

Calculating Family Expenses using ServiceNow

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Team Size: 4

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Problem Statement:

There is currently no efficient system in place to track, categorize, and analyze family expenses in a way that is integrated, automated, and accessible in real-time. This leads to poor budget planning, missed payments, overspending, and a lack of financial visibility.

Objective:

To design and implement a solution using ServiceNow that allows family members to:

1. Input and categorize expenses easily via a user-friendly interface or mobile portal.
2. Automate recurring expenses (e.g., rent, subscriptions).
3. Track total and category-wise spending on a monthly/weekly basis.
4. Set spending limits and receive alerts when thresholds are crossed.
5. Generate reports and dashboards to visualize trends and support better financial decisions.
6. Share visibility and responsibilities across family members via roles or user groups.

Skills:

- ServiceNow App Development (App Engine Studio)
- Custom Tables & Data Modeling
- Form Design & UI Customization
- Flow Designer (for automation)
- Business Rules & Scripting
- Reporting & Dashboards
- User Roles & Access Control (ACLs)

TASK INITIATION

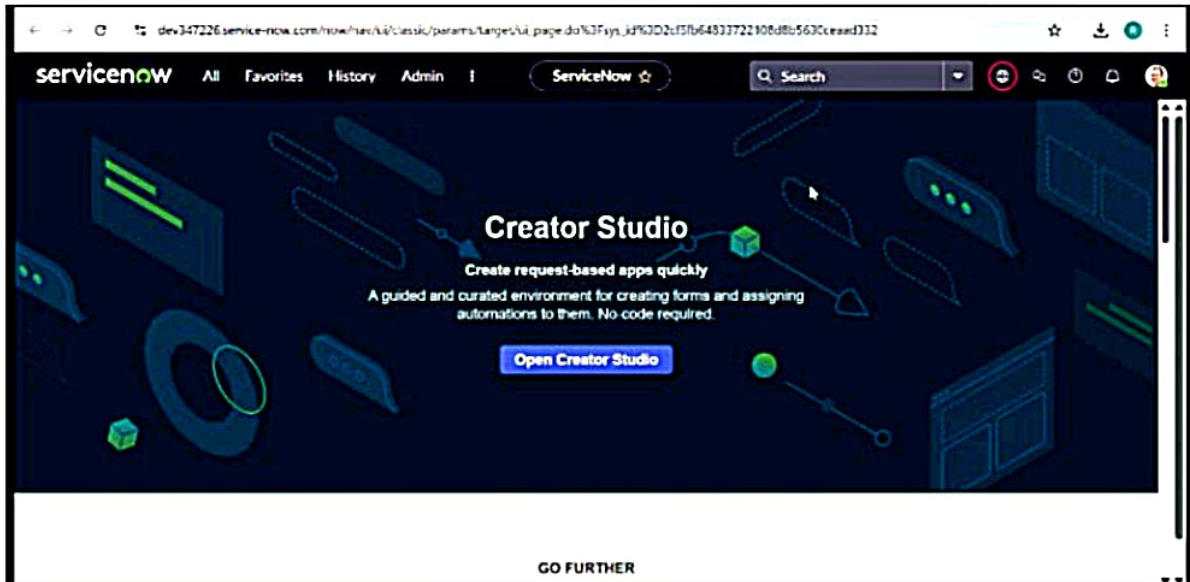
Milestone 1 : Instance

Activity 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.



Milestone 2: New Update Set

Activity 1: Creation of New Update Set

1. Go to All >> In the filter search for Local Update set > click on New.
2. Enter the Details as:
Name : Family Expenses
3. Then click on Submit and Make current.

A screenshot of the ServiceNow 'Update Set - Create Educational org...' form. The browser address bar shows a URL starting with 'dev265869.service-now.com'. The page has a dark blue header with the 'servicenow' logo and navigation links: 'All', 'Favorites', 'History', 'Workspaces', and 'Update Set - Create Educational org...'. A search bar is on the right. The main content area shows the 'Update Set - New record' form. The form fields are: 'Name' (Family Expenses), 'State' (In progress), 'Parent' (empty), 'Release date' (empty), and 'Description' (empty). The 'Application' dropdown is set to 'Global'. At the bottom, there are two buttons: 'Submit' and 'Submit and Make Current'.

Milestone 3: Table(Family Expenses)

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

The screenshot shows the ServiceNow 'Table - New Record' form. The browser address bar indicates the URL: dev347226.service-now.com/now/nav/ui/classic/params/target/sys_db_object.do%3Fsys_id%3D-1%26sys_is_list%3Dtrue%26sys_target%3Dsys_db_object%26sys... The form header includes 'servicenow', navigation links (All, Favorites, History, Admin), and a 'Table - New Record' button. Below the header, there's a search bar and 'Submit' and 'Cancel' buttons. A yellow banner message states: 'ServiceNow recommends creating custom tables in scoped applications. To learn more about creating scoped applications, click [here](#).' Below this, a blue box explains: 'A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes. [More Info](#)'. The form fields are organized into two columns. The left column contains: 'Label' (Family Expenses), 'Name' (u_family_expenses), and 'Extends table' (empty). The right column contains: 'Application' (Global), 'Create module' (checked), 'Create mobile module' (checked), 'Add module to menu' (Create new --), 'New menu name' (Family Expenditure), and 'Remote Table' (unchecked).

Activity 2: Creation of Family Expenses Table

1. Near Columns Double click near insert a new row.
2. Give the details as:
Column label : Number
Type : String
3. Double click on insert a new row again.
4. Give the details as:
Column label : Date
Type : Date
5. Double click on insert a new row again
6. Give the details as:
Column label : Amount
Type : Integer
7. Double click on insert a new row again

Dictionary Entry
Number View: Advanced

Display ☐

Alters the behavior of a field or functionality that depends on the field. [More Info](#)

Attributes

Choice List Specification | Calculated Value | **Default Value**

The Default value specifies what value the field has when first displayed.

Use dynamic default: ☒

Dynamic default value:

8. Give the details as:

Column label : Expense Details

Type : String

Max length : 800

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

SERVICENOW

Table - Family Expenses

Columns | Controls | Application Access

Table Columns for text Search

1 to 6 of 6 New

Dictionary Entries

| Q | Column label | Type | Reference | Max length | Default value | Display |
|---|-----------------|---------------|-----------|------------|---------------|---------|
| | Updated | Date/Time | (empty) | | 40 | false |
| | Created by | String | (empty) | | 40 | 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 |
| x | Number | String | | | | false |
| x | Date | Date | | | | false |
| x | Amount | Integer | | | | false |
| x | Expense Details | String | | 800 | | false |

Activity 3: 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.

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

6. Click on New.

7. Enter the below Details:

Table : Family Expenses

Prefix : MFE

8.

Click

on

Submit

Number New record

* Table: Family Expenses

Prefix: MFE

* Number: 1,000

Application: Global

Number of digits: 7

Submit

Related Links

[Show Counter](#)

Activity 4: 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. Customize or Drag Drop the form as per your requirement.
5. Make Number Read-Only Field by clicking on the gear icon and checking Read-Only
6. Make Date, Amount Mandatory Field by clicking on the gear icon and checking Mandatory
7. Click on Save.

dev347226.service-now.com/\$ng_fd.do?sysparm_attributes=startTable:"u_family_expenses"%2CstartView:"Default%20view"

Family Expenses [u_family_expenses] Default view Form Design Undo Save

Fields Field Types

Filter

Fields

Created

Created by

Updated

Updated by

Updates

Formatters

Activities (filtered)

Contextual Search Results

Family Expenses [u_family_expenses] 2 Column

Number Amount Date

Expense Details 1 Column

Milestone 4: Table(Daily Expenses)

Activity 1: Creation ofTable(Daily Expenses)

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 : Family Expenditure

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

Activity 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
3. Double click on insert a new row again
4. Give the details as:
Column label : Date
Type : Date
5. Double click on insert a new row again
6. Give the details as:
Column label : Expense
Type : Integer
7. Double click on insert a new row again
8. Give the details as:
Column label : Family Member Name
Type : Reference
Max length : 800
9. Double click on insert a new row again
10. Give the details as:
Column label : Comments
Type : String
Max length : 800
11. Go to the Header and right click there>> click on Save.

Activity 3: 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.

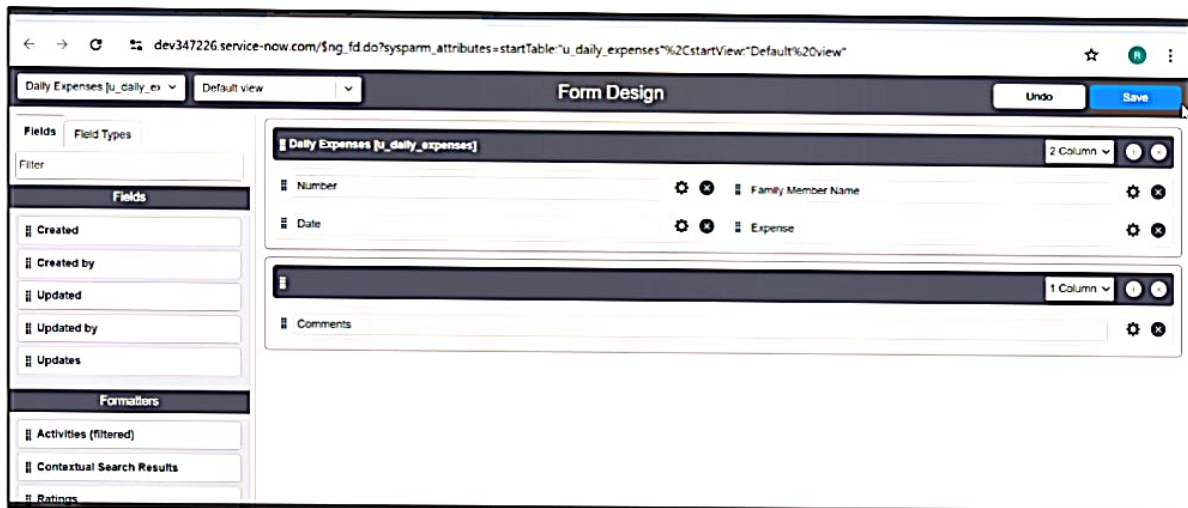
The screenshot shows the 'Dictionary Entry' form for 'Number' in 'Advanced' view. The 'Default Value' tab is selected. A blue information bar states: 'Alters the behavior of a field or functionality that depends on the field. [More Info](#)'. Below this, there is an 'Attributes' section with an empty text box. The 'Default Value' section contains the text: 'The Default value specifies what value the field has when first displayed.' It includes a checkbox for 'Use dynamic default' which is checked. The 'Dynamic default value' is set to 'Get Next Padded Number'. There is a 'Lookup using list' button and search icons. At the bottom, there are 'Delete Column' and 'Update' buttons.

5. Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
6. Click on New.
7. Enter the below Details:
Table : Daily Expenses
Prefix : DFE
8. Click on Submit.

The screenshot shows the 'Number - New Record' form in ServiceNow. The form fields are: 'Table' (Daily Expenses), 'Prefix' (DFE), 'Number' (1,000), 'Application' (Global), and 'Number of digits' (7). There is a 'Submit' button at the bottom left. Below the form, there is a 'Related Links' section with a link to 'Show Counter'. The top navigation bar shows 'Number - New Record' and a search bar.

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



Milestone 5: Creation of Relationship

Activity 1: 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
4. Click Save.

Relationship - New Record

Name: Daily Expenses

Application: Global

Applies to table: Family Expenses [u_family_expense]

Queries from table: Daily Expenses [u_daily_expense]

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.

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);

```

Milestone 6: Configuring Related List on Family Expenses

Activity 1: 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

Milestone 7: Business Rules

Configuring related lists on Family Expenses form

Available: Attachments

Selected: Daily Expenses

Cancel Save

Activity 1: 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

4. In when to run Check Insert and Update

Business Rule New record

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: [edit icon]

Insert ☒
Update ☒
Delete ☐
Query ☐

Submit

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

5. In Advance(we write the code): Write the below code >>

```
(functionexecuteRule(current, previous /*null when async*/) {
```

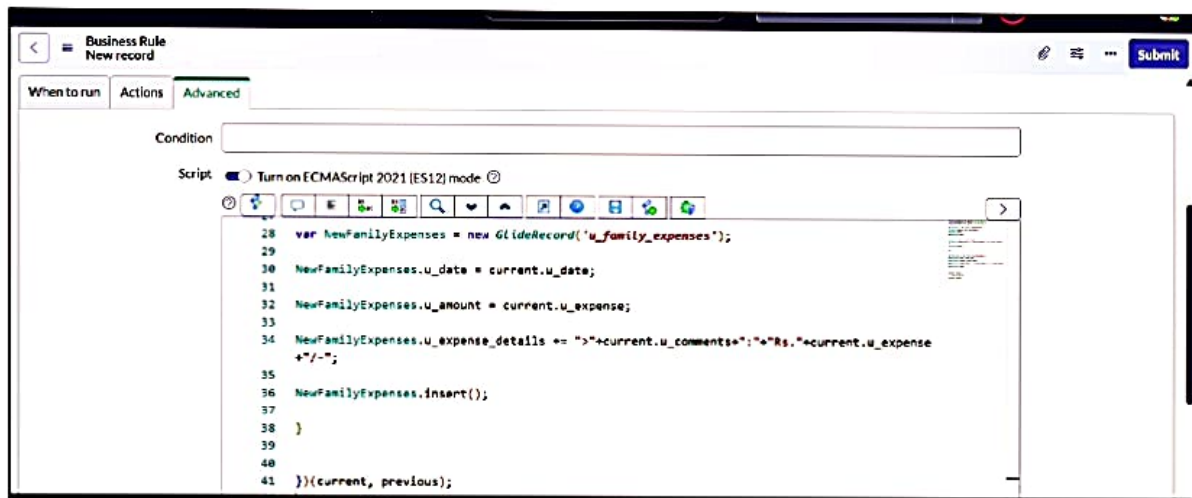
```
varFamilyExpenses = new GlideRecord('u_family_expenses');
FamilyExpenses.addQuery('u_date',current.u_date);
FamilyExpenses.query();
if(FamilyExpenses.next())
{
FamilyExpenses.u_amount += current.u_expense;
FamilyExpenses.u_expense_details
">" +current.u_comments+ ":" + "Rs." +current.u_expense+ "/-";
FamilyExpenses.update();
}
else
{
varNewFamilyExpenses = 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);

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



Milestone 8: Relationship

Activity 1: 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);
```

5. Click on Update.

