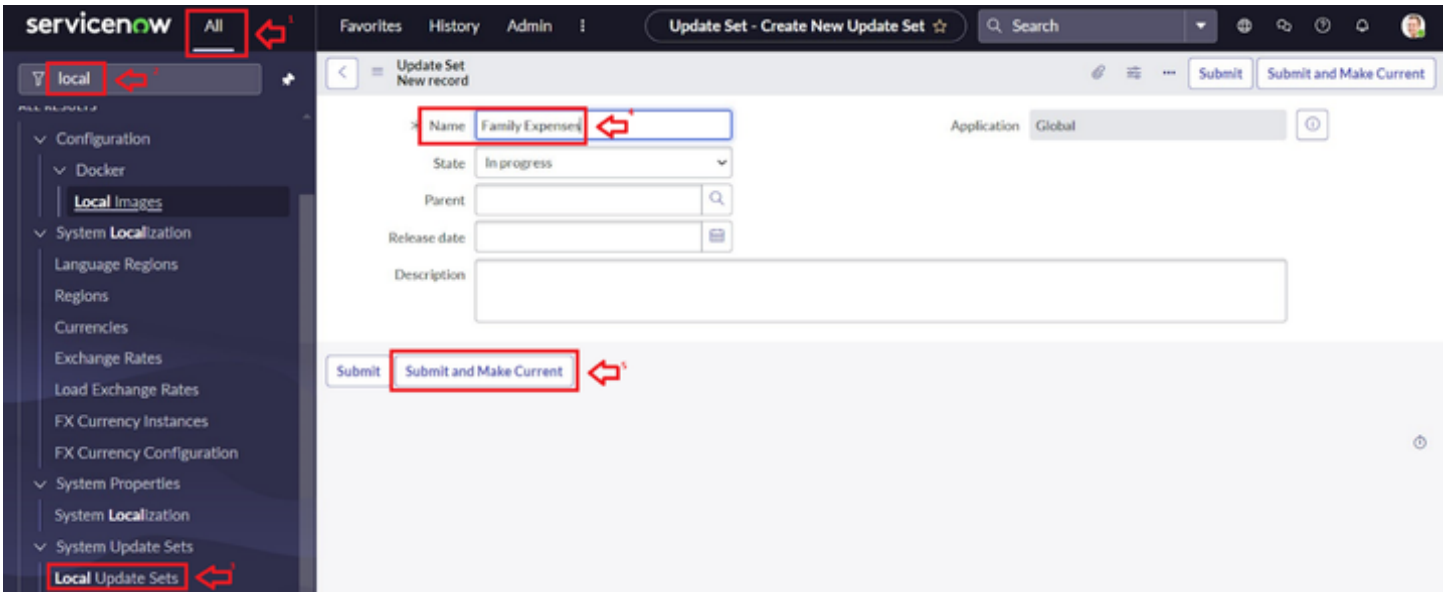
1. Go to All >> In the filter search for Local Update set > click on New.



1. Enter the Details as:

Name : Family Expenses

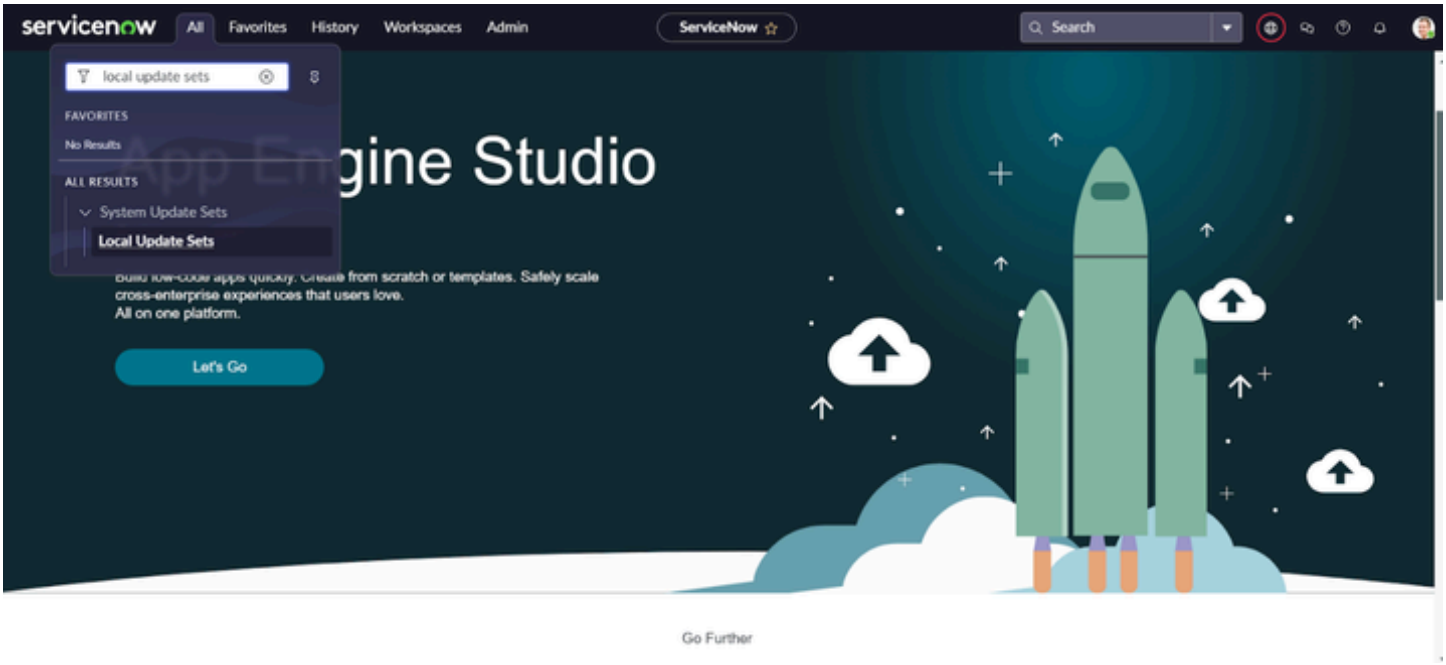
1.



1. Then click on Submit and Make current.

2.3. **Creation of New Update Set**

1.

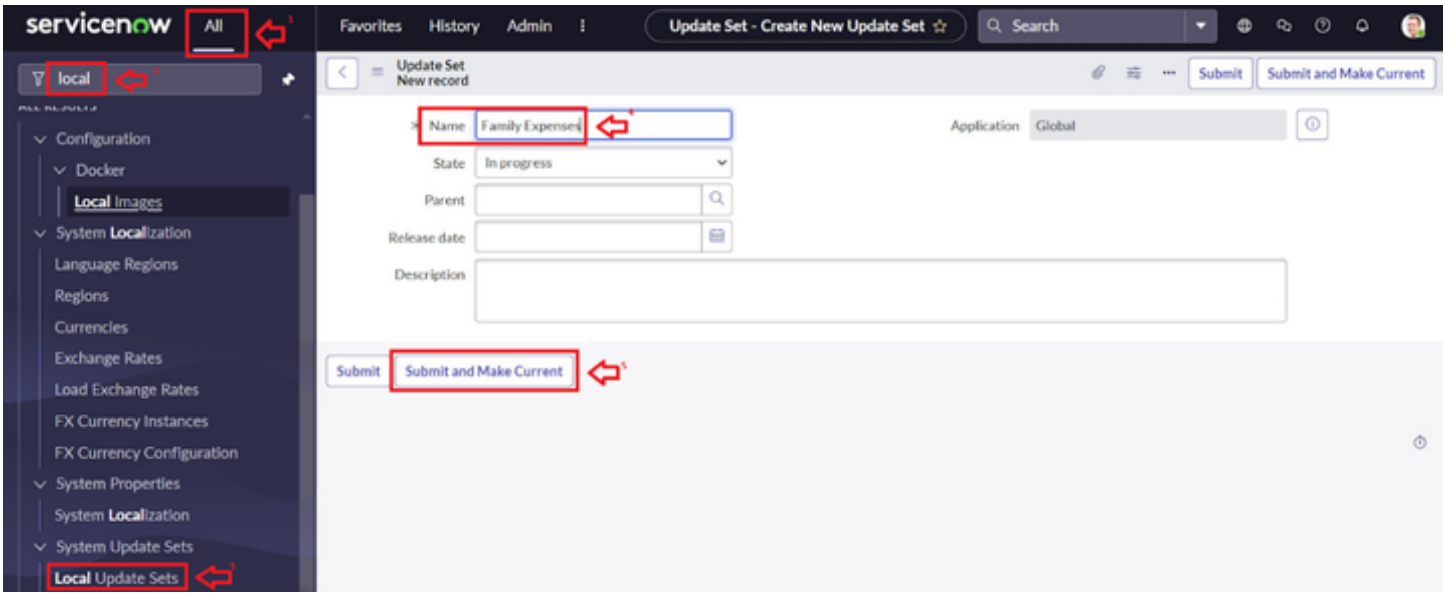


1. Go to All >> In the filter search for Local Update set > click on New.

1. Enter the Details as:

Name : Family Expenses

1. Then click on Submit and Make current.



2.4. **Creation of Table(Daily Expenses)**

2.4.1. **Creation of Daily Expenses Table**

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 : Daily Expenditure

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

2.4.2. **Creation of Columns(Fields)**

1. Near Columns Double click near insert a new row.
2. Give the details as:

Column label : Number

Type : String

1. Double click on insert a new row again
2. Give the details as:

Column label : Date

Type : Date

1. Double click on insert a new row again
2. Give the details as:

Column label : Expense

Type : Integer

1. Double click on insert a new row again
2. Give the details as:

Column label : Family Member Name

Type : Reference

Max length : 800

1. Double click on insert a new row again
2. Give the details as:

Column label : Comments

Type : String

Max length : 800

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

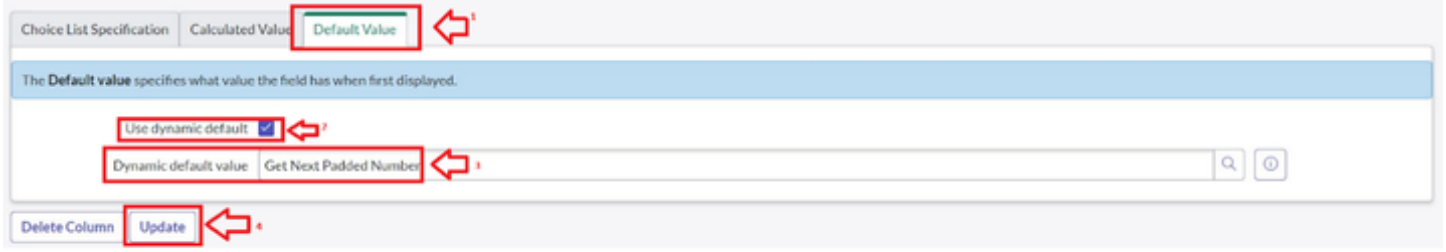
2.4.3. **Making Number Field an Auto-Number**

- 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:

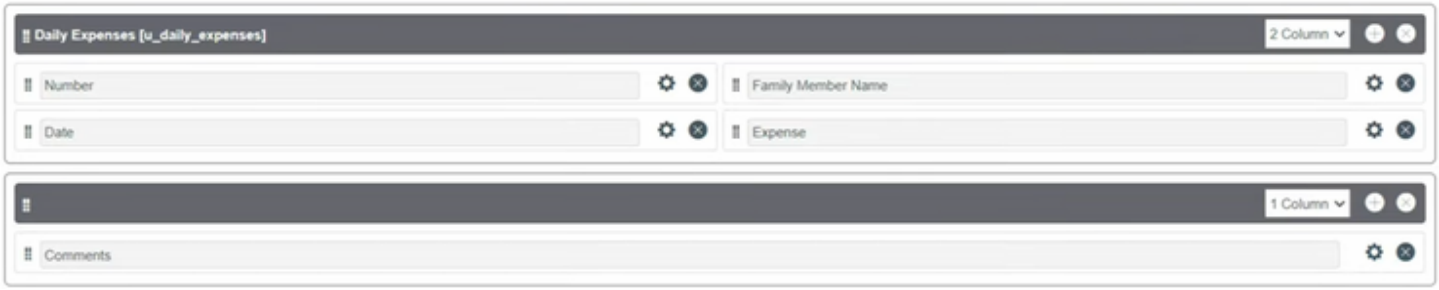
Table : Family Expenses

Prefix : MFE

- Click on Submit.

2.4.4. **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.



1. Customize or Drag Drop the form as per your requirement.
2. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
3. Make Date, Family Member Name Mandatory Field by clicking on the gear icon and checking Mandatory
4. Click on Save.

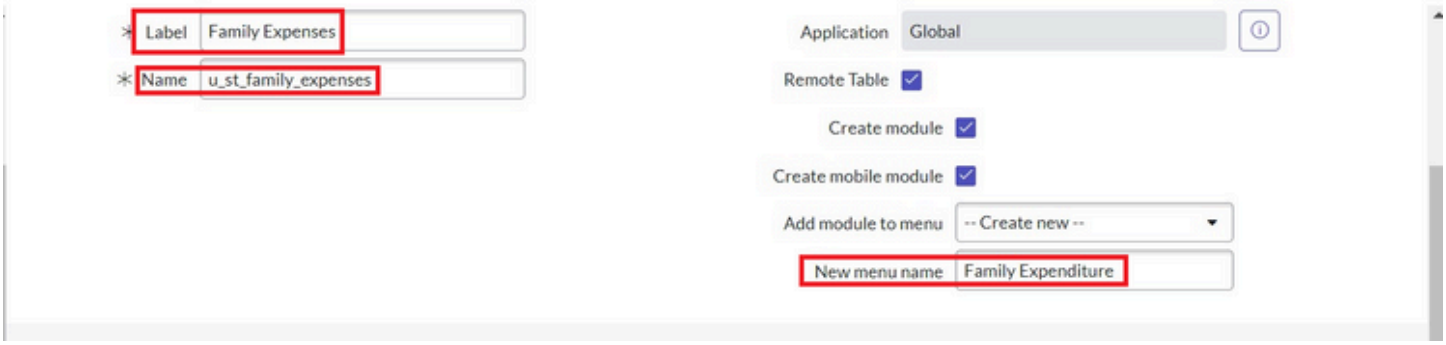
2.5. **Creation of Family Expenses Table**

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



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

2.5.1. **Creation of Columns(Fields)**

1. Near Columns Double click near insert a new row.
2. Give the details as:

Column label : Number

Type : String

1. Double click on insert a new row again
2. Give the details as:

Column label : Date

Type : Date

1. Double click on insert a new row again
2. Give the details as:

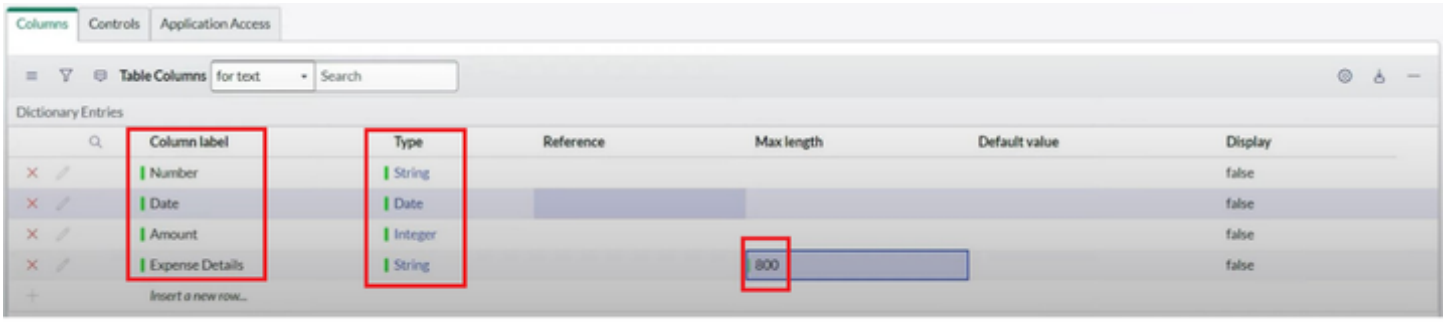
Column label : Amount

Type : Integer

1. Double click on insert a new row again
2. Give the details as:

Column label : Expense Details

Type : String



Max length : 800

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

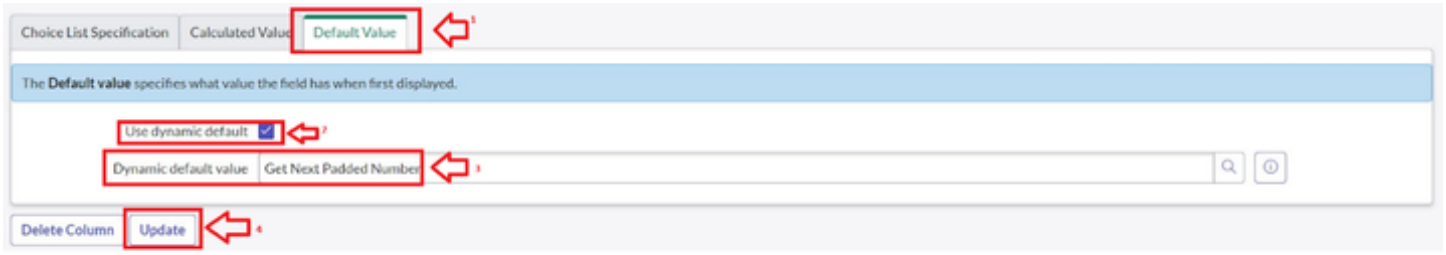
2.5.2. **Making Number Field an Auto-Number**

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.



Go to All >> In the filter search for Number Maintenance >> select Number Maintenance

Click on New.

Enter the below Details:

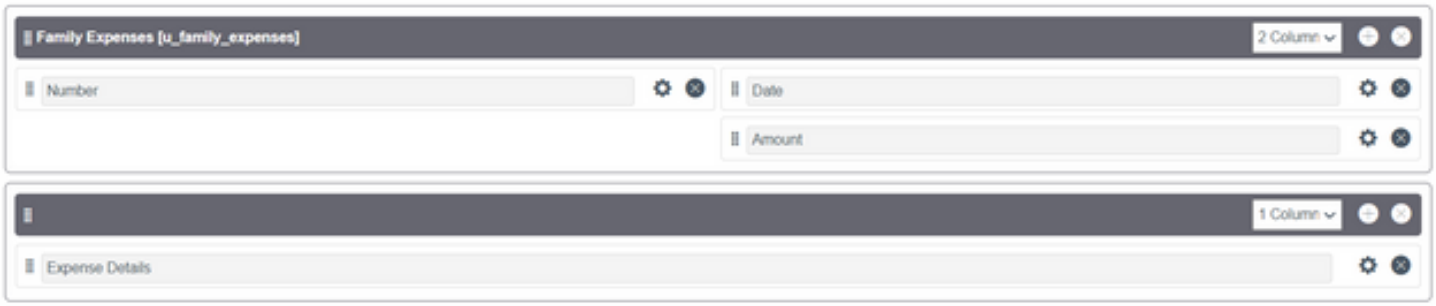
Table : Family Expenses

Prefix : MFE

Click on Submit.

2.5.3. **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.



1. Customize or Drag Drop the form as per your requirement.
2. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
3. Make Date, Amount Mandatory Field by clicking on the gear icon and checking Mandatory
4. Click on Save.

2.6. **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

1. Click Save.

2.7. **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

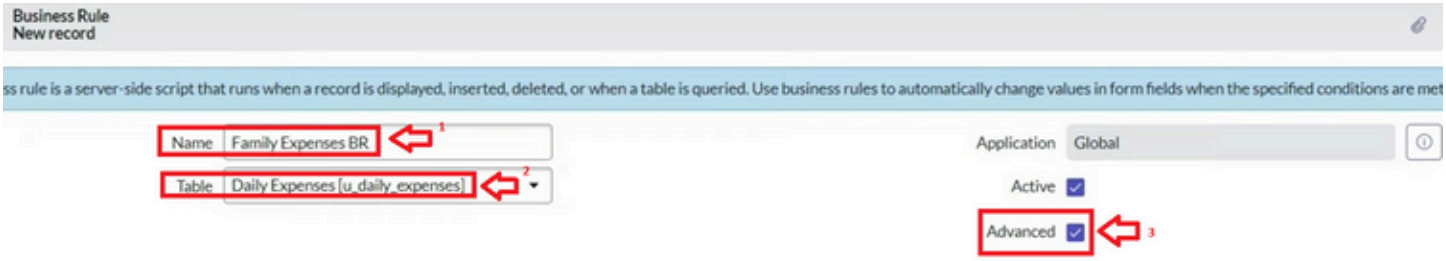
2.8. **Creation of Business Rules**

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:

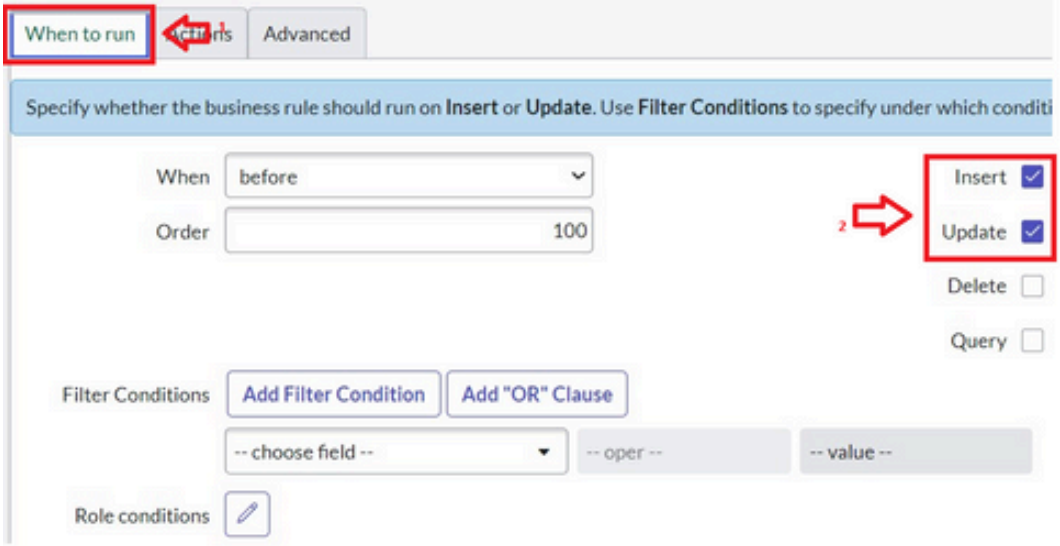
Name : Family Expenses BR

Table : Select Daily Expenses

Check Advanced



1. In when to run Check Insert and Update



1. 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);
```

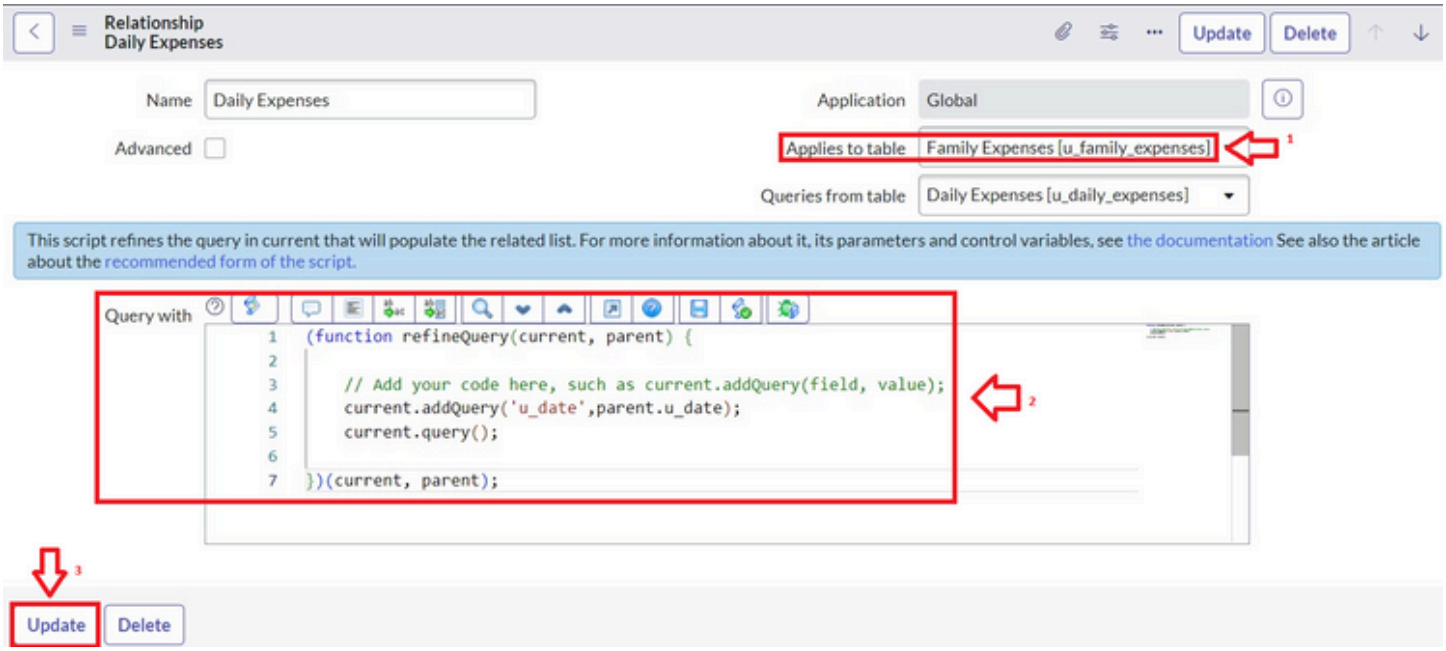
1. Go to the Header and right click there>> click on Save.

2.9. **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.

```
(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);
```

1.



1. Click on Update.

2.10. **Conclusion**

Thus the Family expension calculation system has been developed in the developer instance.

Chapter : 3 – Purpose of Tables and Future Analysis

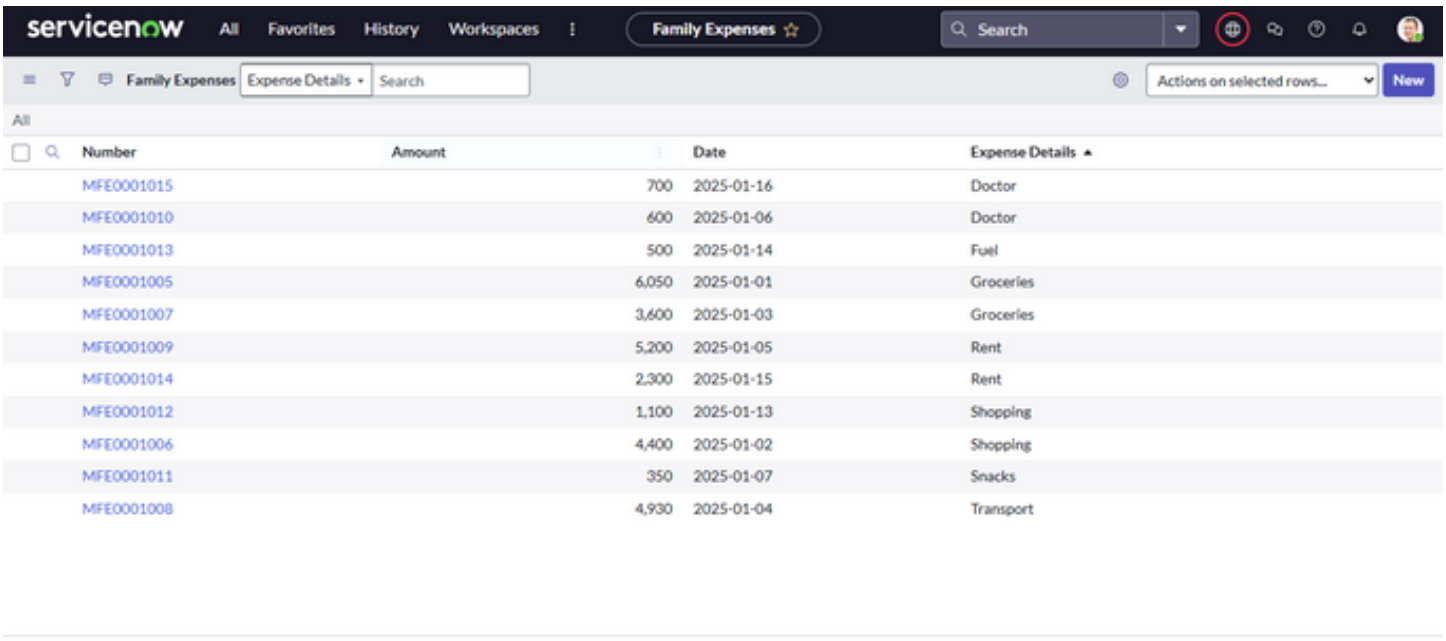
In this project, two main tables were created in ServiceNow: **Family Expense** and **Daily Expense**. These tables serve as the foundation for storing and managing expense-related information in a structured manner. By organizing the data into these two categories, we ensure clarity, accuracy, and the ability to perform meaningful analysis later.

3.1 Family Expense Table

The **Family Expense Table** is designed to capture the overall financial expenditures of the family. Each record provides details such as:

- **Number** – A unique identifier for tracking each expense entry.
- **Date** – The date on which the expense was made.
- **Amount** – The total money spent in that transaction.
- **Expense Details** – A description of the expense for better understanding and categorization.

This table allows us to **track family-level expenses** and gives a summarized view of household financial patterns.



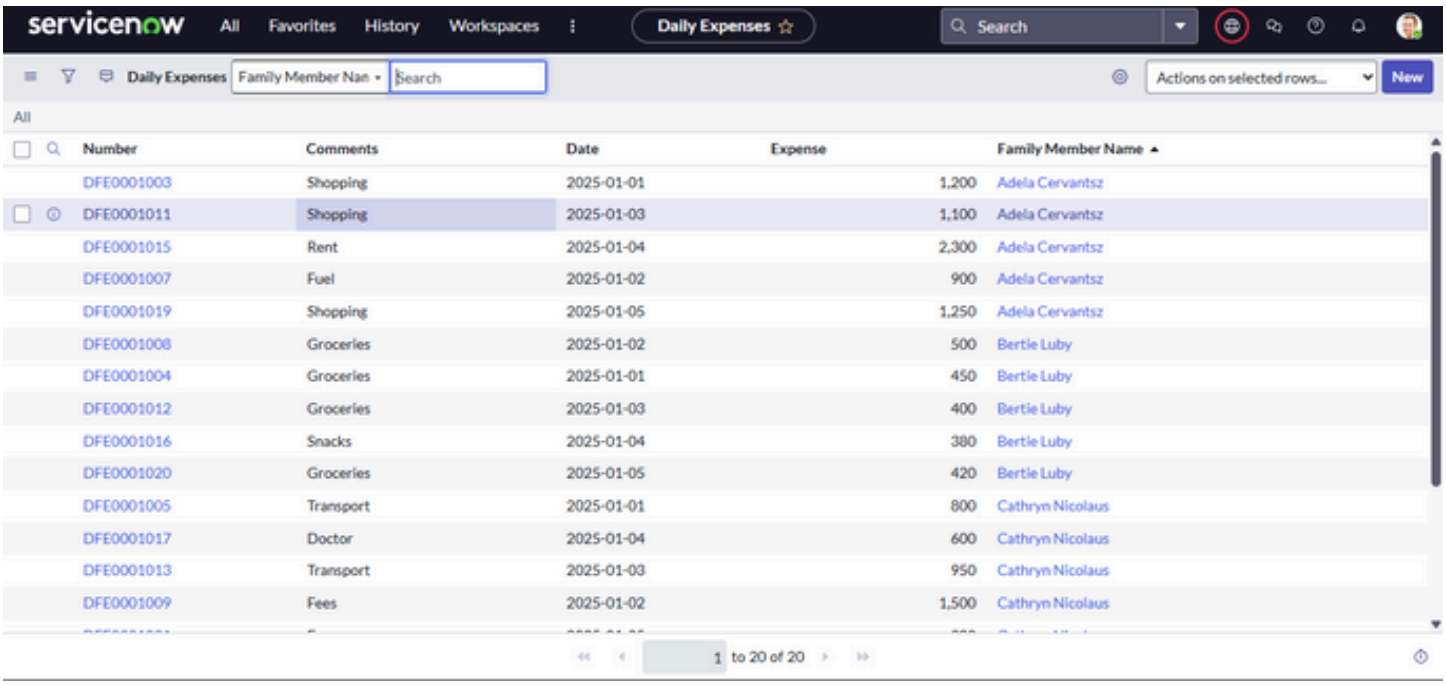
Number	Amount	Date	Expense Details
MFE0001015	700	2025-01-16	Doctor
MFE0001010	600	2025-01-06	Doctor
MFE0001013	500	2025-01-14	Fuel
MFE0001005	6,050	2025-01-01	Groceries
MFE0001007	3,600	2025-01-03	Groceries
MFE0001009	5,200	2025-01-05	Rent
MFE0001014	2,300	2025-01-15	Rent
MFE0001012	1,100	2025-01-13	Shopping
MFE0001006	4,400	2025-01-02	Shopping
MFE0001011	350	2025-01-07	Snacks
MFE0001008	4,930	2025-01-04	Transport

3.2 Daily Expense Table

The **Daily Expense Table** focuses on recording **individual expenses by each family member**. Each record provides details such as:

- **Number** – A unique identifier for the daily entry.
- **Date** – The specific day the expense occurred.
- **Expense** – The money spent by a family member.
- **Family Member Name** – Identifies which member made the expense.
- **Comments** – Additional notes or reasons for the expense.

This table allows us to capture **day-to-day spending behavior** and helps in identifying **who spends what amount on which day**.



3.3 Purpose of Creating These Tables

The creation of these two tables serves multiple objectives:

1. **Data Organization:** Expenses are divided into two categories – overall family expenses and individual daily expenses – making records easier to manage.
2. **Accountability:** Helps identify who spends money and how much is spent collectively.
3. **Transparency:** Provides clarity in household finance by separating personal expenses from shared family expenses.
4. **Foundation for Analysis:** Structured data ensures we can perform advanced analysis like trends, comparisons, and forecasting.

3.4 Future Analysis with the Tables

With these tables in place, various types of **financial analysis** can be carried out to gain valuable insights:

1. **Monthly Expense Trends:** Analyze the rise and fall of expenses across different months.

2. **Family Member Contribution:** Identify which family member spends the most and compare expenses between members.
3. **Category-wise Expense Tracking:** Use the **Expense Details** column to categorize (e.g., food, travel, shopping) and see where most of the money goes.
4. **Budget Planning:** Compare daily vs. family expenses to set realistic budgets.
5. **Forecasting:** Use historical data to predict upcoming expenses and prepare for them.
6. **Savings Opportunities:** Identify unnecessary expenses and suggest cost-cutting measures.
7. **Custom Dashboards in ServiceNow:** Build reports and dashboards to visualize expenses (pie charts for category distribution, line charts for monthly trends, bar charts for member-wise expenses).

Chapter 4: Real-World Applications of Family Expense Management

The **Family Expense** and **Daily Expense** tables created in ServiceNow can be used to provide meaningful insights into household financial activities. Beyond simply storing records, these tables enable us to analyze, monitor, and improve financial decision-making. Below are some of the practical things we can do with this system, along with real-world examples:

4.1 Tracking Monthly Household Expenses

We can calculate the **total family expenditure for each month** by summarizing entries in the **Family Expense Table**.

- **Example:**In January, the total family expense is ₹45,000. In February, it increases to ₹52,000. This indicates a rise of ₹7,000, and the family can check which categories (food, electricity, shopping) caused the increase.

4.2 Identifying Highest Spending Family Member

The **Daily Expense Table** allows us to track which family member spends the most.

- **Example:**If there are 4 family members (Father, Mother, Son, Daughter), and records show the Son spent ₹12,000 on outings and gadgets while others spent under ₹7,000, it clearly shows where most money is going.

4.3 Category-wise Expense Analysis

Using the **Expense Details** column from the Family Expense table, we can group expenses into categories such as **Food, Travel, Bills, Shopping, Entertainment, Education**.

- **Example:**Reports may show that 40% of the monthly budget goes to **food & groceries**, 25% on **bills**, and 15% on **shopping**. This helps the family adjust their lifestyle if one category is consuming too much money.

4.4 Budget vs. Actual Comparison

Families usually set a monthly budget. By comparing the **planned budget** with the **actual amount** in the Family Expense table, we can evaluate financial discipline.

- **Example:**If the family sets a budget of ₹50,000 per month but the Family Expense table shows ₹55,500 for March, it highlights overspending. The breakdown will reveal whether overspending was due to essential needs or luxury expenses.

4.5 Saving Opportunity Identification

By analyzing Daily Expenses, we can point out **unnecessary or repeated expenses**.

- **Example:**Daily Expense data shows that two family members are subscribing separately to the same OTT platform (₹500 each). Identifying this duplication can save ₹500 monthly.

4.6 Predicting Future Expenses

By looking at past expense trends, the system can **forecast future monthly expenses**.

- **Example:**If electricity bills rise by 10% every summer month, the family can prepare for an extra ₹2,000 in May–June bills in advance.

4.7 Emergency Expense Tracking

Families can also identify **unexpected expenses** (medical bills, urgent repairs, etc.) to build an emergency fund.

- **Example:**If in April, the Family Expense table shows ₹8,000 spent on hospital bills, this highlights the need for a health emergency fund.

4.8 Visual Reports and Dashboards

ServiceNow allows creation of **dashboards** using the data from both tables.

- **Example:**
  - **Pie Chart:** Percentage of expenses by category (Food, Travel, Bills).
  - **Bar Chart:** Family member spending comparison.
  - **Line Chart:** Monthly total expenses trend over the year.

Chapter 5: Implementation with Problems and Visualization

In this chapter, we demonstrate how the data stored in the **Family Expenses** and **Daily Expenses** tables can be analyzed to solve real-life problems. We provide four problems (two for each table) and explain step-by-step how to approach them. To make the insights clearer, we also use simple **bar charts and visualizations**.

5.1 Problems in Family Expenses Table

Problem 1: Identify the highest category of expense in January 2025

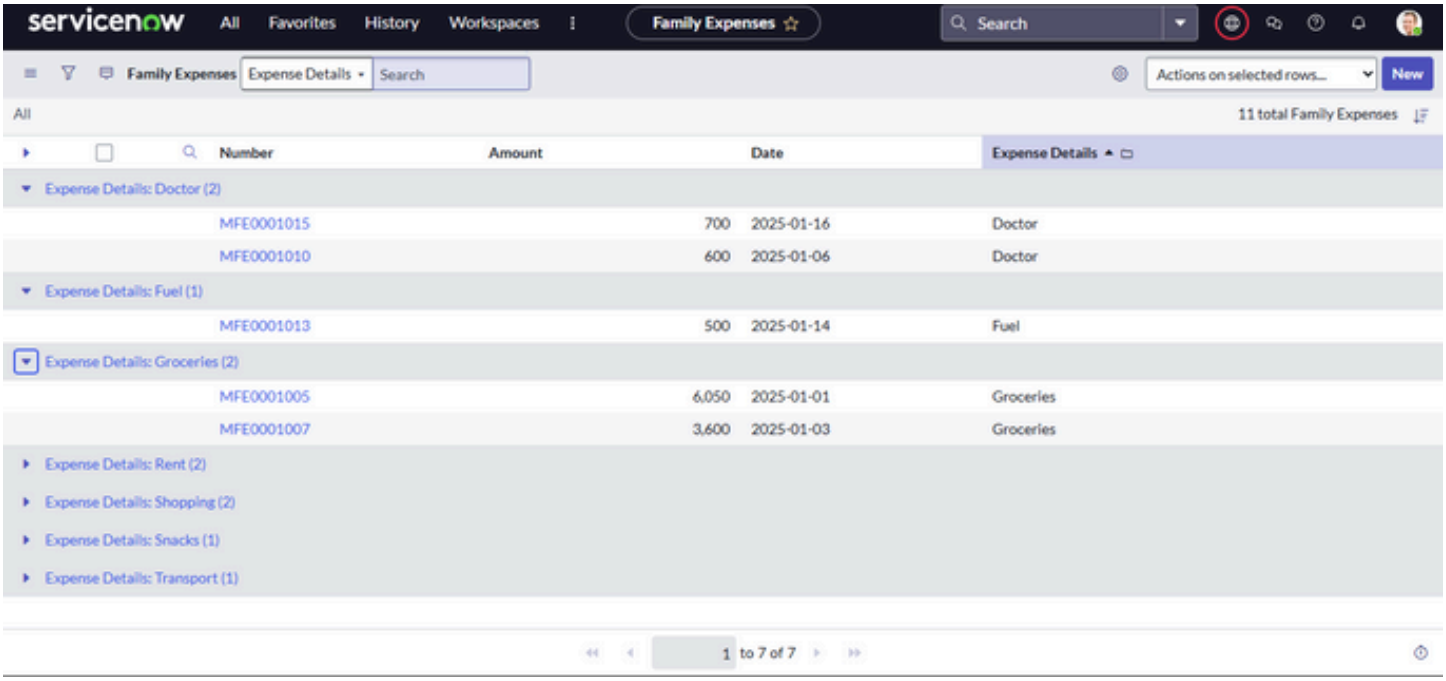
- **Step 1:** Look at the "Expense Details" column in the Family Expenses table.
- **Step 2:** Group expenses by category (Doctor, Fuel, Groceries, Rent, Shopping, Snacks, Transport).
- **Step 3:** Add the amounts for each category.
- **Step 4:** Compare totals to find the highest expense type.

📊 **Visualization Example:**A **bar chart** showing categories on the X-axis and total amounts on the Y-axis.

- Groceries: 9,650
- Rent: 7,500
- Shopping: 5,500
- Transport: 4,930
- Doctor: 1,300
- Fuel: 500

- Snacks: 350

➡️ From this chart, we see that **Groceries (₹9,650)** is the largest expense in January.



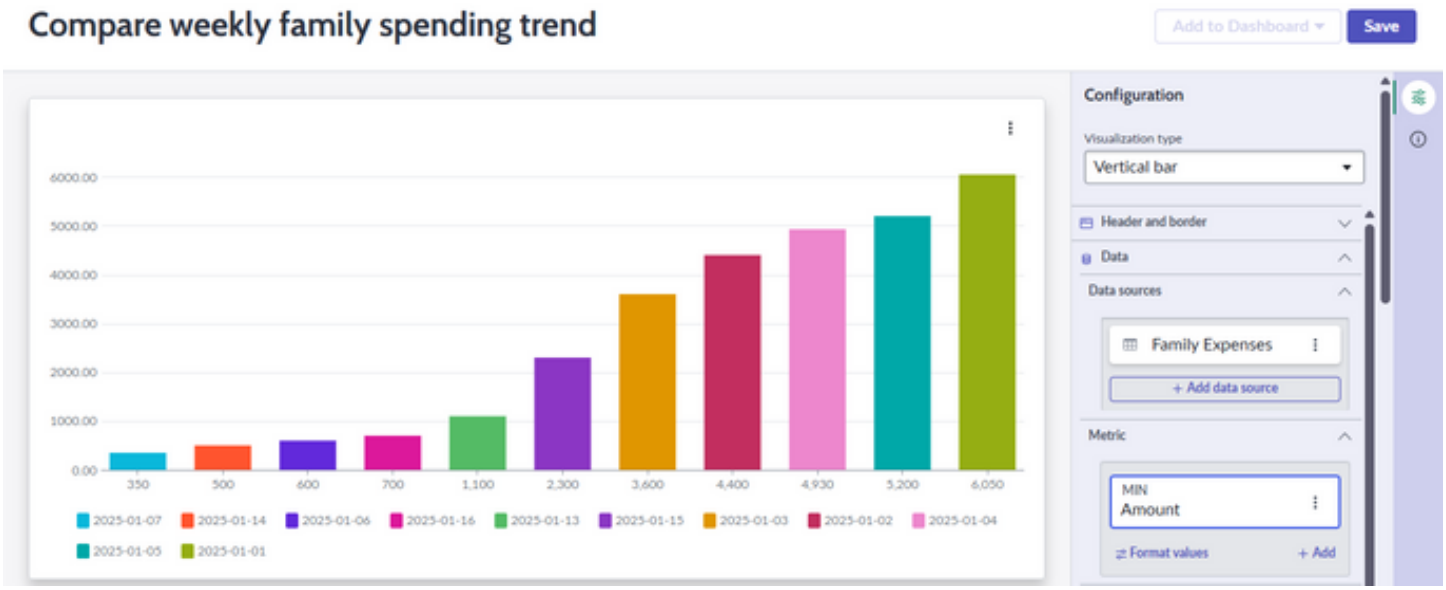
Problem 2: Compare weekly family spending trend

- **Step 1:** Use the "Date" column. Group the expenses week by week (Week 1: Jan 1–7, Week 2: Jan 8–14, Week 3: Jan 15–21).
- **Step 2:** Add the total expense amounts for each week.
- **Step 3:** Compare weekly totals.

📊 **Visualization Example:**A **line chart** with weeks on the X-axis and total expense on the Y-axis.

- Week 1: ₹15,000 (Groceries, Rent, Transport, Snacks)
- Week 2: ₹1,600 (Doctor, Shopping)
- Week 3: ₹10,000 (Doctor, Rent)

➡️ Week 1 shows the highest spending due to **Rent and Groceries**.



5.2 Problems in Daily Expenses Table

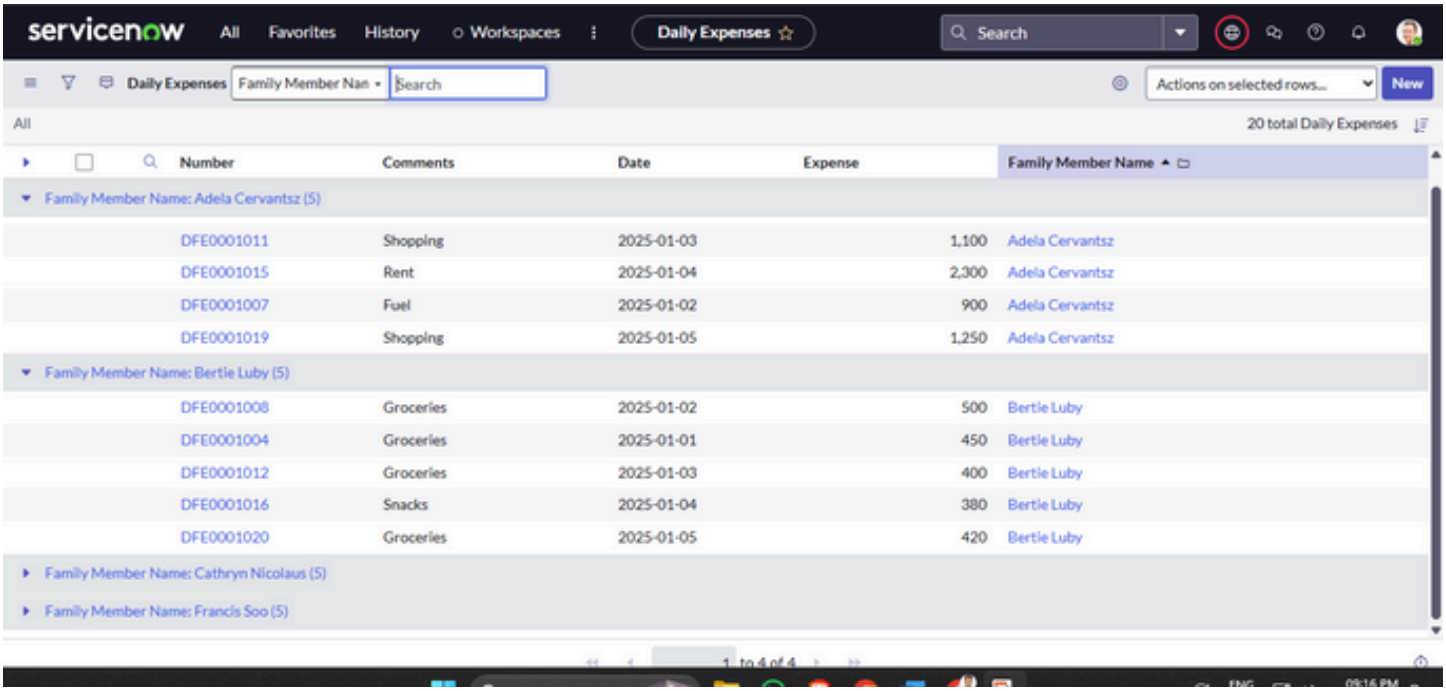
Problem 3: Find which family member spent the most

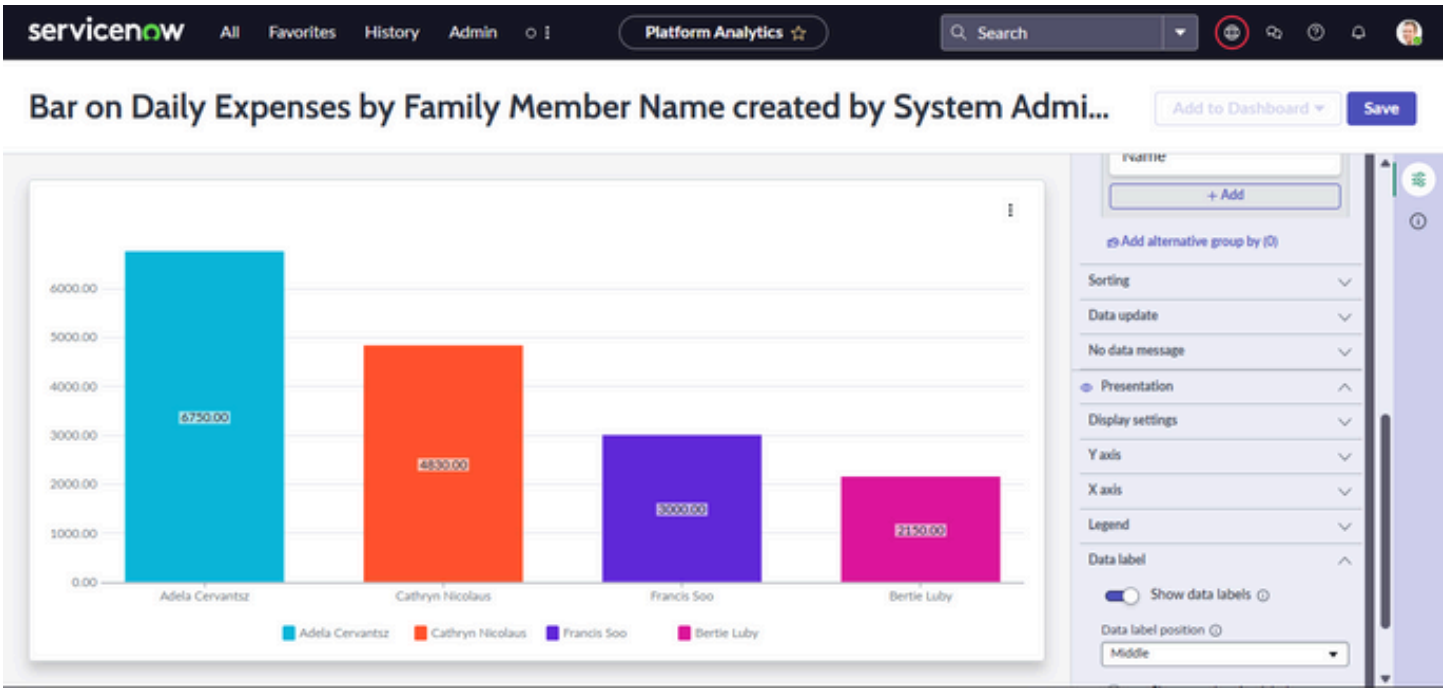
- **Step 1:** Look at the "Family Member Name" column.
- **Step 2:** Group all expenses by each family member.
- **Step 3:** Add their expenses.
- **Step 4:** Compare totals.

📊 **Visualization Example:**A **bar chart** of total spending by member:

- Adela Cervantsz: ₹5,500
- Bertie Luby: ₹1,770
- Cathryn Nicolaus: ₹5,530
- Francis Soo: ₹3,380

➡️ **Cathryn Nicolaus (₹5,530)** spent the most in January.





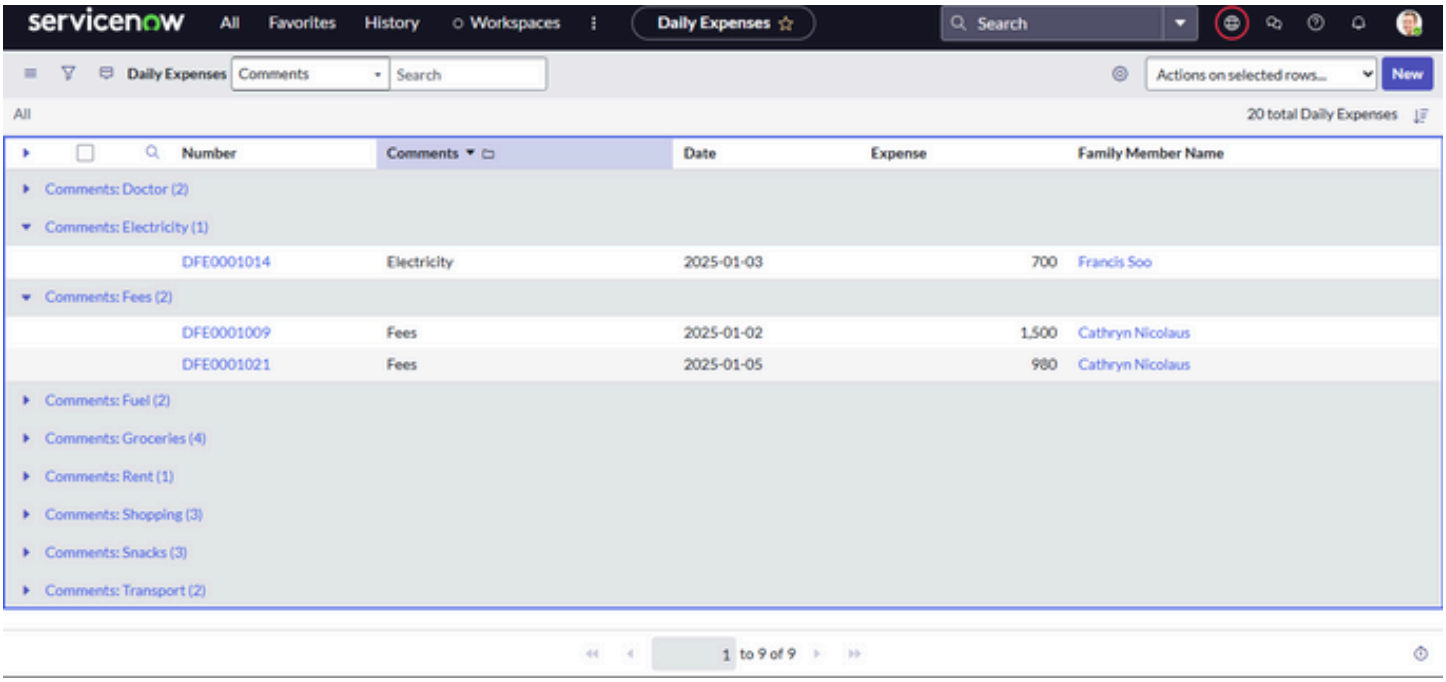
Problem 4: Analyze type of expense made by each family member

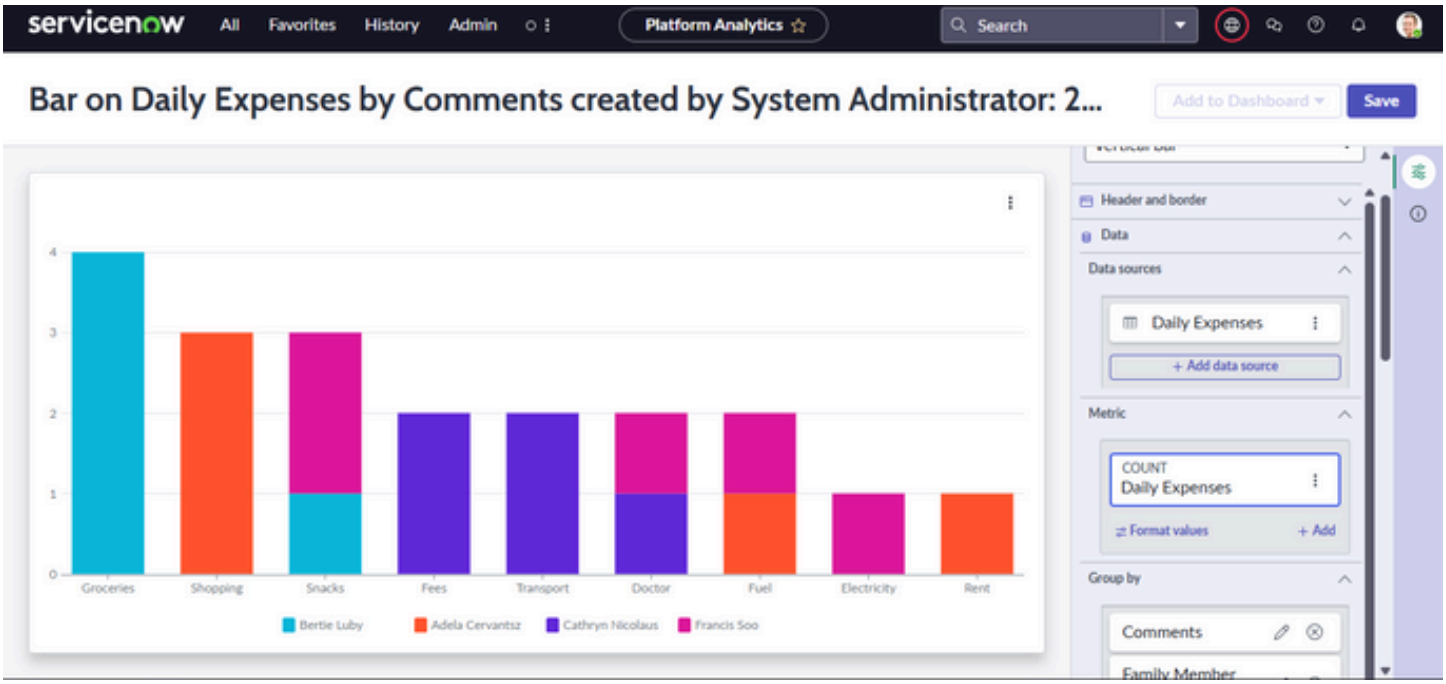
- **Step 1:** Look at "Comments" column (Shopping, Rent, Fuel, Doctor, Snacks, Transport, Electricity, Groceries, Fees).
- **Step 2:** For each member, categorize their spending.
- **Step 3:** Compare who spends more on what type.

📊 **Visualization Example:**A **stacked bar chart** with family members on the X-axis and expense categories stacked by value.

- Adela Cervantsz spent mostly on Shopping and Rent.
- Bertie Luby spent mostly on Groceries.
- Cathryn Nicolaus spent on Transport, Doctor, and Fees.
- Francis Soo spent small amounts on Snacks, Electricity, Fuel.

➡️ This analysis helps understand **individual spending behavior**.





Conclusion

The project **Family Expense Management using ServiceNow** successfully demonstrated how digital platforms can be used to record, track, and analyze both **daily expenses** and **overall family expenses**. By creating two structured tables—**Family Expenses** and **Daily Expenses**—we established a clear data model that allows for systematic recording of every transaction, along with details such as date, amount, category, and the family member responsible.

Through analysis, we were able to:

- Identify the **highest spending categories** (e.g., groceries, shopping, rent).
- Track **weekly and monthly spending patterns** to understand fluctuations.

- Compare the **spending behavior of individual family members**.
- Categorize expenses (e.g., fuel, transport, snacks, fees) to highlight priority areas.

Using **visualizations such as bar charts and line graphs**, the data became more understandable and actionable. These insights make it easier to answer real-life questions like *"Which member spends the most?", "What category consumes the largest budget?", and "How do expenses change over weeks?"*

However, challenges such as grouping by **weeks or months** required either calculated fields or external tools like Excel/Pandas for deeper aggregation. This showed that while ServiceNow is effective for tracking and reporting, integration with external analysis tools can enhance decision-making.

Overall, the project proves that **ServiceNow can serve as a powerful tool for personal finance tracking**, helping families monitor expenses, avoid overspending, and plan budgets more effectively.