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**Smart
Internz**



K.S.K COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTERSCIENCE AND ENGINEERING

CALCULATING FAMILY EXPENSES USING SERVICENOW

Team ID: NM2025TMID06591

Team Size: 3

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Team Member: RAKSHANAA.S[821022104042]

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Problem Statement:

Managing family expenses manually is time-consuming and often leads to errors and poor budgeting decisions. There is a need for a systematic way to record, track, and analyze daily or monthly expenses. Existing methods like spreadsheets lack automation and real-time insights. This project aims to develop a ServiceNow-based application to efficiently calculate and manage family expenses. The system will help users categorize spending, generate reports, and monitor financial patterns for better money management.

Objective:

The main objective of this project is to develop an automated system on the ServiceNow platform to calculate and manage family expenses efficiently. It aims to record daily and monthly expenditures, categorize them, and generate real-time reports. The system will help users analyze spending patterns and maintain better financial control. It also focuses on improving accuracy, transparency, and ease of expense tracking. Ultimately, the goal is to support smarter budgeting and financial planning for families.

Skills:

ServiceNow Development Skills

JavaScript & Glide Scripting

Data Management.

UI Design

Analytical & Reporting Skills

Problem-Solving & Debugging

Project Management

Task Initiation:

The project begins with identifying the need for an automated system to manage and calculate family expenses effectively. Initial tasks include gathering requirements, defining key expense categories, and planning the workflow for data entry and reporting. The next step is to set up the ServiceNow development environment and design the application structure. Tasks also involve creating tables, forms, and dashboards for expense tracking. Finally, a plan is made for testing, validating data accuracy, and ensuring smooth user interaction within the ServiceNow platform.

Features:

- 1. User-Friendly Interface:** Simple and interactive forms for adding and managing daily or monthly expenses.
- 2. Expense Categorization:** Allows users to classify expenses under categories such as food, transport, bills, and entertainment.
- 3. Automated Calculations:** Automatically calculates total and category-wise expenses.
- 4. Data Storage and Retrieval:** Securely stores all expense records in ServiceNow tables for easy access.
- 5. Report Generation:** Generates monthly and yearly expense summaries for better financial analysis.
- 6. Dashboard Visualization:** Displays graphical insights into spending trends through charts and dashboards.
- 7. Notifications and Alerts:** Sends reminders or alerts for high spending or budget limits.

Modules Implemented:

- 1. Setting up ServiceNow Instance:**

A personal developer instance of ServiceNow was set up to build and test the Family Expense Management application. Basic configurations and administrative settings were completed to begin development.

2. Creation of New Update Set:

A new update set was created to capture all configurations and customizations related to the Family Expense project, ensuring that changes can be easily tracked and migrated if needed.

3. Creation of Table (Family Expenses):

A custom table named Family Expenses was created to store summary data of total expenses by category, date, and family member. Fields included: Expense ID, Date, Category, Total Amount, and Member Name.

4. Creation of Table (Daily Expenses):

Another custom table named Daily Expenses was created to store individual daily transactions. Fields included: Expense ID, Date, Expense Type, Amount, Description, and Linked Family Expense Record.

5. Creation of Relationships:

A one-to-many relationship was established between Family Expenses (parent) and Daily Expenses (child). This allows multiple daily expense records to be associated with a single family expense summary.

6. Configuring Related Lists on Family Expenses:

The related list of Daily Expenses was configured on the Family Expenses form layout to allow users

to view all associated daily transactions directly from the parent record.

7. Creation of Business Rules:

Business Rules were created to automatically update the Total Expense Amount in the Family Expenses table whenever a new Daily Expense is added, updated, or deleted. This ensures that totals remain accurate in real time without manual updates.

8. Configure the Relationship: Form design and list layouts were modified to display linked information. The relationships were tested to ensure that adding daily expenses automatically reflects in the family summary table.

Implementation Steps:

STEP1: . Setting up ServiceNow Instance


Problem statement request x (2) WhatsApp x naan mudhalvan logo - Google x

developer.servicenow.com/dev.do#!/manage-instance

servicenow MyNow Products Industries Learning Support Partner

Developer Home Learn Reference Guides Connect

Manage my instance (dev181396) ⓘ

**Status**
Online [Refresh](#)

App engine studio

Creator studio

ServiceNow studio

✓ Installed

✓ Installed

✓ Installed

Your Current Version

Zurich

[Latest release](#)

Instance URL

<https://dev181396.servicenow.com>

User name

admin

Current password

User role


Admin

Plugins for your instance (46)


All activation statuses ▾

All demo data statuses ▾

Not activated

 **Activate all Software Asset**

Not activated

 **Cloud Management**

6 29°C Mostly clear Search

STEP 2: Creation of New Update Set

ServiceNow Developers

Update Sets | ServiceNow

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_update_set_list.do

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AllFavoritesHistoryWorkspacesAdmin

Update Sets

Update Sets

Name

Search

All

	Name	Application	State	Installed from
	Default	Pipeline	In progress	
	Default	Security Center	In progress	
	Default	Global	In progress	
	Default	Now Assist Troubleshooting	In progress	
	Family Expenses	Global	In progress	

Related Links

[Merge Update Sets](#)

9:33°C
Sunny

Search

STEP3:Creation of Table(Family Expenses)



ServiceNow Developers

Family Expenses | Table | ServiceNow

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_db_object.do%3Fsys_id%3Df6d4a51b83787

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Table - Family Expenses

<

≡

Table
Family Expenses

* Nameu_auto_populated

Columns

Controls

Application Access

≡

▽

Table Columns

for text

Search

Dictionary Entries

	Column label	Type	Reference	Max l
	Created by	String	(empty)	
	Sys ID	Sys ID (GUID)	(empty)	
	Created	Date/Time	(empty)	
	Updated by	String	(empty)	
	Updates	Integer	(empty)	
	Updated	Date/Time	(empty)	
×	Date	Date	(empty)	
×	Number	String	(empty)	
×	Expense Details	String	(empty)	
×	Amount	Integer	(empty)	
+	Insert a new row...			

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Sunny

Q Search

ServiceNow DevelopersNumbers | ServiceNow

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_number_list.do

servicenowAllFavoritesHistoryWorkspacesAdminNumbers

NumbersNumberSearch

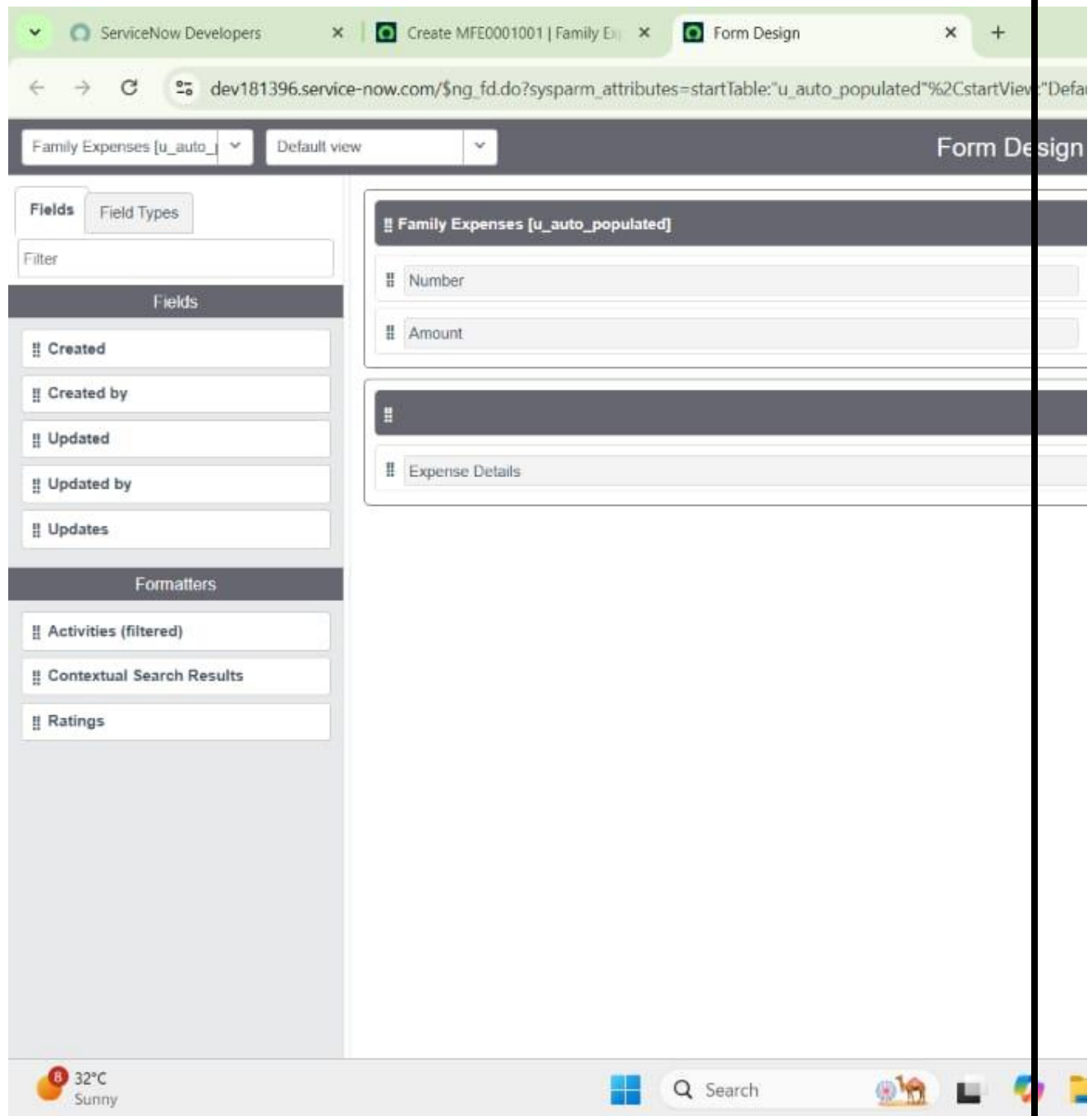
All

	Prefix	Number ▲	Number of digits	Table
	MSG	0	7	Email
	DEPLOY	0	7	MID
	SR	0	8	Scan
	PROFILE	0	7	MID
	TOUR	0	7	Guide
	(empty)	0	9	Indica
	KBS_DEPLOY	0	7	MID
	SGTCOMMIT	0	7	SGT
	(empty)	0	0	Text
	(empty)	0	9	Break
	MID_	0	5	MID
	(empty)	0	10	Build
	SGTSCAN	0	7	SGT
	SLAR	0	7	SLA
	EVALEXEC	1	8	A/B
	TEMPLATE	1		Templ
	IMS	1	7	Intera

1 to 20 of 14

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Search



STEP4: Creation of Table(Daily Expenses)

ServiceNow DevelopersNumbers | ServiceNow

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_number_list.do

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Numbers

Number

Search

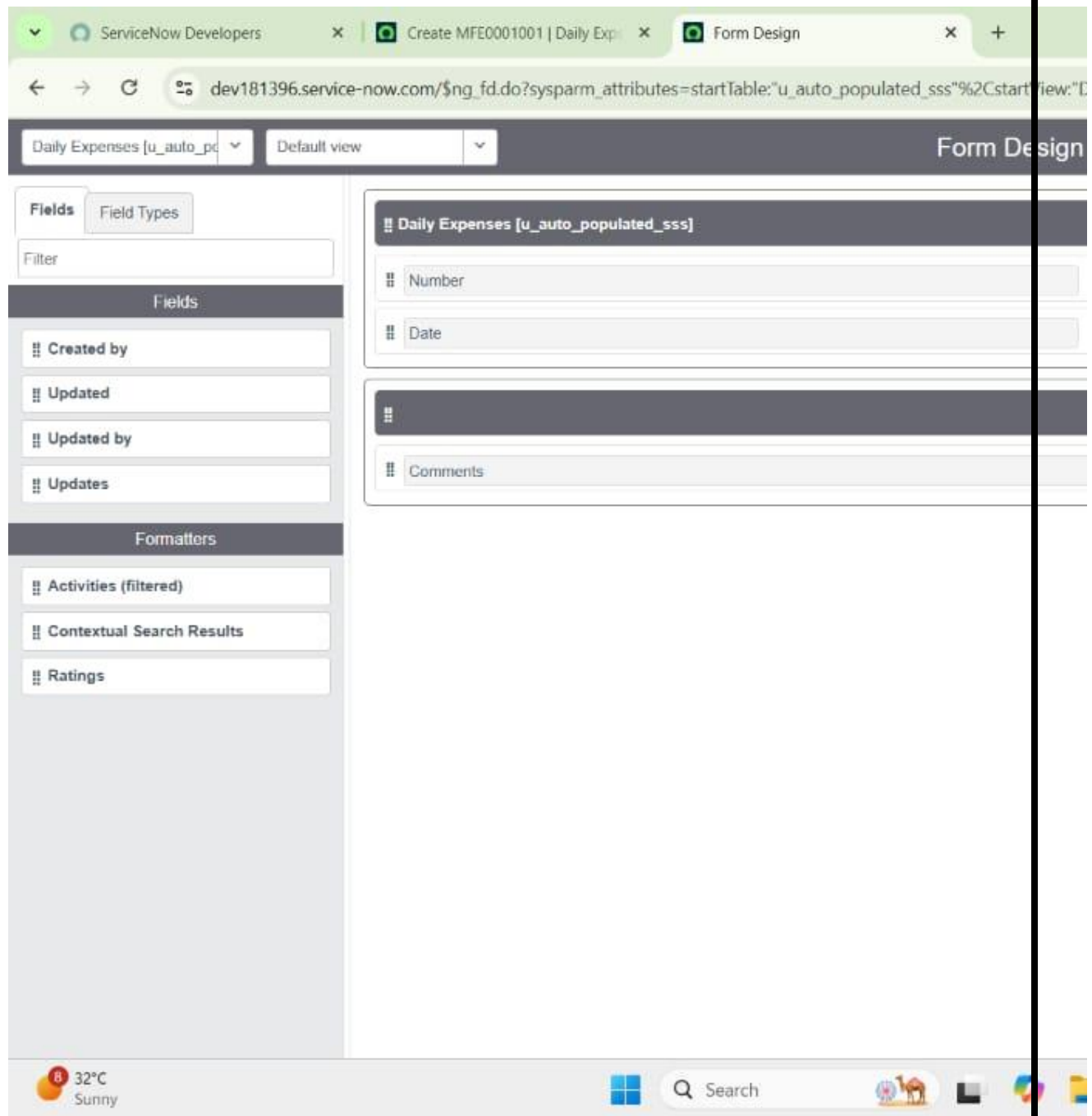
All

	Prefix	Number	Number of digits	Table
	MSG	0	7	Email
	DEPLOY	0	7	MID
	SR	0	8	Scan
	PROFILE	0	7	MID
	TOUR	0	7	Guide
	(empty)	0	9	Indica
	K8S_DEPLOY	0	7	MID
	SGTCOMMIT	0	7	SGT
	(empty)	0	0	Text
	(empty)	0	9	Break
	MID_	0	5	MID
	(empty)	0	10	Build
	SGTSCAN	0	7	SGT
	SLAR	0	7	SLA
	EVALEXEC	1	8	A/B
	TEMPLATE	1		Templ
	IMS	1	7	Intera

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STEP5: Creation of Relationship

ServiceNow Developers x Daily Expenses | Relationship | x Form Design x +

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_relationship.do%3Fsys_id%3D8794f...d783f...

servicenow All Favorites History Workspaces Relationship - Daily Expenses

< Relationship Daily Expenses

Name

Advanced ☐

This script refines the query in current that will populate the related list. For more information about it, its parameters and control variables...

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);
```

Run Query Diagnostics Update Delete

Related Links

[Run Point Scan](#)

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STEP6: Configuring Related Lists on Family Expenses

ServiceNow Developers x Create MFE0001003 | Family Ex x Form Design x +

dev181396.service-now.com/now/nav/ui/classic/params/target/u_auto_populated.do%3Fsys_id%3D-1%26sysp

servicenow All Favorites History Workspaces Family Expenses - Create MFE0

< Family Expenses
New record

Number MFE0001003

* Amount

Expense Details

Submit

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STEP7: Creation of Business Rules

ServiceNow Developers

New Record | Business Rule | Set

Form Design

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_script.do%3Fsys_id%3D-1%26sys_is_list%3D

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AllFavoritesHistoryWorkspaces

Business Rule - New Record

<

Business Rule

New record

Name

Family Expenses BR

Table

Daily Expenses [u_auto_populated_sss]

When to run

Actions

Advanced

Specify whether the business rule should run on **Insert** or **Update**. Use **Filter Conditions** to specify under which conditions the business rule should run.

When

before

Order

100

Filter Conditions

Add Filter Condition

Add OR Clause

-- choose field --

-- oper --

-- value --

Role conditions

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ServiceNow Developers x Family Expenses BR | Business Rule x Form Design x (2) Whats

dev181396.service-now.com/now/nav/ui/classic/params/target/sys_script.do%3Fsys_id%3Dc62a531b831b2101

servicenow All Favorites History Workspaces Business Rule - Family Expenses

Business Rule Family Expenses BR

Condition

Script ☒ Turn on ECMAScript 2021 (ES12) mode

```
1 (function executeRule(current, previous /*null when async*/) {
2
3     var FamilyExpenses = new GlideRecord('u_family_expenses');
4     FamilyExpenses.addQuery('u_date', current.u_date);
5     FamilyExpenses.query();
6     if(FamilyExpenses.next())
7     {
8         FamilyExpenses.u_amount += current.u_expense;
9         FamilyExpenses.u_expense_details += ">" + current.u_comme
10        FamilyExpenses.update();
11    }
12    else
13    {
14        var NewFamilyExpenses = new GlideRecord('u_family_expens
15        NewFamilyExpenses.u_date = current.u_date;
16        NewFamilyExpenses.u_amount = current.u_expense;
17        NewFamilyExpenses.u_expense_details += ">" + current.u_co
18        NewFamilyExpenses.insert();
19    }
20
21 })(current, previous);
22
```

Update Delete

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STEP8:Configure the Relationship

Name **Daily Expenses**

Advanced ☐

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 docu](#)

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);
```

Run Query Diagnostics

Update

Delete

Related Links

[Run Point Scan](#)

Outcome:

The project “Calculating Family Expenses using ServiceNow” successfully provided a digital solution for managing and monitoring family spending activities. Users can now easily record, track, and analyze daily and overall expenses through custom-built tables and automated workflows.

Conclusion:

This project successfully demonstrates how ServiceNow can be used to build a functional Family Expense Management System. By using custom tables, relationships, and business rules, the application efficiently tracks daily expenses and provides an organized overview of family spending. It showcases ServiceNow’s capability beyond ITSM, serving as a platform for real-world data management and process automation.

































