

CALCULATING FAMILY EXPENSES USING
SERVICE NOW

NAANMUDALVAN PROJECT
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INTRODUCTION

Managing family expenses is one of the most important aspects of financial planning, yet it is often overlooked or handled in unstructured ways like handwritten notes or spreadsheets. Families frequently face challenges such as overspending, lack of budget control, and difficulty in analyzing where their money goes. To address these issues, technology can play a vital role by providing structured, automated, and user-friendly solutions.

This project, "Calculating Family Expenses Using ServiceNow," aims to create a digital system that helps track, categorize, and manage family expenses efficiently. ServiceNow, known for its robust workflow automation and application development capabilities, provides an excellent platform for building such a system. By leveraging

ServiceNow, this project transforms expense management into a more streamlined process with features like expense categorization, daily tracking, budget limits, reporting, and automated business rules.

The system will not only simplify financial management for families but also provide real-time insights into spending patterns, allowing better decision-making. With its scalability and flexibility, the solution can be expanded to suit different

family structures and even adapted for small business expense management. Ultimately, the project showcases how a powerful enterprise platform like ServiceNow can be applied beyond IT workflows to solve everyday problems in an innovative and practical way.

ABSTRACT

Expense management plays a crucial role in maintaining

financial stability within families, yet traditional methods such as manual tracking or spreadsheets often lead to errors, lack of visibility, and poor decision-making. To address this challenge, this project focuses on designing and implementing a Family Expense Management System using ServiceNow. The application leverages ServiceNow's powerful low-code development platform, environment to create structured relationships, and automated workflows for recording and analyzing categorizing expenses. Key features include expenses (such as food, utilities, and transport), maintaining family member details, linking daily transactions, and applying business rules to validate data and automate calculations. By configuring related lists and creating meaningful reports, the system provides users with a clear overview of their financial habits and budget limits. The proposed solution not only simplifies day-to-day expense tracking and spending but also provides real-time insights into patterns, enabling families to make smarter financial

PROBLEM STATEMENT

Managing household expenses is often a difficult and time-consuming task for families. Most families rely on manual methods such as notebooks, receipts, or spreadsheets to track their daily spending. These methods come with several challenges:

- Lack of real-time tracking of expenses.

Difficulty in categorizing and consolidating expenses like food, utilities, rent, and transportation.

Limited ability to analyze spending patterns or generate reports.

High chances of errors due to manual data entry.

No automation to alert families about overspending or exceeding budgets.

As a result, families often lose visibility into their financial flow, making it harder to control budgets or make informed financial decisions. This creates the need for a systematic, automated, and user-friendly solution to manage and calculate family expenses efficiently.

SOLUTION

The proposed solution is to build a Family Expense Management System on the ServiceNow platform. ServiceNow, being a robust low-code/no-code platform, provides all the tools required to create structured applications without needing extensive programming knowledge.

The solution involves:

- Creating custom tables to store family member details and daily expenses.

- Defining relationships between family members and their respective expenses for easy tracking.

- Configuring related lists so that expenses linked to each family member can be viewed in one place.

- Implementing business rules to automate calculations, validate entries, and ensure data accuracy.

- Generating reports and dashboards to visualize monthly/annual spending and highlight budget deviations.

- Using updatesets to track and migrate customizations, ensuring proper version control.

PRACTICAL USE

The Family Expense Management System built on ServiceNow helps families track, categorize, and analyze their expenses in a structured way. It simplifies budgeting, reduces errors from manual tracking, and provides real-time insights into spending patterns. Families can use it to set limits, monitor monthly expenses, and generate reports for better financial decisions. Beyond households, the same system can be adapted for small businesses to manage cash flow and daily transactions effectively, proving the versatility of ServiceNow in solving practical, non-IT problems.

KNOWLEDGE GAINED

- ✔ Learned how to setup and configure a ServiceNow developer instance for building applications.
- ✔ Understood the importance of update sets for tracking and migrating customizations.
- ✔ Gained practical skills in creating custom tables and defining fields to store structured data.
- ✔ Learned how to establish relationships between tables for linked data management.
- ✔ Practiced configuring related lists for easier navigation and record visibility.
- ✔ Understood how to create and apply business rules for automation and validations.
- ✔ Gained insights into data modeling and database concepts within ServiceNow.
- ✔ Learned how to generate reports and dashboards for real-time analysis.
- ✔ Understood how ServiceNow can be applied to non-IT use cases like family expense tracking.
- ✔ Improved overall knowledge of workflow automation and low-code development.

MILESTONE1:SETTINGUPTHESERVICENOW INSTANCE

GototheofficialServiceNowDeveloperportal:
<https://developer.servicenow.com>andcreateadeveloper
account.

Aftersigningin,openthePersonalDeveloperInstancesectionfromthe
dashboard.

SelectRequestInstancetogenerateafreshServiceNow
environment for development.

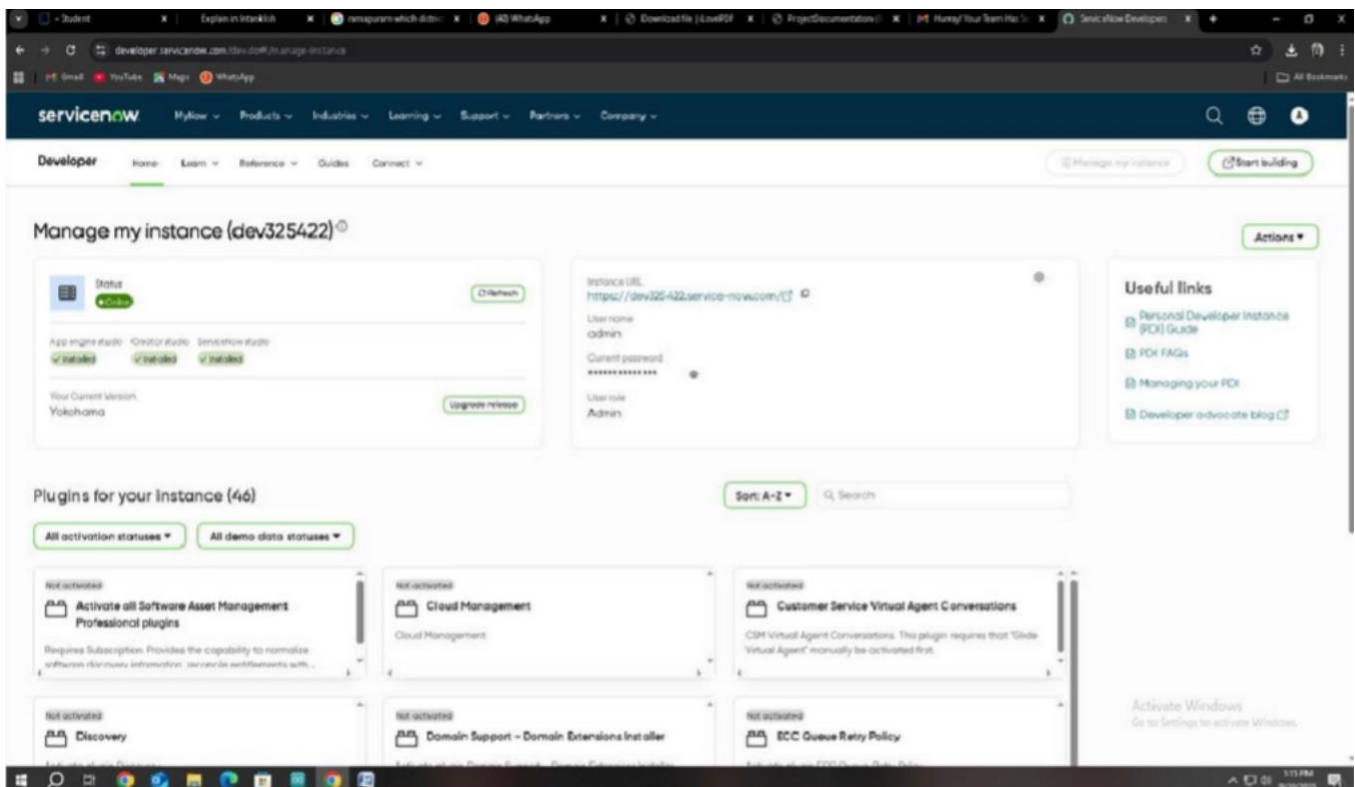
Providethenecessarydetails(likeversionselection)andconfirmyour
request.

WaitfortheconfirmationemailcontainingyourinstanceURLand
login credentials.

UsethecredentialstologintoyournewlycreatedServiceNowinstance.

Onceinside,exploretheinterfaceandbeginworkingonthe
platform.

MILSTONE2:CREATIONOFNEWUPDATE



SET

Login to your ServiceNow instance and go to the Application Navigator.

Search for Update Sets and open Local Update Sets under System Update Sets.

Click on New to create a fresh update set.

Enter the following details:

- o Name: Family Expenses
- o Description: Update set to capture all configurations related to the Family Expense Management project.

The screenshot shows the ServiceNow 'Update Set - Family Expenses' form. The form is titled 'Update Set - Family Expenses' and includes a search bar. The form fields are organized into two columns. The left column contains: Name (Family Expenses), State (In progress), Parent (empty), Release date (empty), Install date (empty), Installed from (empty), and Description (empty). The right column contains: Application (Global), Created (2025-09-02 01:50:30), Created by (admin), and Merged to (empty). Below the form fields is an 'Update' button. At the bottom, there is a 'Related Links' section with links: 'Make This My Current Set', 'Merge With Another Update Set', and 'Scan Update Set'. Below the links are tabs: 'Customer Updates (27)', 'Update Set Logs', 'Child Update Sets', and 'Install History'. At the very bottom, there is a table header with 'Created' and a search bar, and an 'Actions on selected rows...' dropdown.

Name	Family Expenses	Application	Global
State	In progress	Created	2025-09-02 01:50:30
Parent		Created by	admin
Release date		Merged to	
Install date			
Installed from			
Description			

Update

Related Links

- [Make This My Current Set](#)
- [Merge With Another Update Set](#)
- [Scan Update Set](#)

Customer Updates (27) | Update Set Logs | Child Update Sets | Install History

Created | Search | Actions on selected rows...

SavetherecordandmarkitastheCurrentUpdateSet,soevery
change you make is tracked under this set.

Verifythattheupdatesetisactivebycheckingtheheaderatthetop
of the screen.

Fromthispointforward,allcustomizations(tables,
relationships,andbusinessrules)willberecordedinsidethe
Family Expenses update set.

MILSTONE 1: CREATION OF TABLE FAMILY EXPENSES

Activity 1 – Creating the Family Expenses Table

- In your ServiceNow instance, navigate to All Tables using the filter navigator.
- Click on New to create a new table.
- Fill in the required details:
 - o Label: Family Expenses
 - o Name: (This will be auto-generated based on the label)
 - o New Menu Name: Family Expenditure
- Save the record to create the new table.

The screenshot shows the ServiceNow 'New' form for a table named 'Family Expenses'. The form is titled 'Table - Family Expenses' and includes a search bar and a 'New' button. The form fields are as follows:

- Label:** Family Expenses
- Name:** s_family_expenses
- Table:** (empty)

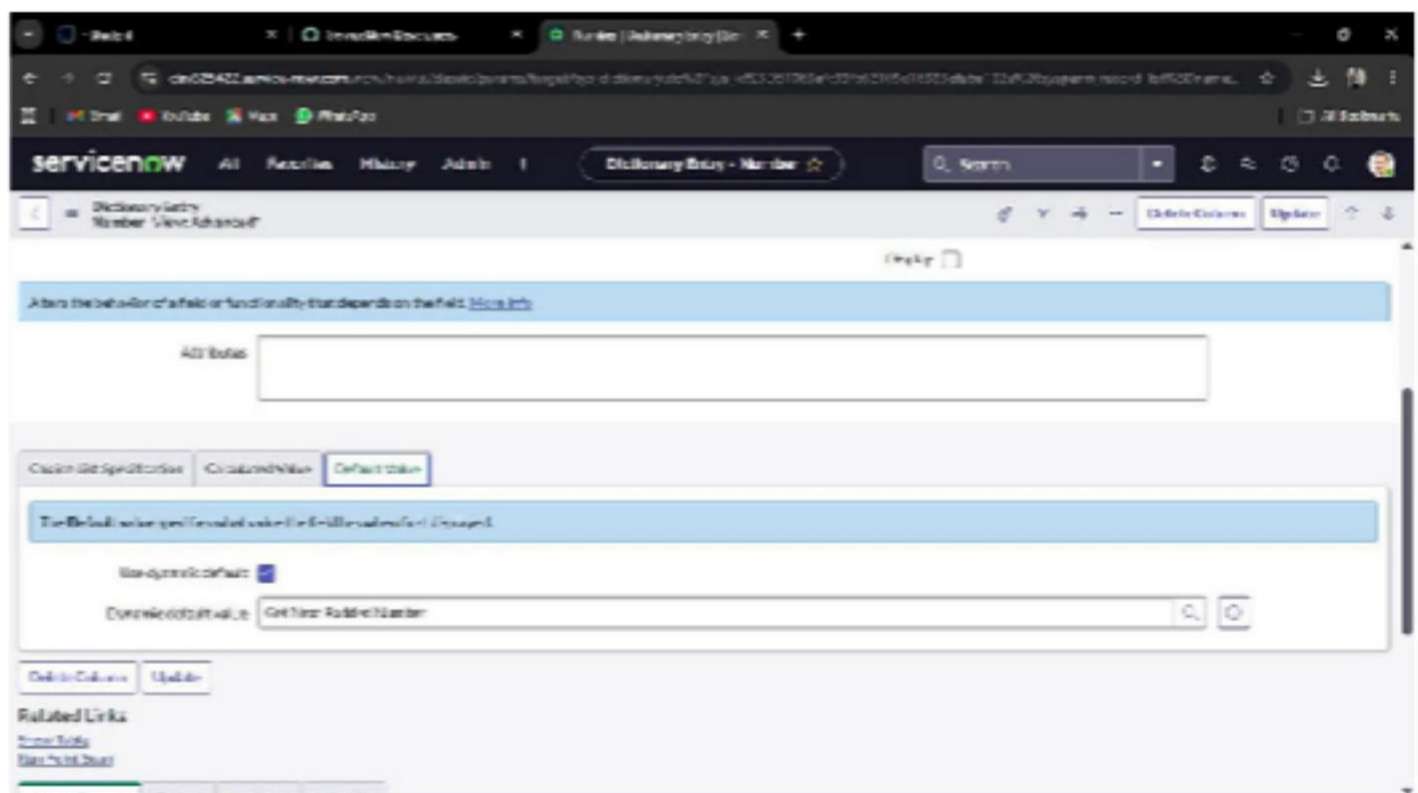
Below the form fields, there is a section for 'Columns' with a search bar and a 'New' button. The 'Columns' section contains a table with the following columns:

Column Label	Type	Reference	Max length	Default value	Display
Created	Date/Time	(empty)	40		Date
sys_id	sys_id (PK)	(empty)	32		Name
Date	Date	(empty)	10		Date
Expense Details	String (TEXT)	(empty)	255		Date
Number	String	(empty)	40	{number} {project} {location} {number} {date}	Date

MILSTONE3:CREATIONOFTABLEFAMILYEXPENSES

Activityr–MakingtheNumberFieldanAuto–Number Open the Family Expenses table .

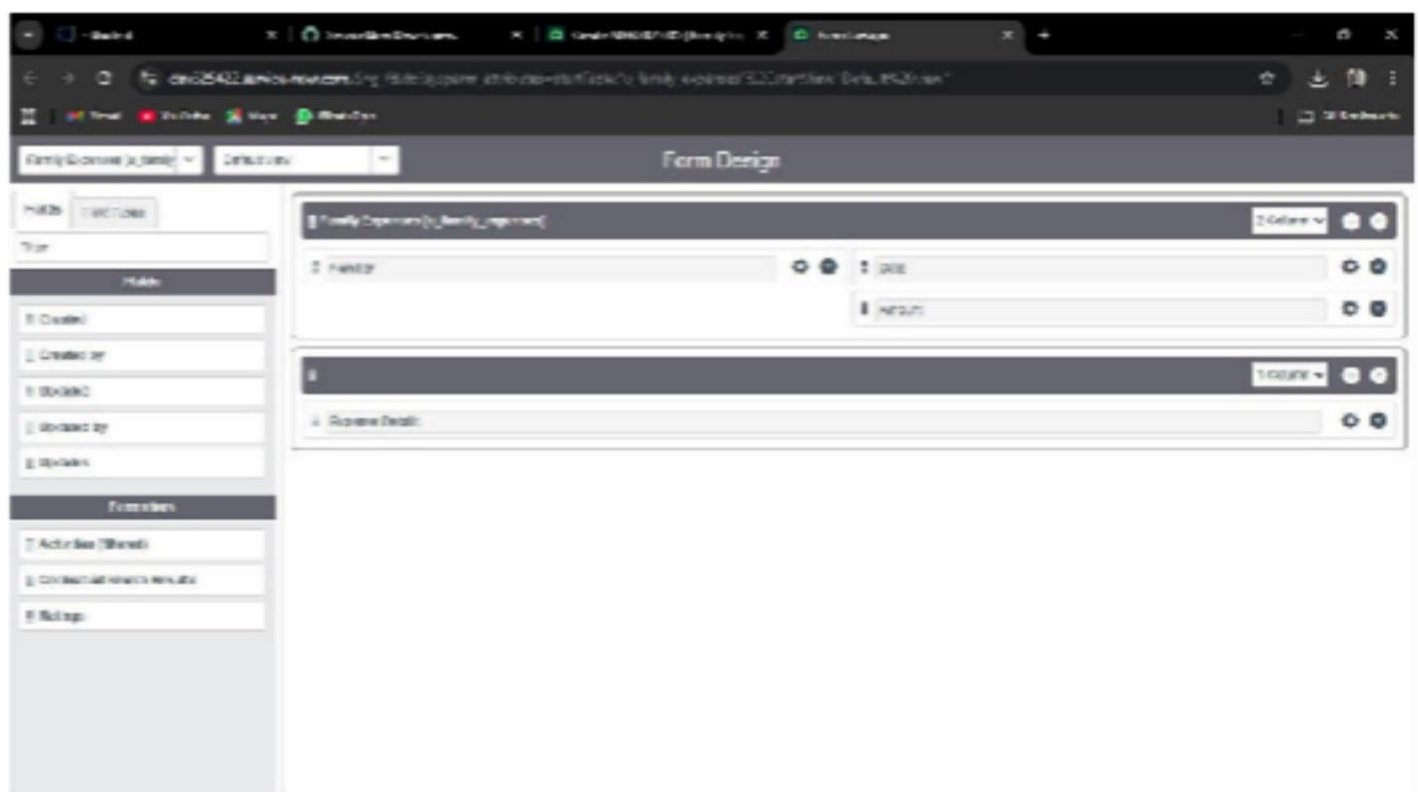
- Locatethe Numberfield /columnanddouble-clicktoopenits properties .
- ScrolldownandswitchtotheAdvancedview .
- IntheDefaultValuessection .
 - ChecktheboxforUseDynamicDefault .
 - SettheDynamicDefaultValuetoGetNextPadded Number .
- ClickUpdatetosavethe changes .



MILSTONE3:CREATIONOFTABLEFAMILYEXPENSES

Activity:-ConfiguringtheForm

- Navigate to All in the filter, search for Family Expenses.
- Open the Family Expenses table.
- Click on New to create a new form entry.
- On the form header, right-click and select:
 - Configure Form Design.
- In the Form Designer, use drag-and-drop to:
 - Rearrange fields.
 - Group related fields together.
 - Add sections if required for better clarity.
- Save the customized form layout.

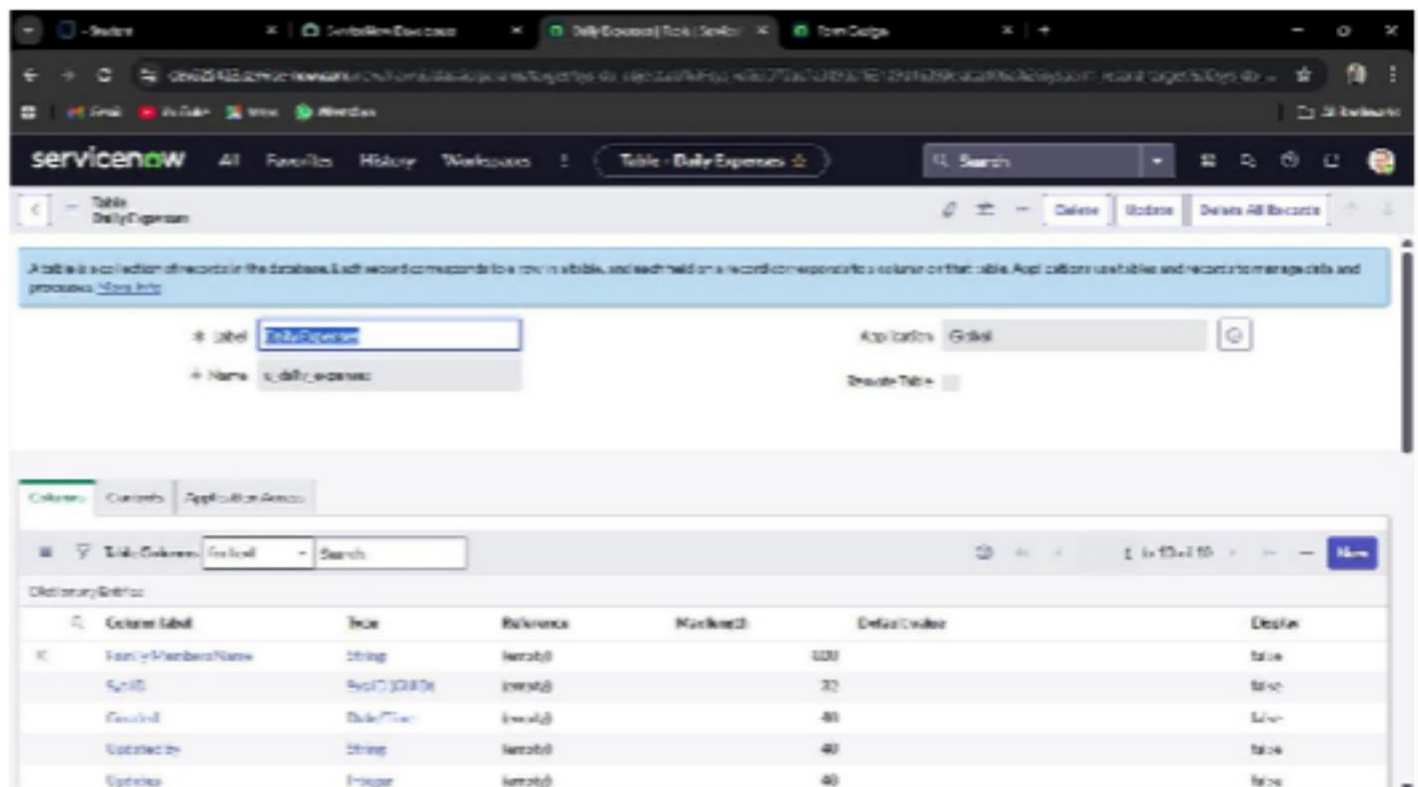


MILSTONE4:CREATIONOFTABLEDAILYEXPENSES

MILSTONE4:CREATIONOFTABLEDAILYEXPENSES

Activity1- CreatingTheDailyExpensesTable

- Navigate to All Tables using the filter navigator.
- Click on New to create a new table.
- Fill in the required details:
 - Label: Daily Expenses
 - Name: (Auto-populated by the system)
 - Add Module to Menu: Family Expenditure
 - Go to the form header, right-click, and select Save.



The screenshot shows the ServiceNow interface for creating a new table. The browser address bar shows the URL: https://dev024132.servicenow.com/dev024132.do?sysparm_action=create_table&sysparm_table_name=u_daily_expenses&sysparm_label=Daily%20Expenses. The ServiceNow header shows the user 'Tom Gedge' and the current page is 'Table - Daily Expenses'. The form for creating the table is displayed, with the 'Label' field set to 'Daily Expenses' and the 'Name' field set to 'u_daily_expenses'. The 'Application' is set to 'Global'. Below the form, the 'Columns' tab is selected, showing a table of columns to be added to the table.

Column Label	Type	Reference	MaxLen	Default Value	Display
FamilyMembersName	String	user	100		Yes
Spent	Float (2280)	user	32		Yes
Created	Date/Time	user	40		Yes
Updated by	String	user	40		Yes
Updated	Integer	user	40		Yes

MILSTONE4:CREATIONOFTABLEDAILYEXPENSES

Activity2–CreatingColumns(Fields)

Open the DailyExpense table.

Near Columns, double-click to insert a new row and add the following fields:

1. ColumnLabel: Numbero

Type: String

2. ColumnLabel: Dateo

Type: Date

3. ColumnLabel: Expenseo

Type: Integer

4. ColumnLabel: Family Memb

erName o Type: Reference

o MaxLength: 800

Column Label	Type	Reference	Max length	Default value	Display
Family Members Name	String	(empty)	800		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
Number	String	(empty)	40	javascriptgetNextObjNumberPadded();	false
Updated	Date/Time	(empty)	40		false
Date	Date	(empty)	40		false
Comments	String	(empty)	40		false
Expense	Integer	(empty)	40		false

MILSTONE4:CREATIONOFTABLEDAILYEXPENSES

5. ColumnLabel:Commentso

Type:String oMaxLength:

800

Activity3–MakingNumberFieldanAuto-Number

Open the DailyExpense table.

Locate the Number field/column and double-click to open its properties.

Scroll down and switch to the Advanced View.

In the Default Values section:

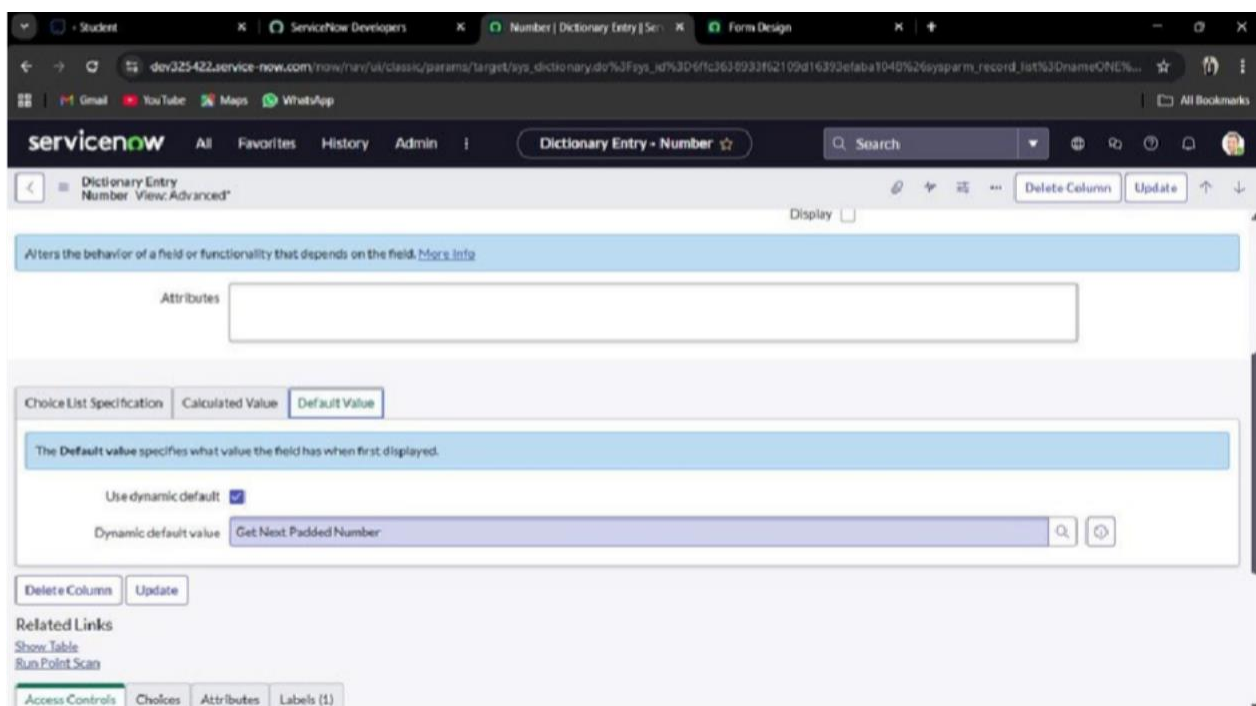
- o Check the box for Use Dynamic Default.
- o Set the Dynamic Default Value to Get Next Padded Number.

Click Update to save changes.

Configuring Number Maintenance:

Navigate to All > Number Maintenance.

Click on New.



MILSTONE4:CREATIONOFTABLEDAILYEXPENSES

Enterthedetailsasfollows:

- o Table:FamilyExpensesoPrefix:MFEClickonSubmit.

Student

ServiceNow Developers

New Record | Number | Service

Form Design

dev325422.service-now.com/now/haw/ui/classic/params/target/sys_number.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_number%26sysparm_checked_it...

GmailYouTubeMapsWhatsApp

All Bookmarks

servicenow

AllFavoritesHistoryWorkspaces

Number - New Record

Search

<

Number
New record

Submit

* Table

Daily Expenses

Q

+

Prefix

DFE

* Number

1,000

Application

Global

+

Number of digits

7

Submit

Related Links

Show Counter

MILSTONE4:CREATIONOFTABLEDAILY EXPENSES

Activity4–ConfigureTheForm

Navigate to All>Daily Expenses using the filter.

Open the Daily Expenses table.

Click on New to create a new form entry.

On the form header, right-click, then select:

Configure>Form Design.

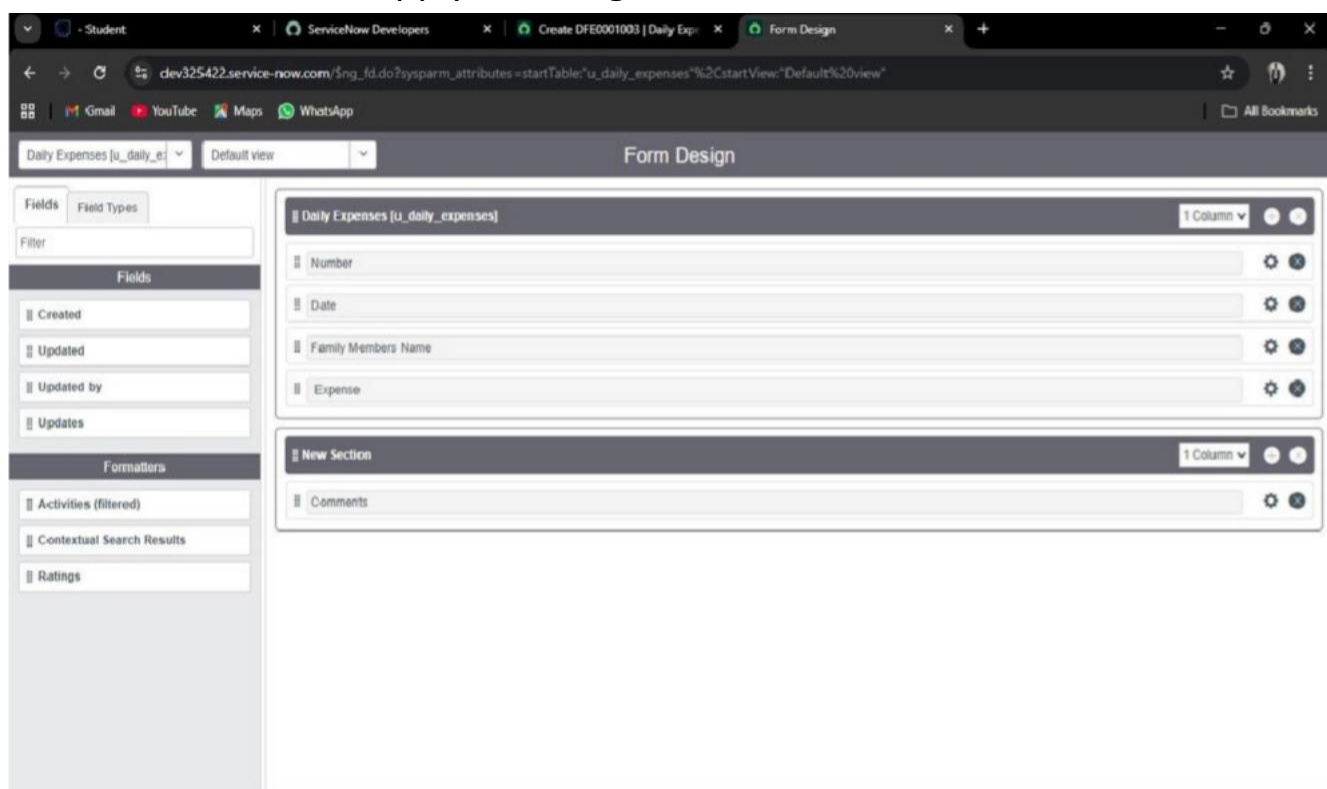
In the Form Designer, drag and drop fields to customize the form layout as per requirement. Apply the following configurations:

Number Field → Set as Read-Only by clicking the gear icon and checking Read-Only.

Date Field → Set as Mandatory by clicking the gear icon and checking Mandatory.

Family Member Name Field → Set as Mandatory using the same method.

Click Save to apply the changes.



MILSTONE5:CREATIONOFRELATIONSHIP BETWEEN FAMILYEXPENSESAND DAILY EXPENSES TABLES

Navigate to All>Relationships using the filter navigator.
Click on New to create a new relationship. Fill in the details as follows:

Name: Daily Expenses

Applies to Table: Family Expenses

Related List Table: Daily Expenses Click Save.

The screenshot shows the ServiceNow web interface for creating a new relationship. The browser tabs include 'Student', 'ServiceNow Developers', 'Daily Expenses | Relationship', and 'Form Design'. The URL is 'dev325422.service-now.com/now/nav/ui/classic/params/target/sys_relationship.do%3Fsys_id%3D1d15a00d9337a2109d16393efaba109%26sysparm_record_target%3Dsys_re...'. The breadcrumb navigation is 'All > Relationships > Daily Expenses'. The form fields are: Name: 'Daily Expenses', Application: 'Global', Applies to table: 'Family Expenses [u_family_expens...', and Queries from table: 'Daily Expenses [u_daily_expenses]'. There is an 'Advanced' checkbox and 'Update' and 'Delete' buttons. A blue informational banner states: '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.' Below this is a 'Query with' section with a toggle for 'Turn on ECMAScript 2021 (ES12) mode'. The script editor contains the following 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
```

MILSTONE6:CONFIGURINGRELATEDLISTON FAMILY EXPENSES

Navigate to All>Family Expenses using the filter.

Open the Family Expense stable.

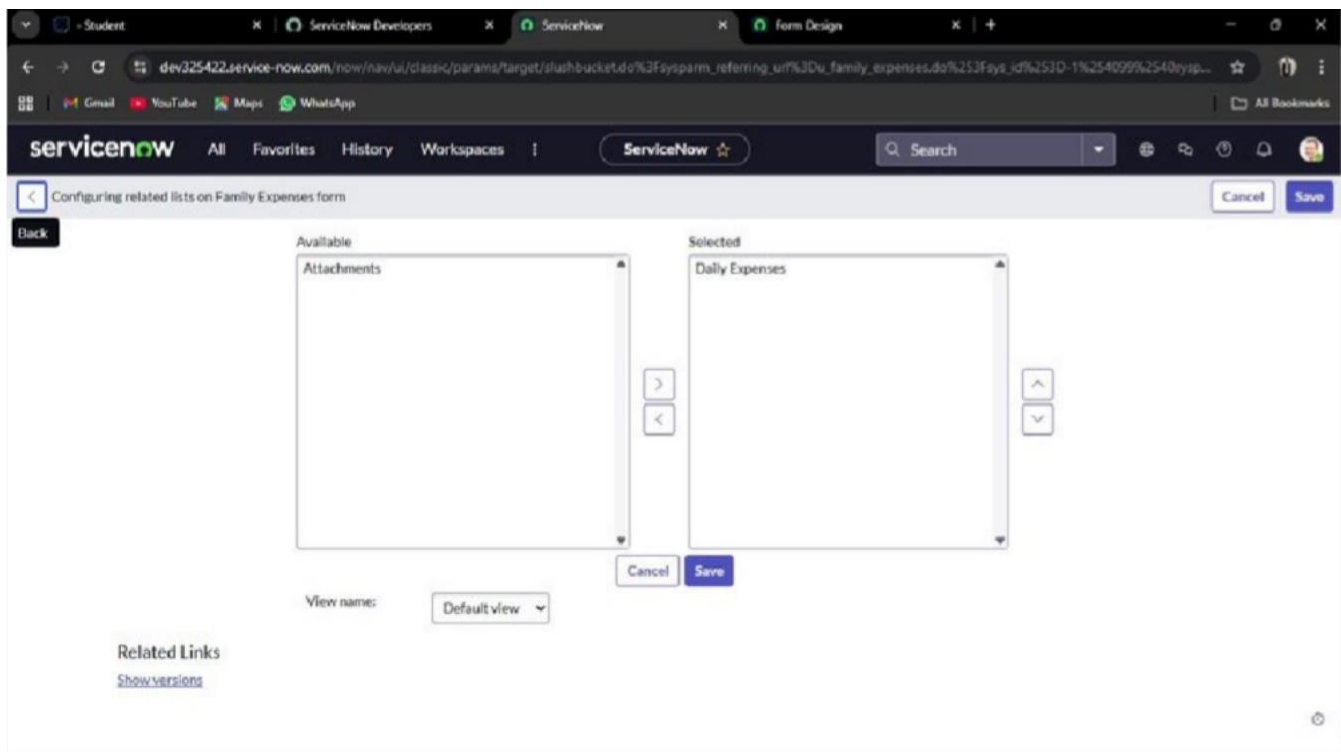
Click on New to open the form view.

On the form header, right-click, then select:

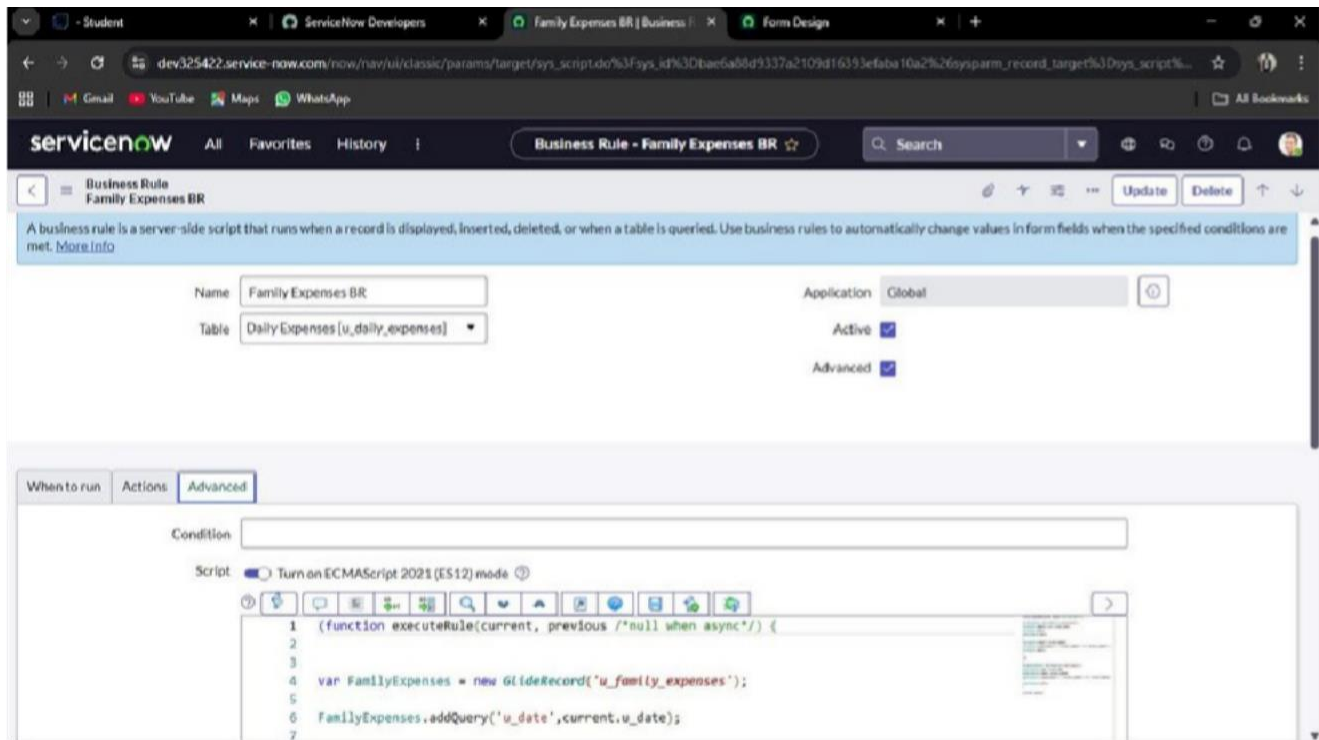
Configure>Related Lists.

From the available options, add Daily Expenses to the Selected Area.

Click Save to apply the changes.




```
NewFamilyExpenses.insert();  
  
}  
  
})(current,previous);  
  
Goto the form header, right-click, then select Save.
```



CONCLUSION

The Family Expenses Management System built on ServiceNow demonstrates how the platform can be leveraged beyond IT workflows to solve real-world problems. By systematically creating tables, relationships, forms, and business rules, the project enables seamless tracking of both daily expenses and family-level expenses in an automated manner.

The use of auto-numbering, mandatory fields, related lists, and business rules ensures data integrity, consistency, and accuracy. The relationship configuration further enhances visibility by linking daily records to family-level summaries, providing a clear financial overview.

Through this project, we learned how to apply ServiceNow features such as table creation, form design, field configuration, scripting, and automation to build a complete application. More importantly, it highlights how low-code/no-code platforms like ServiceNow can be extended into personal finance, household management, and non-IT use cases.

Overall, the project provides a practical, scalable, and user-friendly solution for managing family expenses efficiently while also strengthening skills in ServiceNow application development.