NM1051-SERVICE NOW ADMINISTRATOR

PROJECT TITLE: Calculating Family Expenses using Service Now

SUBMITTED BY:

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ABSTRACT:

This project presents a solution for tracking, managing, and analyzing monthly family expenditures through a custom-built application on the ServiceNow platform. By leveraging ServiceNow's powerful workflow and data management capabilities, this system automates manual data entry, categorizes expenses, and provides real-time financial insights.

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OBJECTIVES:

The objectives for using ServiceNow to calculate family expenses are to **create a structured and automated system for tracking spending**, **provide real-time insights into financial habits**, and **enable informed financial decisions** through features like custom forms, categorized expense tracking, and automated budget alerts.

Primary Objectives:

- **Automate data entry**: Create custom forms and record producers to simplify the process of inputting expenses, eliminating the need for manual calculations and reducing the chance of human error.
- **Categorize expenses**: Group spending into specific segments (e.g., groceries, utilities,

entertainment) to get a clear picture of where money is going.

- **Provide real-time insights**: Generate dashboards that display spending patterns and the current financial status, allowing users to see their financial health at a glance.
- **Enable proactive budget management**: Use automated features, like scheduled jobs and Flow Designer, to send proactive alerts for budget overages or to generate monthly spending summaries

- **Improve financial decision-making**: Empower users to make more informed choices by providing a clear, user-friendly interface and accessible data on their spending habit

Secondary Objectives:

- **Streamline the budgeting process**: Create an intuitive user interface that simplifies the complex task of budgeting and makes it more accessible for non-financial users.
- **Achieve financial goals faster**: Help users identify areas for cost-cutting and reallocate those funds toward savings and other financial goals.
- **Track historical trends**: Collect and analyze past spending data to understand long-term financial habits and make more accurate future budgets.

EXISTING SYSTEM:

calculate family expenses in ServiceNow by using existing Financial Management (FM) capabilities, which allow you to create custom applications with forms, dashboards, and reports to track spending. This involves configuring the platform to record expenses, categorize them, and then use the built-in tools to analyze and visualize the data.

Key steps to calculate family expenses

- **Set up a custom application or modules:** Create a dedicated application in ServiceNow to manage family expenses, with modules for expenses, budgets, and categories.
- **Create custom forms and record producers:** Develop user-friendly forms for manually entering expenses. Record producers can automate the creation of new expense records.
- **Categorize expenses:** Define categories like "Groceries," "Utilities," "Rent," etc., and link each expense to a specific category.
- **Use ServiceNow's financial capabilities:** If the organization uses the Financial Management (FM) or Project Portfolio Management (PPM) modules, you can leverage their existing cost and budget planning tools.
- **Define budget and track actual expenses:** Set up budget records and track actual spending against them to identify budget variances.

PROPOSED SYSTEM:

A proposed ServiceNow system for calculating family expenses would involve creating custom forms and tables to log income and expenses, using workflow automation for calculations and alerts, and generating reports or dashboards for analysis. Key steps include defining a "Family Expenses" table with fields for income, expenses, categories, and dates, and using platform features to automate budget alerts and financial summaries.

Key components of the proposed system

- **Custom tables:** Create a "Family Expenses" table with fields like "Name," "Category" (e.g., groceries, utilities, rent), "Amount," "Date," and "Description".
- **Automated data entry:** Design record producers or custom forms for easy data entry of both income and expenses.

- **Workflow automation:** Use Flow Designer to set up automated workflows that can:
  - Calculate total income and expenses for a given period.
  - Track remaining balances by subtracting total expenses from total income.
  - Send alerts when a budget is approaching or has been exceeded.

1. SYSTEM ANALYSIS:

To calculate family expenses using a ServiceNow system, you need to create a custom application with tables for family members, earnings, and expenses. You can then use **form design** to customize these tables with fields like "Amount" and "Date," make necessary fields mandatory, and set up **ServiceNow Flow Designer** to automate calculations, generate dashboards for real-time insights, and send budget alerts.

2. SYSTEM DESIGN:

To design a ServiceNow system for tracking family expenses, create custom tables for `Expenses` and `Categories`, build user-friendly forms with fields like `Date`, `Amount`, `Category`, and `Description`. Use ServiceNow's **Flow Designer** for automated budgeting, alerts, and monthly summaries by creating automated flows triggered by new expense records or scheduled jobs.

3. MODULE DESCRIPTION:

While ServiceNow is primarily known for IT Service Management (ITSM) and enterprise workflow automation, it can be adapted to manage personal finance, including calculating family expenses. This involves leveraging its core functionalities to create a custom application or module.

Module Description for Calculating Family Expenses in ServiceNow:

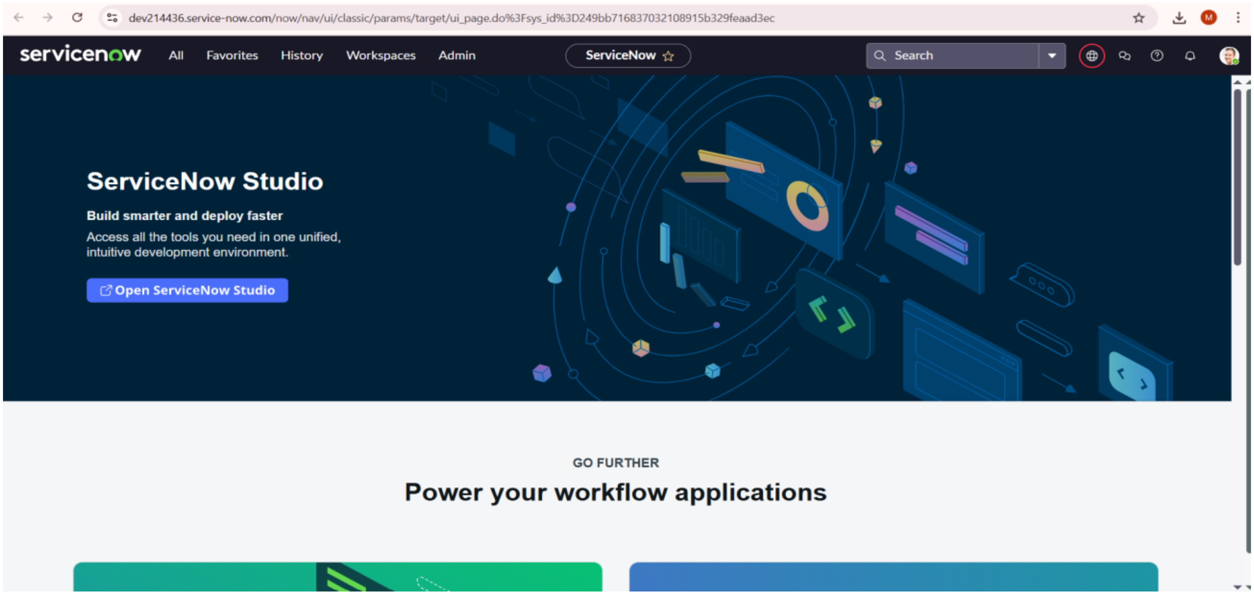
A ServiceNow module for calculating family expenses would likely involve the following components and functionalities:

- **Expense Entry Form:**
- A custom form for users to input individual expenses.
    - Fields would include: `Date`, `Amount`, `Category` (e.g., Groceries, Utilities, Rent, Entertainment, Transportation), `Vendor/Merchant`, `Payment Method`, `Description`.
    - This form could be made accessible through a user-friendly portal or directly within the ServiceNow platform.
- **Expense Categories and Budgets:**
- A table to define and manage expense categories.
- Ability to set monthly or periodic budgets for each category.
- Functionality to track actual spending against these budgets.
- **Reporting and Dashboards:**
    - Custom reports to visualize spending patterns by category, over time, or by individual family member (if applicable).
    - Dashboards providing a real-time overview of financial health, including budget adherence, total expenses for a period, and remaining funds in categories.
- Visualizations like bar charts for category spending and line graphs for trend analysis.
- **Automation and Notifications:**
    - **Automated Data Entry:** Potentially leveraging integrations (if available) or custom record producers to streamline expense logging (e.g., from bank statements or receipt scanning).
    - **Budget Alerts:** Notifications triggered when spending in a category approaches or exceeds its allocated budget, using ServiceNow Flow Designer or scheduled jobs.
- **Monthly Summaries:** Automated generation and delivery of monthly expense reports or summaries.
- **User Interface (UI):**
    - An intuitive and easy-to-use interface, potentially built using ServiceNow's Service Portal or standard UI, to ensure accessibility for all family members.

4. METHODOLOGY:

To calculate family expenses using a ServiceNow methodology, you can **create custom tables and forms for tracking income and expenses, automate data entry with record producers, and use Flow Designer to create budget alerts and summaries**. You would define expense categories (like groceries, utilities, and rent) and use the platform to categorize spending and generate real-time dashboards for financial insights.

- **Set up the foundation**



- **Creation of Update Set**

  Definition of an update set in ServiceNow

  Purpose: to capture and move customizations between instances

  Steps to create a new Update Set:

  - Navigate to **System Update Sets → Local Update Sets**
  - Click **New** and provide Name and Description
  - Set the update set as **Current**

  Importance of update sets for version control and deployment

- **Creation of Table (New Update)**

  Purpose: to store general configuration or metadata related to updates

  Steps:

  - Navigate to **System Definition → Tables → New**
  - Define table label and name (e.g., `u_new_update`)
  - Add columns like **Update Name**, **Created By**, **Date**, **Status**

  Explanation of how this table supports project tracking

- **Creation of Table (Family Expenses)**

  Main table to record family members and their total expenses

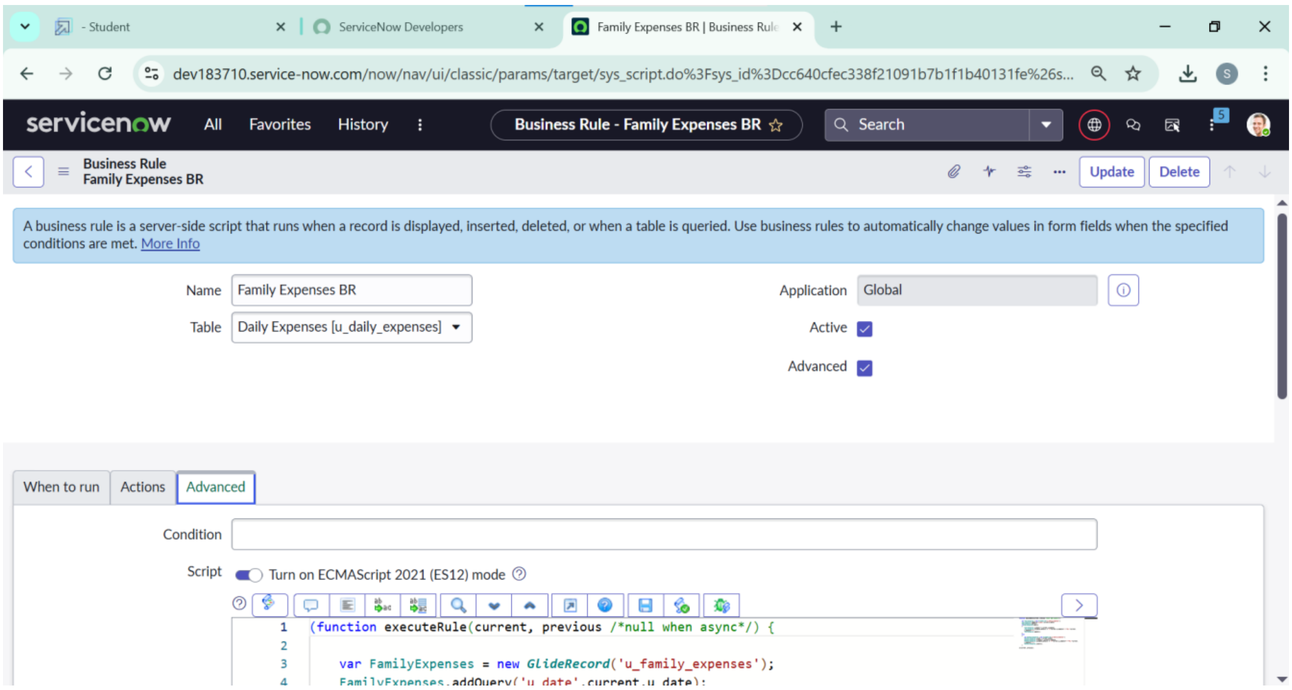
  Steps to create:

  - Navigate to **System Definition → Tables → New**
  - Define table name: `u_family_expenses`

  Add fields like:

  - **Member Name** (String)
  - **Total Monthly Expense** (Currency)
  - **Category** (Choice – e.g., Food, Bills, Education)
  - **Date** (Date/Time)

Purpose: to store summarized expense data per family member



- **Creation of Table (Daily Expenses)**

  Sub-table for recording daily expense transactions

  Steps:

  Create table `u_daily_expenses`

  Add fields:

  Expense Item (String)

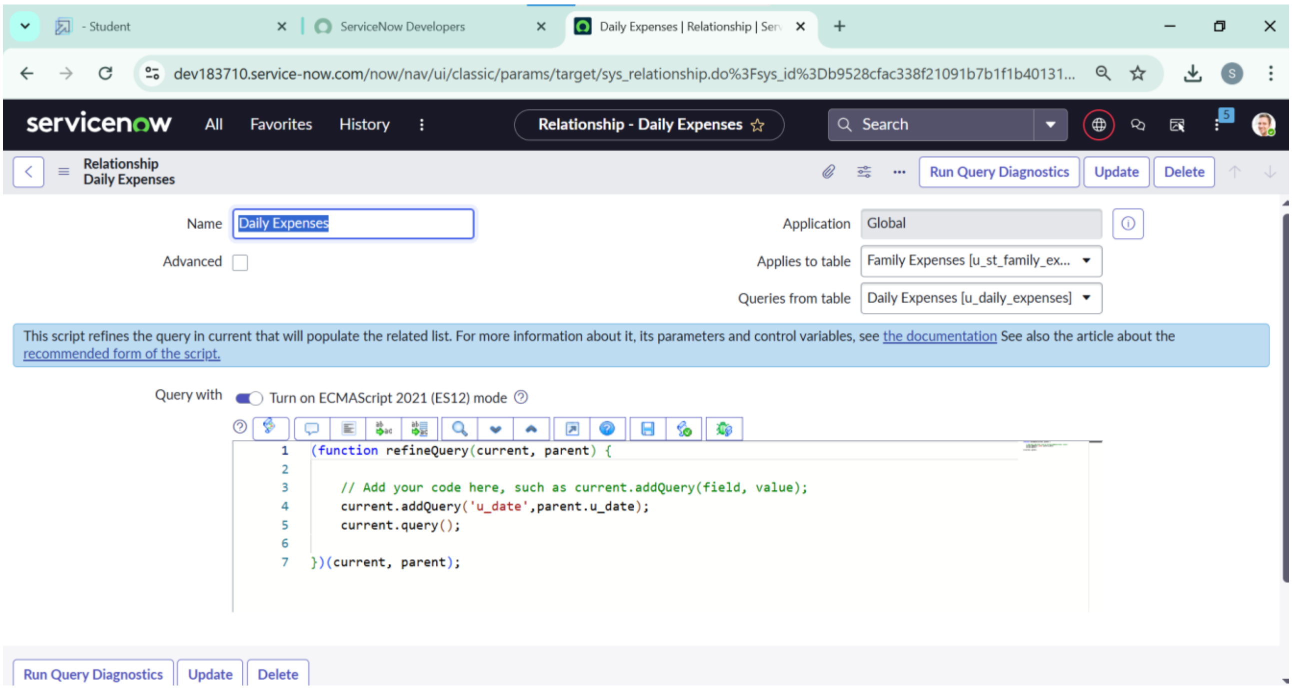
  Amount (Currency)

  Date (Date)

  Description (String)

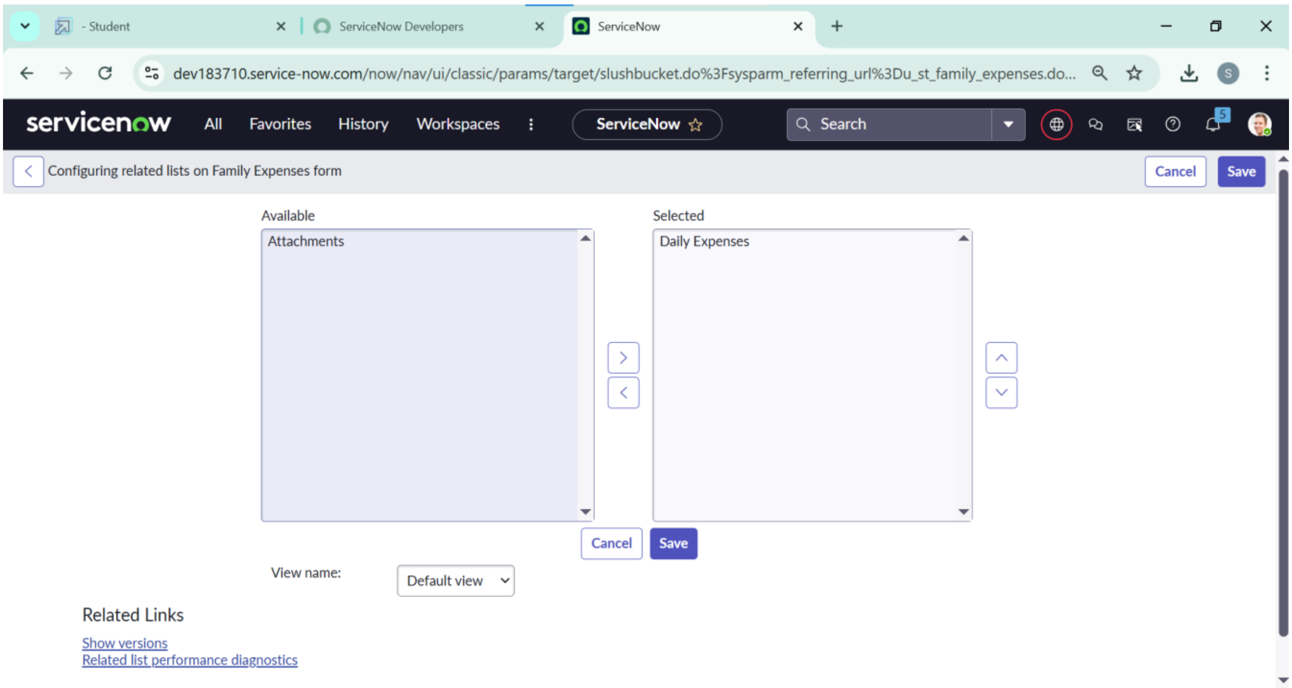
Member Reference (Reference field to Family Expenses table)

Purpose: to provide detailed expense tracking linked to each family member



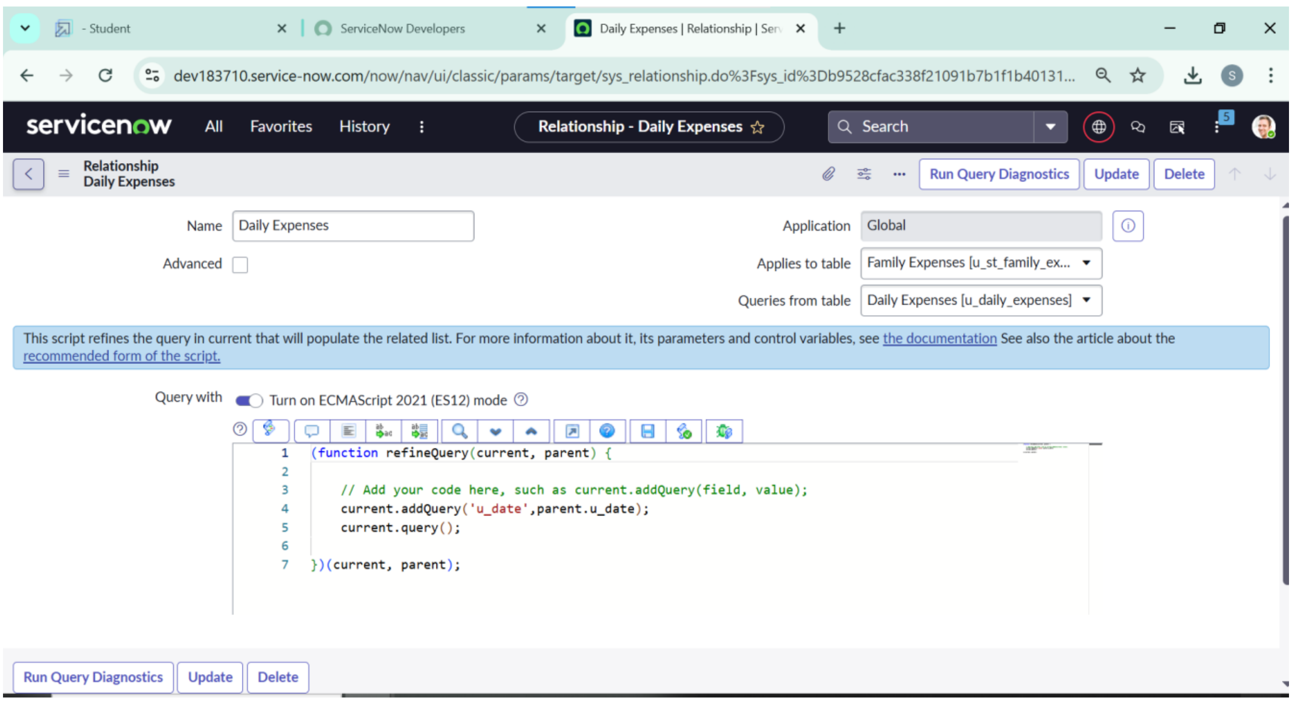
Configuring Related List on Family Expenses

- Adding Daily Expenses as a related list in Family Expenses form
- Steps:
  - Open **Family Expenses → Form Layout → Related Lists**
  - Select **Daily Expenses** to display under related lists
- Outcome: Easy navigation between family and their daily expenses



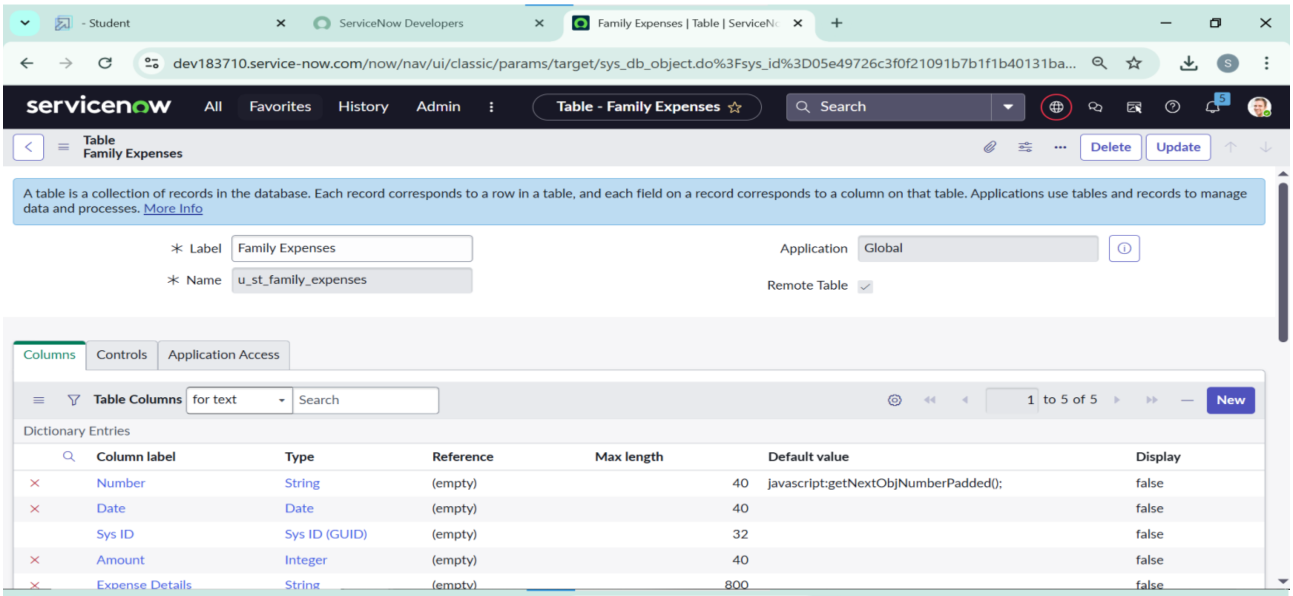
Creation of Business Rules

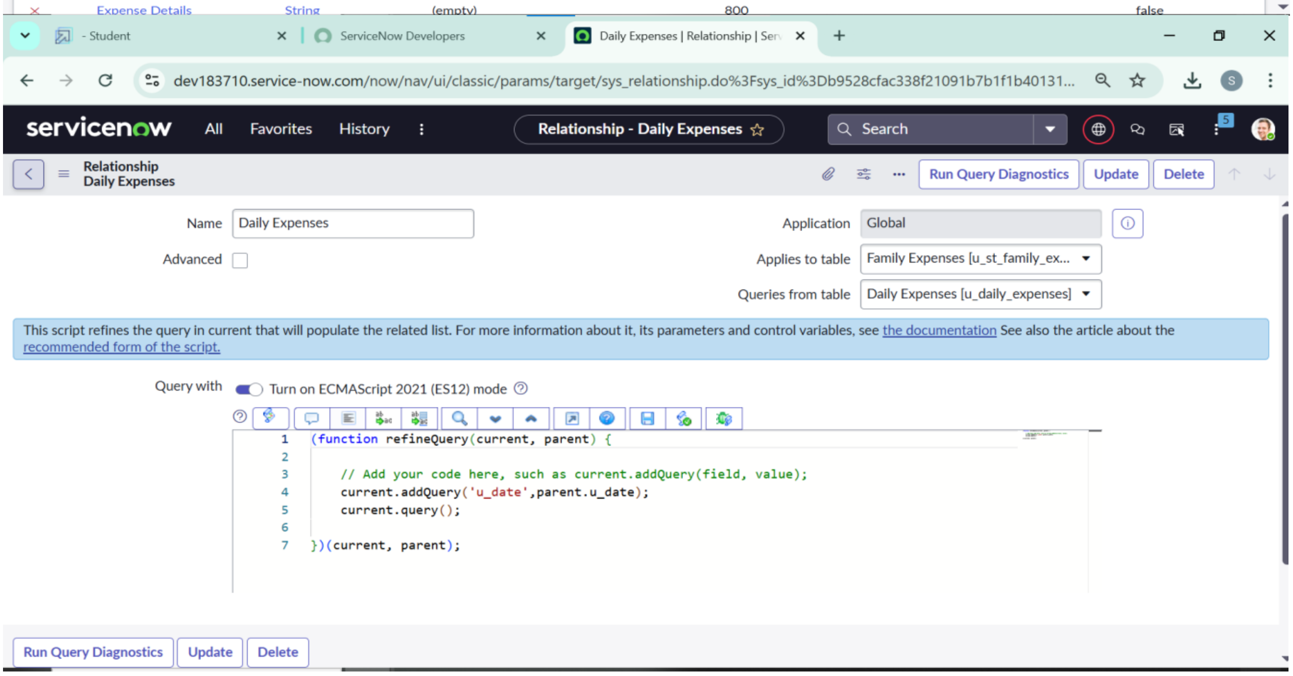
- Purpose: automate total expense calculation
- Example:
  - **When to run:** After Insert or Update of a Daily Expense record
  - **Action:** Sum all daily expenses linked to that family member and update "Total Monthly Expense"
- Steps:
  - Navigate to **System Definition** → **Business Rules** → **New**
  - Define script logic for calculation
- Benefit: Real-time update of family expense totals



. Configure the Relationship

- Validation of relationships between tables
- Testing the reference fields and related lists
- Ensuring correct data flow from **Daily Expenses → Family Expenses**
- Use of filters and access controls for accuracy and security





5.TECHNICAL ARCHITECTURE:

To calculate family expenses using ServiceNow, you can build a custom application with a "Family Expenses" table. You'll create custom forms for data entry, define fields like "Date," "Amount," and "Category," and use the platform's features like Flow Designer to automate calculations, generate alerts, and create dashboards for real-time financial insights.

Step 1: Set up the data model

- Create a new table named "Family Expenses" to store expense records.
- Add fields to the table, such as:
  - Number (auto-generated and read-only)
  - Date (mandatory)
  - Amount (mandatory)
  - Category (e.g., groceries, utilities, rent)
  - Description
  - Payment Method

Step 2: Design the user interface

- Use **Form Design** to customize the "Family Expenses" form. You can drag and drop fields to organize the layout as needed.
- Configure fields to be mandatory (e.g., Date, Amount) or read-only (e.g., Number) by using the gear icon on the form header.

Step 3: Automate calculations and insights

- **Use Flow Designer:**

- Create a workflow to automatically calculate the total monthly expenses. This can be triggered by a scheduled job or when a new expense is added.

- Set up budget alerts to notify users when they are approaching or exceeding their budget for a specific category. This can also be triggered by a scheduled job or when an expense is logged.

- Generate monthly summaries and reports.

- **Create dashboards:**

- Design interactive dashboards to visualize spending patterns, budget adherence, and category totals in real-time.

Step 4: Deploy the application

- Use custom forms and record producers to allow family members to easily enter new expenses.

    - Grant access to the new application for all family members who need to log expenses and view reports.

6.RESULTS:

Calculating family expenses in ServiceNow involves using custom forms, a financial management database, and workflows to automate data entry, categorization, and analysis.

Step 1: Set up the ServiceNow environment

- **Create custom tables:** You will need custom tables to store family member information, income, and expenses.

- **Build custom forms and record producers:** Create user-friendly forms for both family members to enter their data.

- **Configure categories:** Define expense categories such as groceries, utilities, rent, and entertainment to help with analysis.

- **Utilize a financial management database:** Use or build a financial management database (FMDB) to centralize your financial data and ensure accuracy.

Step 2: Input and categorize expenses

- **Enter income and expenses:** Family members input their earnings and expenses into the system using the custom forms.

- **Automate expense creation:** Use scheduled jobs to automatically create expense

- **Categorize expenses:** Assign each expense to a specific category to enable better tracking and analysis.

Step 3: Analyze and report on expenses

- **Create dashboards:** Develop dashboards to visualize spending patterns, track budgets, and monitor overall financial health.
- **Generate reports:** Create monthly summaries of income and expenses to provide an overview of your financial situation.
- **Set up budget alerts:** Use Flow Designer to trigger alerts or notifications when spending exceeds predefined budget limits.

Step 4: Refine the system

- **Use relationships and queries:** Configure relationships and queries to link different data points, such as linking specific expenses to a family member or a category.
- **Automate with workflows:** Use workflow automation to streamline processes like data validation, approval, and expense allocation.
- **Continuously improve:** Regularly review the system to ensure it meets your family's needs and make adjustments as necessary.

7. ADVANTAGES:

- **Automation:** The platform can automate the process of tracking and categorizing expenses, reducing manual entry and the risk of human error.
- **Budgeting and alerts:** Users can set monthly budgets for different spending categories and receive alerts when they are close to or exceed their spending limits.
- **Customizable reporting:** It's possible to generate summary and detailed reports of total and category-wise expenses for any specified time period, which can be downloaded for offline analysis.
- **Data-driven insights:** By analyzing spending data, users can make informed decisions about where to cut costs or allocate funds more effectively, helping to optimize spending.
- **Centralized management:** The platform provides a centralized location for all financial data, making it easier for families to manage their finances together and track progress toward shared goals.

11 .DISADVANTAGES:

- **High Licensing and Ownership Costs:** ServiceNow is a business-oriented platform, and its licensing fees are designed for enterprise-level use, making it prohibitively expensive for managing a family's budget.
- **Complexity and Overkill:** The platform is built for complex workflows in areas like IT service management, not for the simple, day-to-day task of tracking personal expenses. Its interface and feature set are overly complex for this use case.
- **Lack of Out-of-the-Box Features:** ServiceNow lacks the consumer-friendly, pre-built features of a budgeting app, such as easy expense categorization, real-time bank syncing, and bill payment reminders.
- **Requires Technical Expertise:** Even with its "low-code" marketing, complex customizations often require technical expertise, which is a barrier for the average user who just wants to track their spending.
- **Poor User Experience:** The user experience is designed for business processes, not personal finance. It would be cumbersome and time-consuming to enter and categorize family expenses compared to intuitive personal finance apps.
- **Unsuitable for Personal Use:** It is not designed or intended for personal financial management, and attempting to use it for this purpose would be inefficient and frustrating. There are much better, specialized tools available.

8. CONCLUSION:

The conclusion is that this process provides a secure, automated, and insightful system for family financial management by leveraging ServiceNow's robust capabilities for data entry, workflow automation, and reporting, which allows for better budget adherence and financial awareness.

Key takeaways

- **Automated expense tracking:** Users can input expenses via custom forms and record producers, with the system automatically categorizing them (e.g., groceries, utilities).
- **Budget management:** The system can track spending against pre-set budgets, calculate remaining funds, and provide budget alerts to help users stay on track.

- **Role-based access:** The application can be configured with different user roles, such as a "Head" who can manage all data and assign budgets, and other "Members" who can only manage their own expenses.
- **Insightful reporting:** The system can generate various reports and charts (pie, bar, line) to visualize spending by category, month, or family member.
- **Streamlined process:** By automating data entry and providing real-time dashboards, the system simplifies the budgeting process and empowers users to make more informed financial decisions.

9. REFERENCES:

To calculate family expenses using ServiceNow references, you need to first create custom tables and forms, such as a "Family Expenses" table, to log income and expenditures. You can then use reference fields to link expenses to categories or users and employ calculated fields or server- side scripts to perform calculations like totals and budgets.

Step 1: Set up the ServiceNow environment

- **Create a custom table:** Create a new table, for example, "Family Expense," to store your financial data.
- **Design the form:** Configure the form for this table to include fields like `Amount`, `Date`, `Category`, and a `User` field to link to the `sys_user` table.
- **Set up reference fields:** For fields like `Category`, create a separate table and use a reference field on the "Family Expense" form to link to it. For the `User` field, use a reference to the `sys_user` table.