

CALCULATING FAMILY EXPENSES USING SERVICE NOW

Team Id: NM2025TMID18196

Team Members:

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Problem Statement: The project aims to develop a comprehensive expense calculation system using ServiceNow. This system will enable users to track and manage family expenses efficiently. It will include features such as expense categorization, budget setting, real-time tracking, and reporting capabilities. Utilizing ServiceNow's robust platform, the project will ensure seamless integration, user-friendly interface, and scalability to accommodate varying family sizes and financial complexities. The end goal is to empower users with the tools they need to make informed financial decisions and promote financial well-being within the family unit.

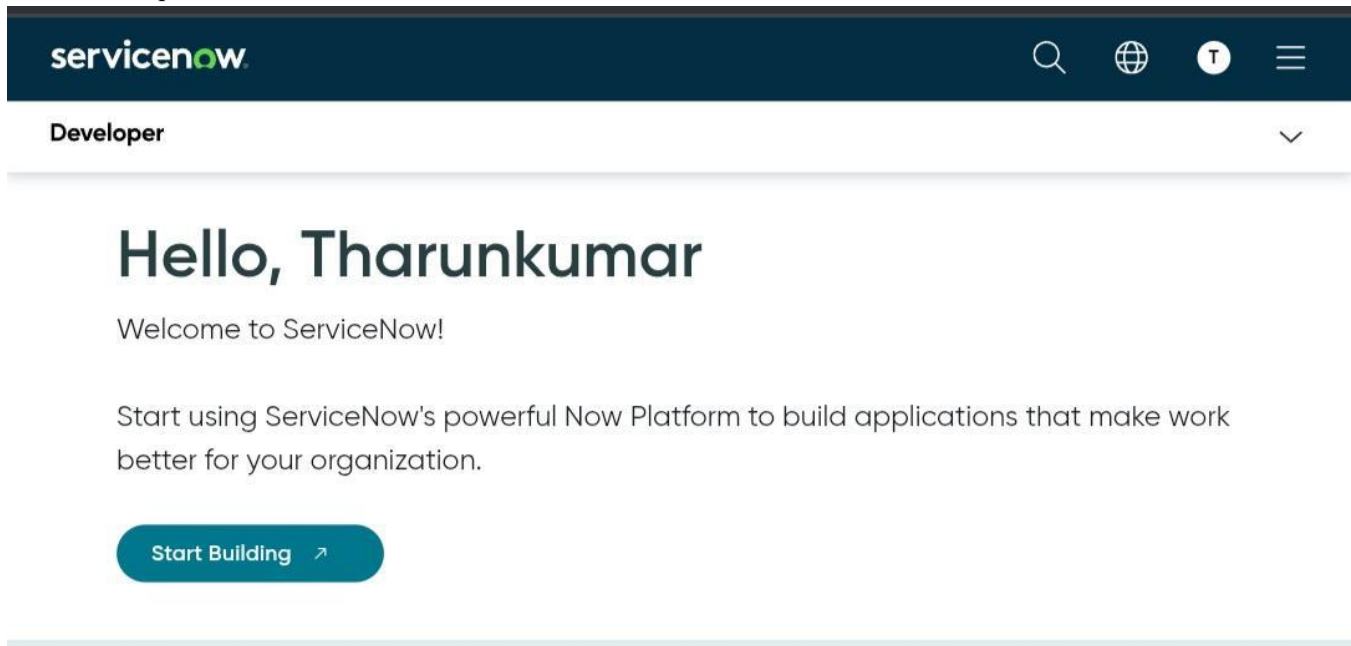
Objective: The objective of this project is to develop a family expense management system on the ServiceNow platform that enables efficient tracking, categorization, and budgeting of expenses. It aims to provide real-time monitoring, user-friendly dashboards, and insightful reports to support informed financial decisions. The system will ensure scalability for different family sizes, promote financial discipline through spending analysis, and maintain data security using ServiceNow's robust features.

Skills:

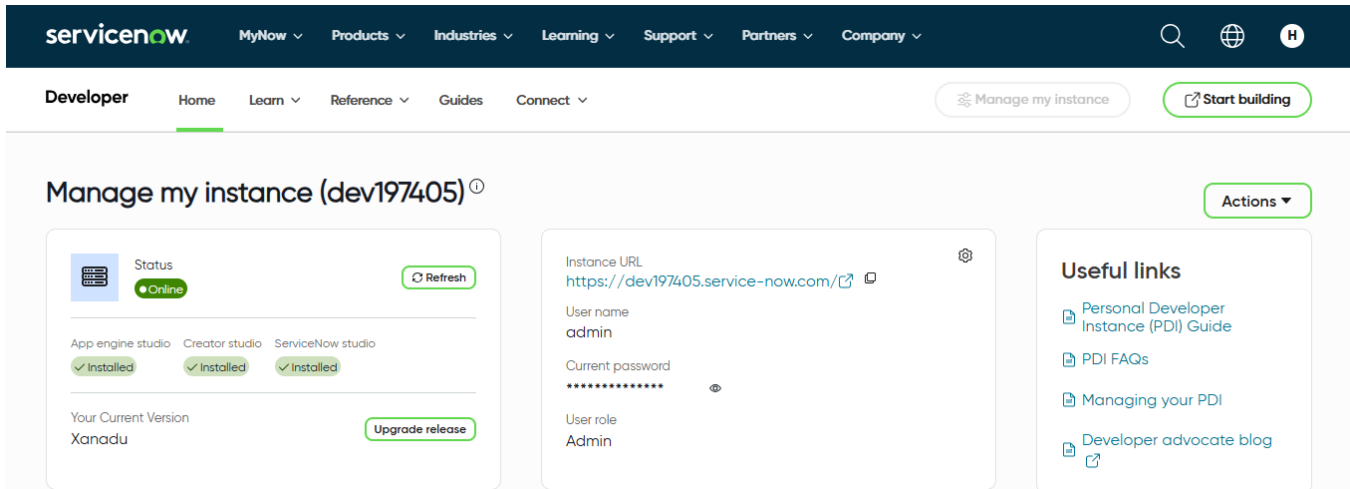
TASK INITIATION

Milestone 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.

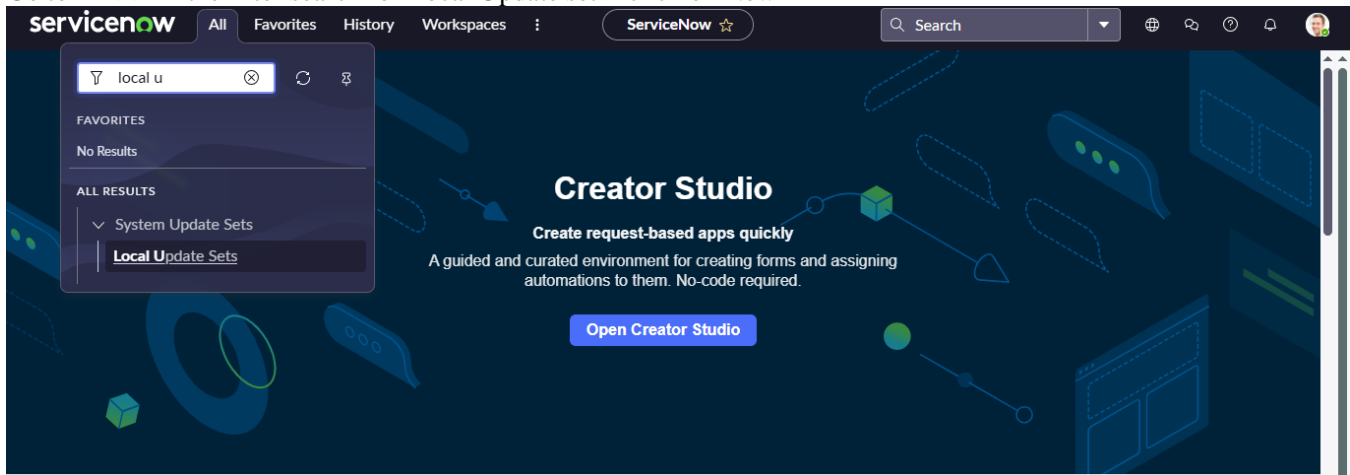


The screenshot shows the ServiceNow Developer portal for instance dev197405. The top navigation bar includes links for MyNow, Products, Industries, Learning, Support, Partners, and Company. Below this, a secondary bar has Developer, Home, Learn, Reference, Guides, and Connect. The main content area is titled 'Manage my instance (dev197405)' and features three panels. The left panel shows the instance status as 'Online' and lists installed components: App engine studio, Creator studio, and ServiceNow studio, all marked as 'Installed'. It also shows the current version as 'Xanadu' with an 'Upgrade release' button. The middle panel displays instance details: Instance URL (https://dev197405.service-now.com/), User name (admin), Current password (masked), and User role (Admin). The right panel, titled 'Useful links', provides links to the Personal Developer Instance (PDI) Guide, PDI FAQs, Managing your PDI, and the Developer advocate blog.

- Now you will navigate to the ServiceNow.

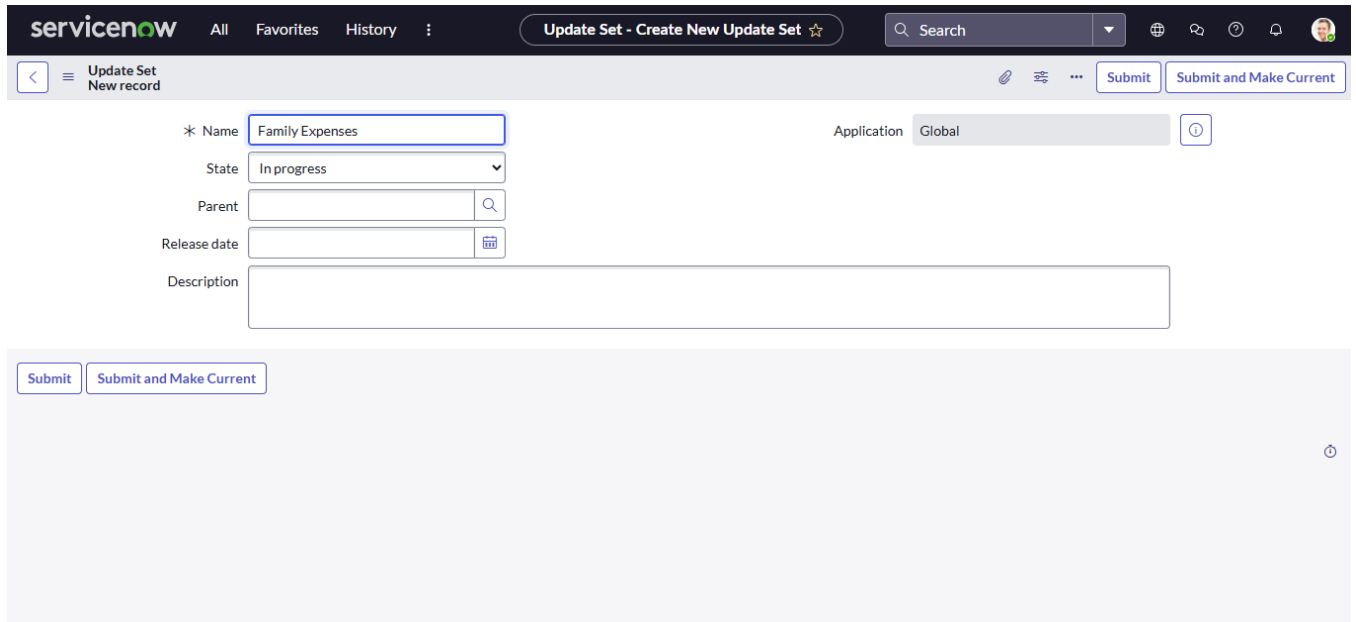
Milestone 2 : Creation of New Update Set

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



The screenshot shows the ServiceNow Creator Studio interface. A search bar at the top contains the text 'local u'. Below the search bar, a dropdown menu displays 'No Results' under 'FAVORITES' and 'ALL RESULTS'. Under 'ALL RESULTS', there is a section for 'System Update Sets' with a sub-item 'Local Update Sets' highlighted. The main content area of the Creator Studio is visible in the background, featuring the title 'Creator Studio' and a description: 'Create request-based apps quickly. A guided and curated environment for creating forms and assigning automations to them. No-code required.' There is a blue button labeled 'Open Creator Studio'.

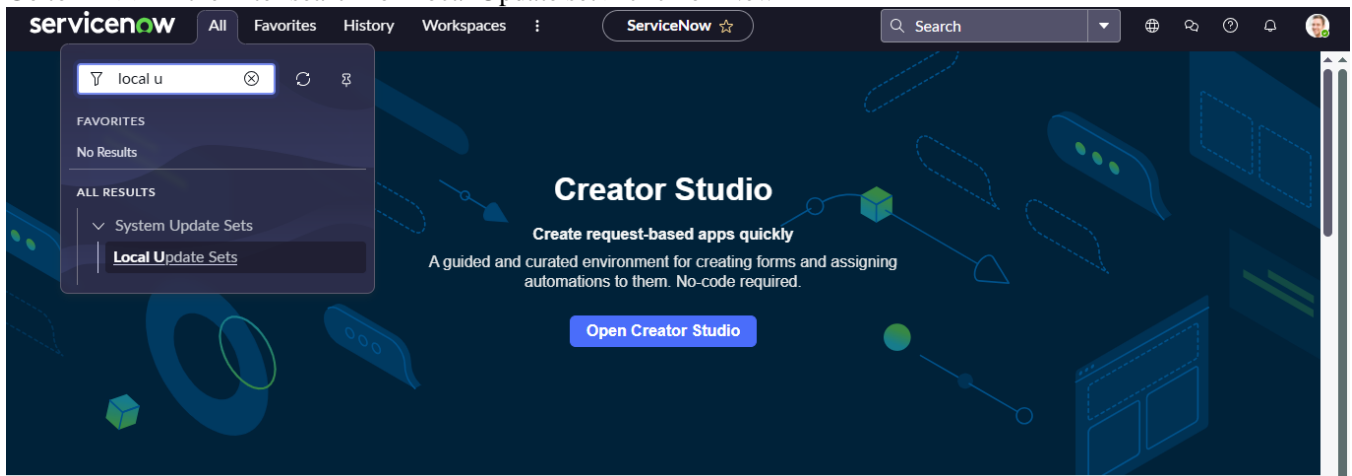
- Enter the Details as:
Name : Family Expenses
- Then click on Submit and Make current.



Milestone 3: Creation of Table

Activity: Creation of New Update Set

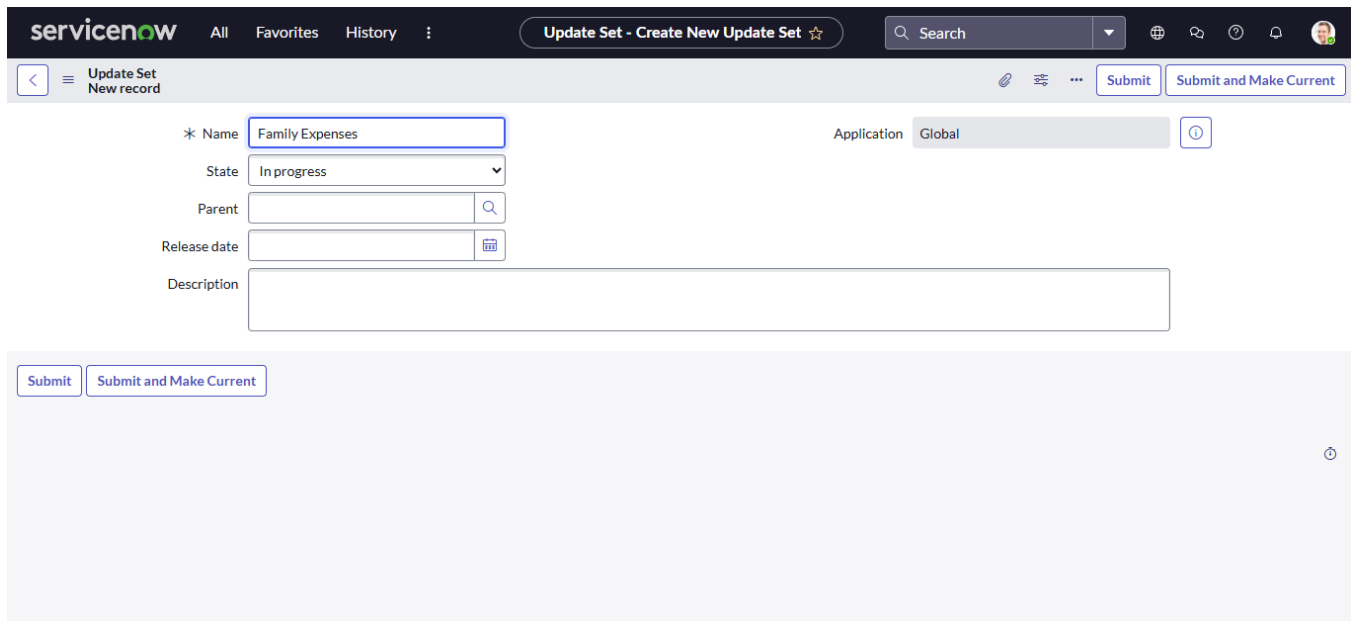
1. Go to All >> In the filter search for Local Update set > click on New



2. Enter the Details as:

Name : Family Expenses

3. Then click on Submit and Make current.



The screenshot shows the ServiceNow 'Update Set' form. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', and a search bar. The main header shows 'Update Set - Create New Update Set' with a star icon. Below this, there's a breadcrumb 'Update Set > New record'. 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 4: Creation of Table

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.

servicenow
All Favorites History Workspaces
 Table - New Record
 Search

Table
New record
 Submit Cancel

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](#)

* Label
 * Name
 Extends table

Application
 Create module ☒
 Create mobile module ☒
 Add module to menu
 New menu name

Activity 2: Creation of Columns(Fields)

1. Near Columns Double click near insert a new row.
2. Give the details as:
 - i. Column label : Number
 - ii. Type : String
3. Double click on insert a new row again
4. Give the details as:
 - i. Column label : Date
 - ii. Type : Date
5. Double click on insert a new row again
6. Give the details as:
 - i. Column label : Amount
 - ii. Type : Integer
7. Double click on insert a new row again
8. Give the details as:
 - i. Column label : Expense Details
 - ii. Type : String
 - iii. Max length : 800\

servicenow All Favorites History Admin Table - Family Expenses Search

Table Columns for text Search

Dictionary Entries

| Column label | Type | Reference | Max length | Default value | Display |
|---------------------|---------------|-----------|------------|---------------|---------|
| Updated by | String | (empty) | | 40 | false |
| Updates | Integer | (empty) | | 40 | false |
| Updated | Date/Time | (empty) | | 40 | false |
| Created by | String | (empty) | | 40 | false |
| Created | Date/Time | (empty) | | 40 | false |
| Sys ID | Sys ID (GUID) | (empty) | | 32 | false |
| Number | String | | | | false |
| Date | Date | | | | false |
| Amount | Integer | | | | false |
| Expense Details | String | | 800 | | false |
| Insert a new row... | | | | | |

Delete Update Delete All Records

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

Activity 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.

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.

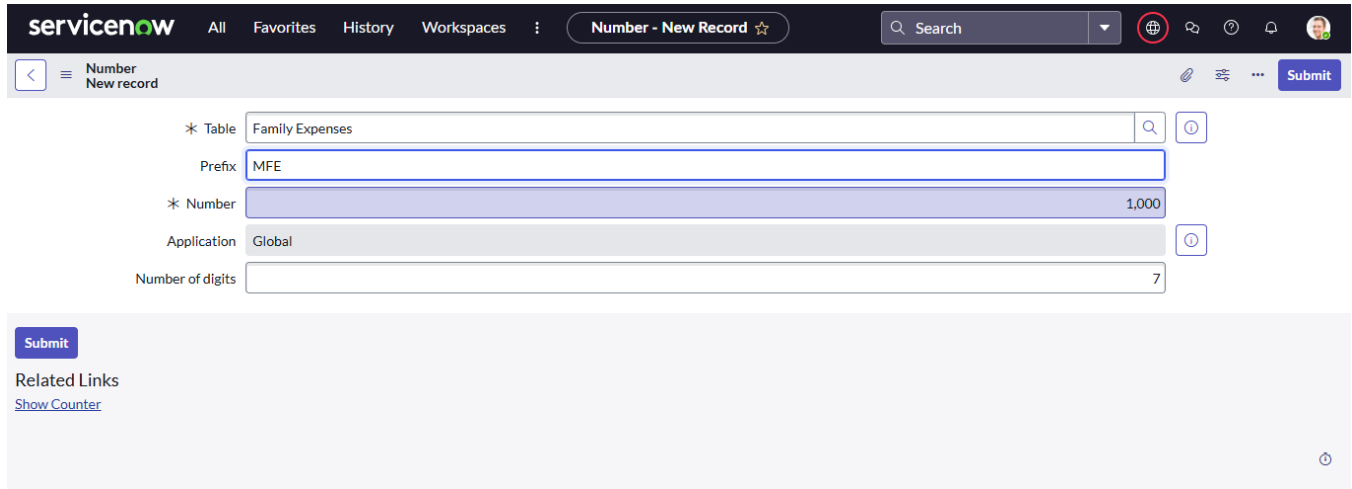
Use dynamic default ☒

Dynamic default value Get Next Padded Number

Delete Column Update

- Go to All >> In the filter search for Number Maintenance >> select Number Maintenance
- Click on New.

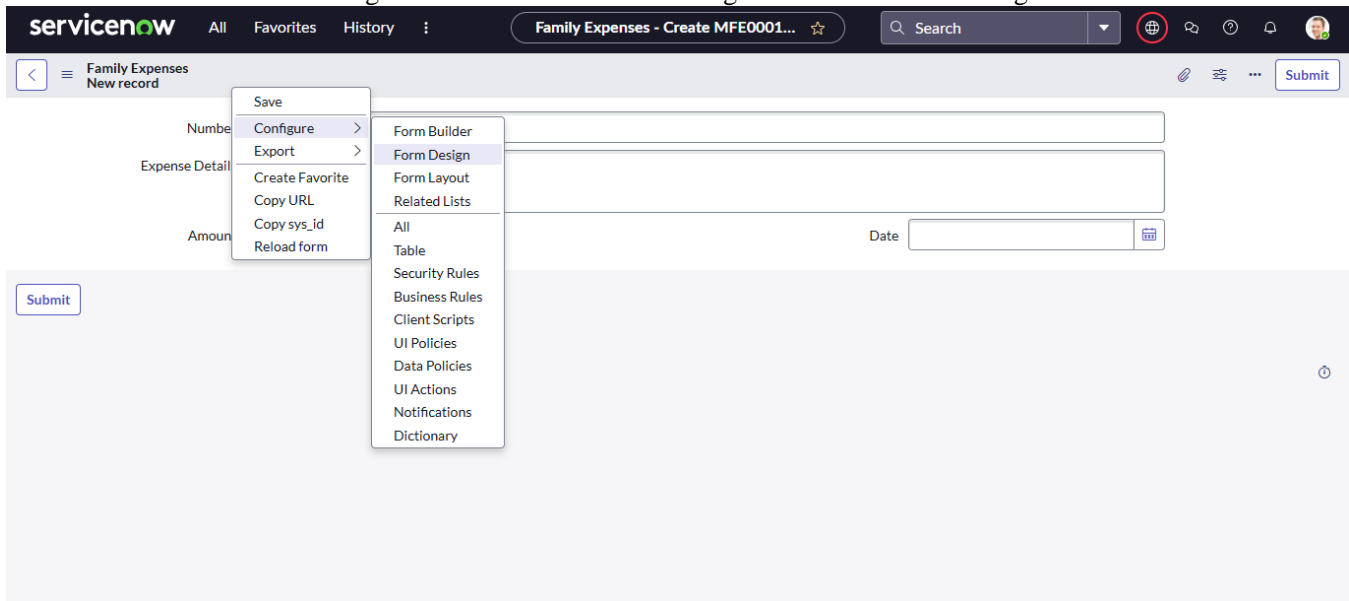
7. Enter the below Details:
 - i. Table : Family Expenses
 - ii. Prefix : MFE



8. Click on Submit.

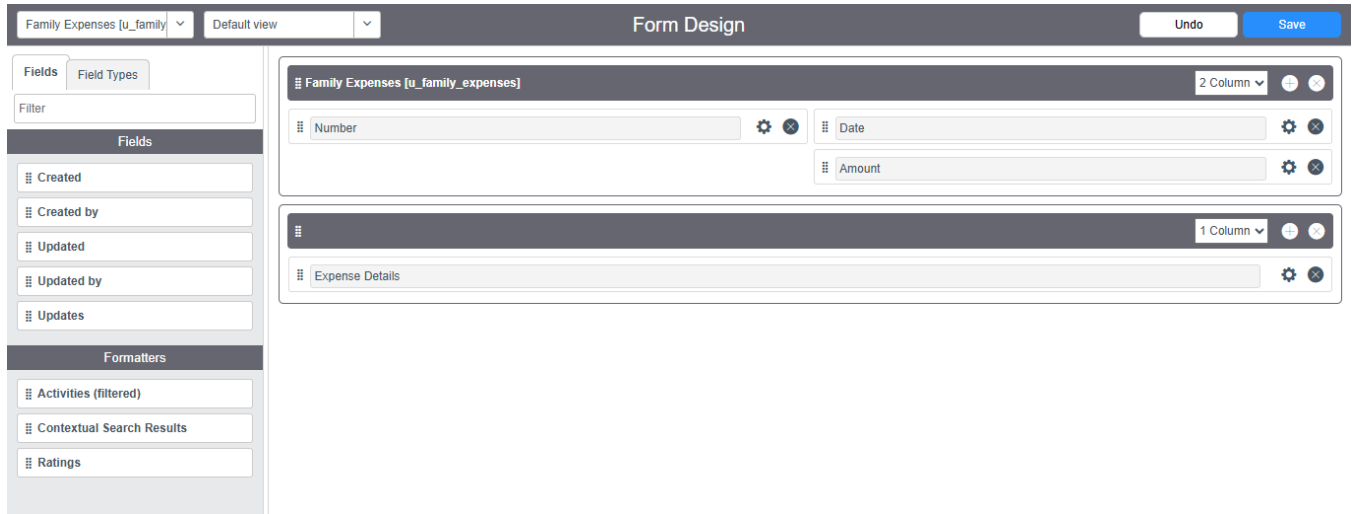
Activity 4: Configure the Form

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.

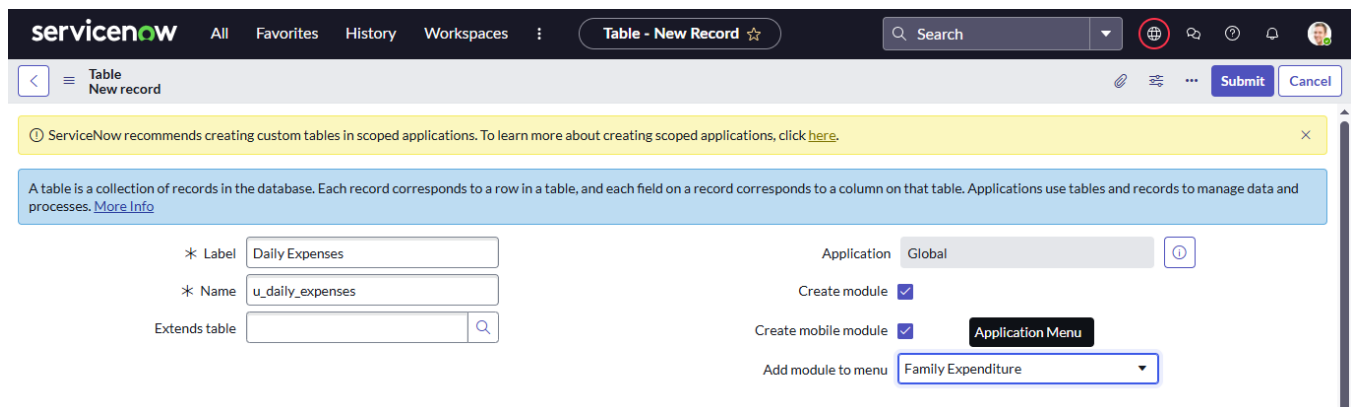


The screenshot shows the 'Form Design' interface for a table named 'Family Expenses [u_family]'. The interface has a top bar with 'Family Expenses [u_family]' and 'Default view' dropdowns, and 'Undo' and 'Save' buttons. On the left, there are tabs for 'Fields' and 'Field Types', a 'Filter' input, and a list of fields: 'Created', 'Created by', 'Updated', 'Updated by', and 'Updates'. Below these are 'Formatters' including 'Activities (filtered)', 'Contextual Search Results', and 'Ratings'. The main area shows the table structure with two sections. The first section, 'Family Expenses [u_family_expenses]', has a '2 Column' layout with fields 'Number', 'Date', and 'Amount'. The second section, 'Expense Details', has a '1 Column' layout with a field 'Expense Details'. Each field has a gear icon for configuration.

Milestone 5: Creation of Table (Daily Expenses)

Activity 1: Creation of Daily Expenses Table

1. Go to All > In the filter search for Tables > click on New.
2. Enter the Details:
 - i. Label : Daily Expenses
 - ii. Name : Auto-Populated
 - iii. Add Module to menu : Family Expenditure
3. Go to the Header and right click there>> click on Save.



The screenshot shows the 'Table - New Record' form in ServiceNow. The top bar includes the 'servicenow' logo, navigation tabs (All, Favorites, History, Workspaces), and a 'Table - New Record' button. Below the top bar, there's a search bar and a 'Submit' button. A yellow banner at the top 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](#)'.

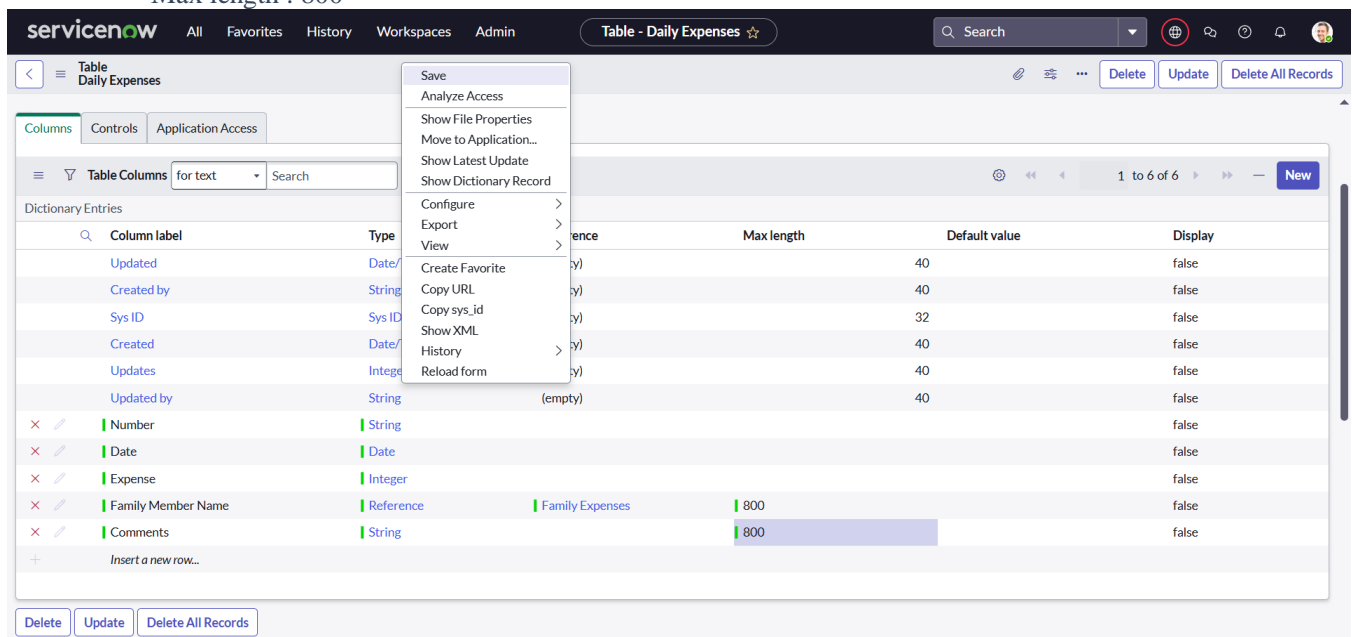
The form fields are as follows:

- * Label:
- * Name:
- Extends table:
- Application:
- Create module: ☒
- Create mobile module: ☒
- Add module to menu:

There is also an 'Application Menu' button and a 'Submit' button.

Activity 2: Creation of Columns(Fields)

1. Near Columns Double click near insert a new row.
Give the details as:
Column label : Number
Type : String
2. Double click on insert a new row again
Give the details as:
Column label : Date
Type : Date
3. Double click on insert a new row again
Give the details as:
Column label : Expense
Type : Integer
4. Double click on insert a new row again
Give the details as:
Column label : Family Member Name
Type : Reference
Max length : 800
5. Double click on insert a new row again
Give the details as:
Column label : Comments
Type : String
Max length : 800

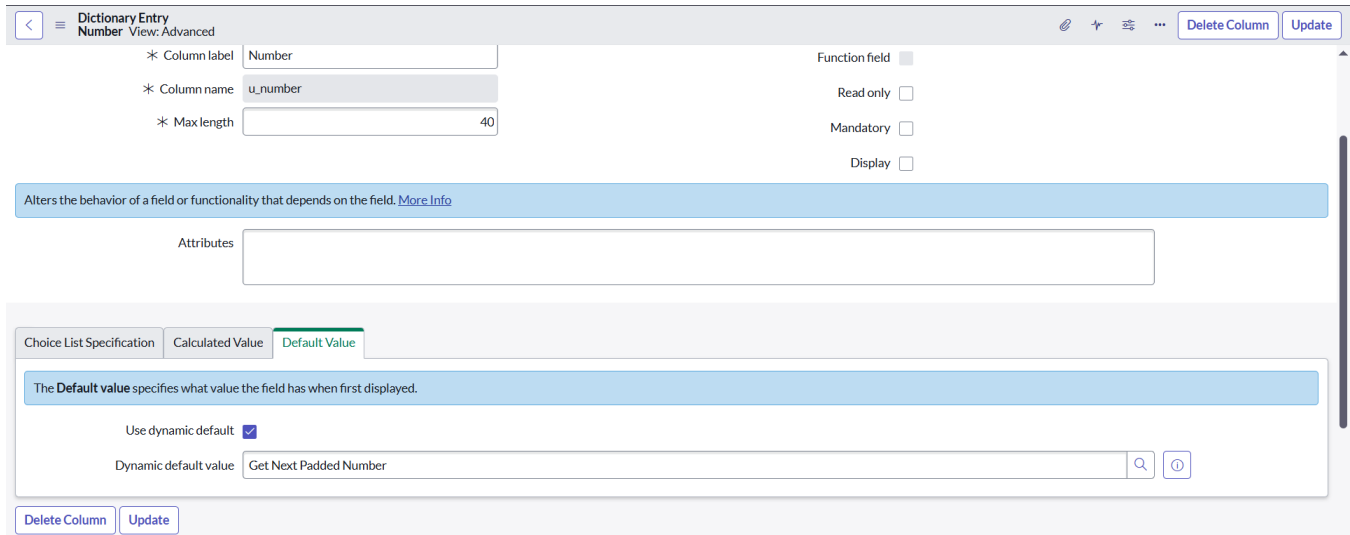


| Column label | Type | Max length | Default value | Display |
|---------------------|-----------|------------|-----------------|---------|
| Updated | Date/ | | | |
| Created by | String | | | |
| Sys ID | Sys ID | | | |
| Created | Date/ | | | |
| Updates | Integer | | | |
| Updated by | String | | | |
| Number | String | | | false |
| Date | Date | | | false |
| Expense | Integer | | | false |
| Family Member Name | Reference | 800 | Family Expenses | false |
| Comments | String | 800 | | false |
| Insert a new row... | | | | |

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

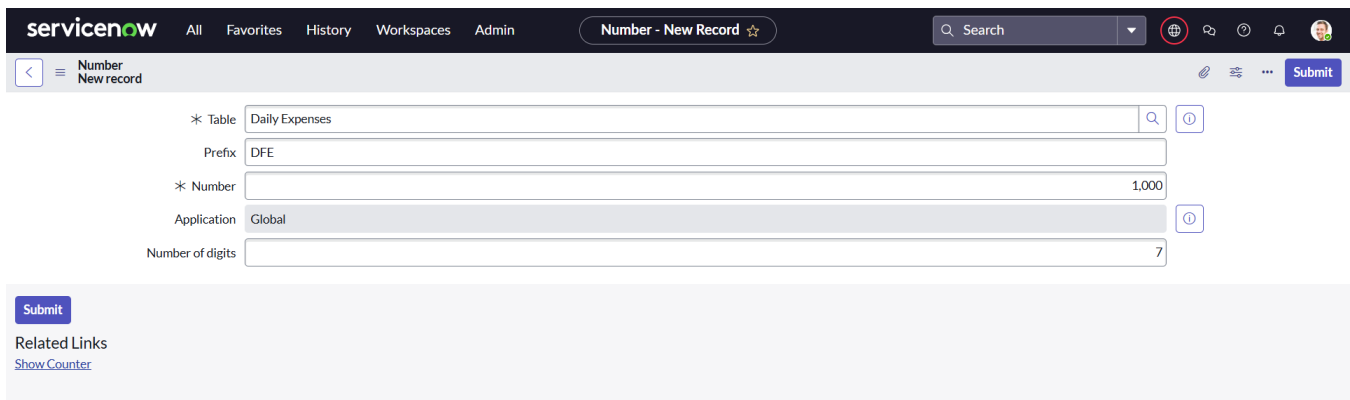
Activity 3: Making Number Field an Auto-Number

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



The screenshot shows the 'Dictionary Entry Number' form in 'Advanced' view. The 'Default Value' tab is selected. The 'Dynamic default' checkbox is checked, and the 'Dynamic default value' is set to 'Get Next Padded Number'. The 'Table' is 'Daily Expenses' and the 'Prefix' is 'DFE'. The 'Number' field is set to '1,000' and the 'Number of digits' is '7'. The 'Application' is 'Global'.

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 : Daily Expenses
Prefix : DFE

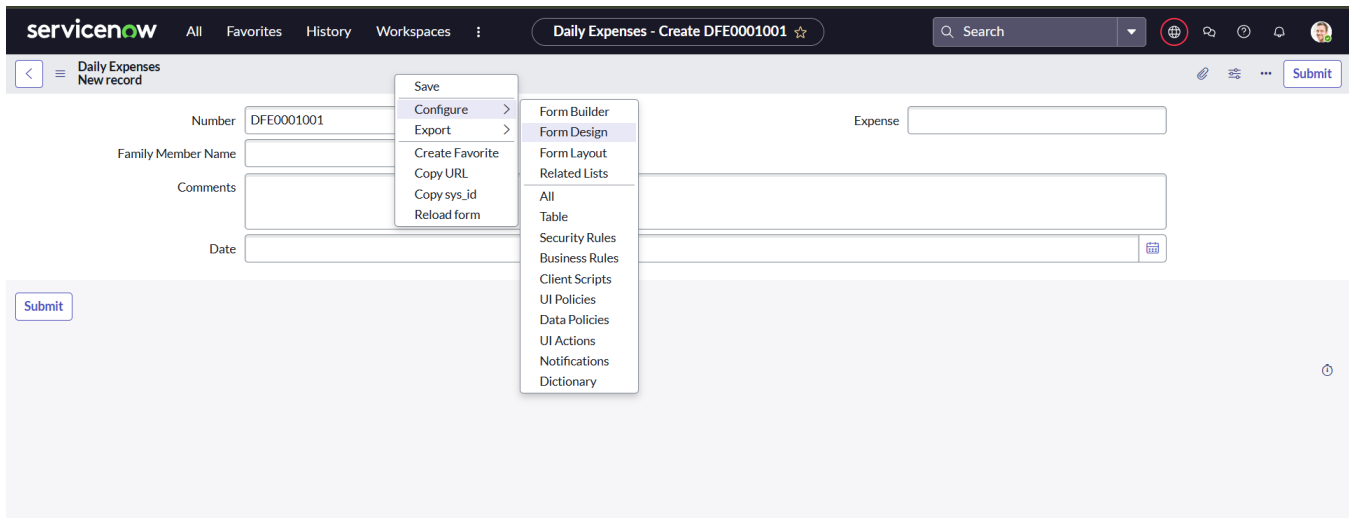


The screenshot shows the 'Number - New Record' form in the servicenow interface. The 'Table' is 'Daily Expenses', the 'Prefix' is 'DFE', the 'Number' is '1,000', the 'Application' is 'Global', and the 'Number of digits' is '7'. The 'Submit' button is visible at the bottom.

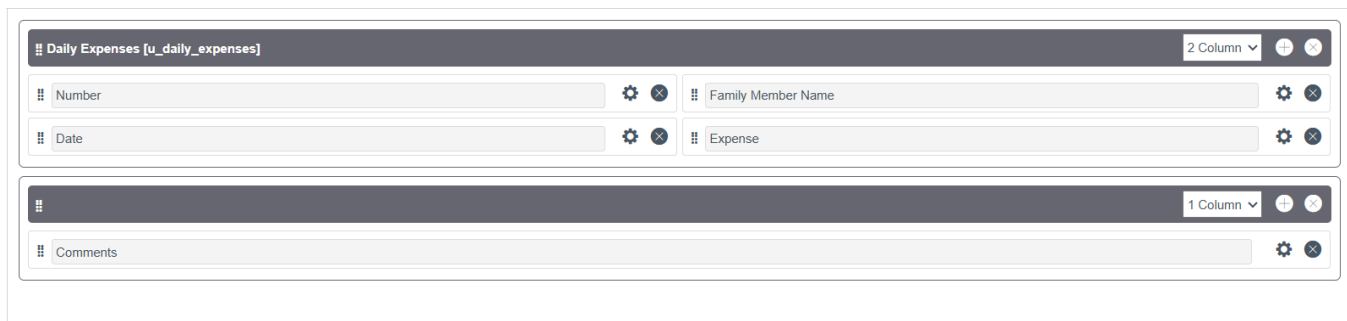
8. Click on Submit

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

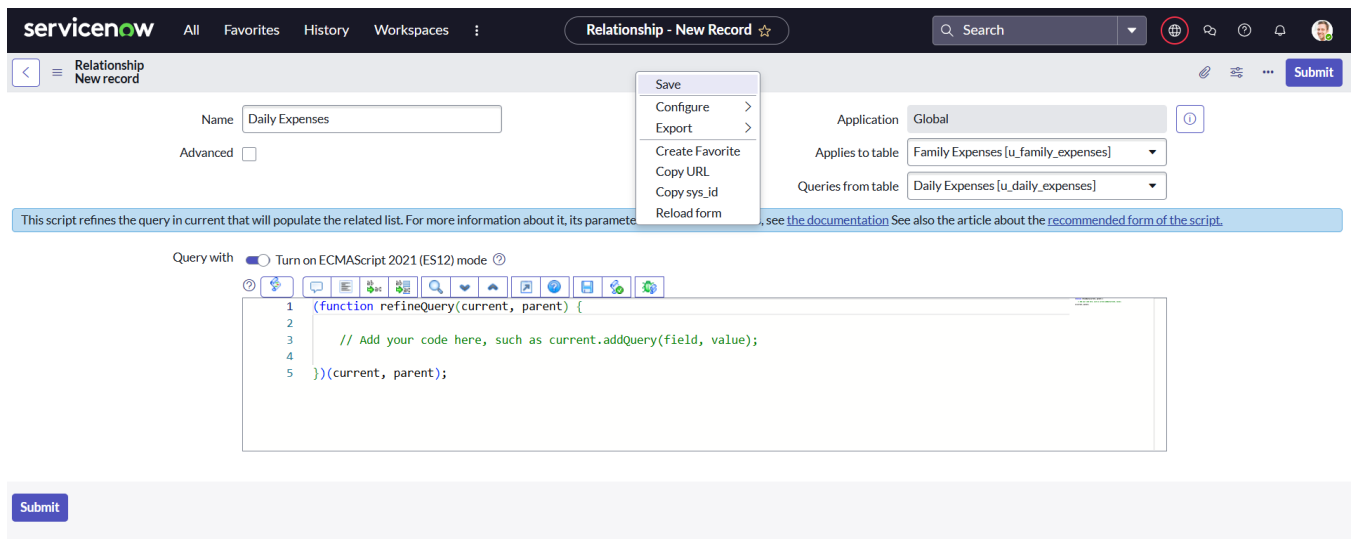


7. Click on Save.

Milestone 6: Creation of Relationship

Activity : 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.



servicenow All Favorites History Workspaces Relationship - New Record

Name:

Advanced ☐

Application:

Applies to table:

Queries from table:

Save
 Configure
 Export
 Create Favorite
 Copy URL
 Copy sys_id
 Reload form

This script refines the query in current that will populate the related list. For more information about it, its parameters, 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);
  
```

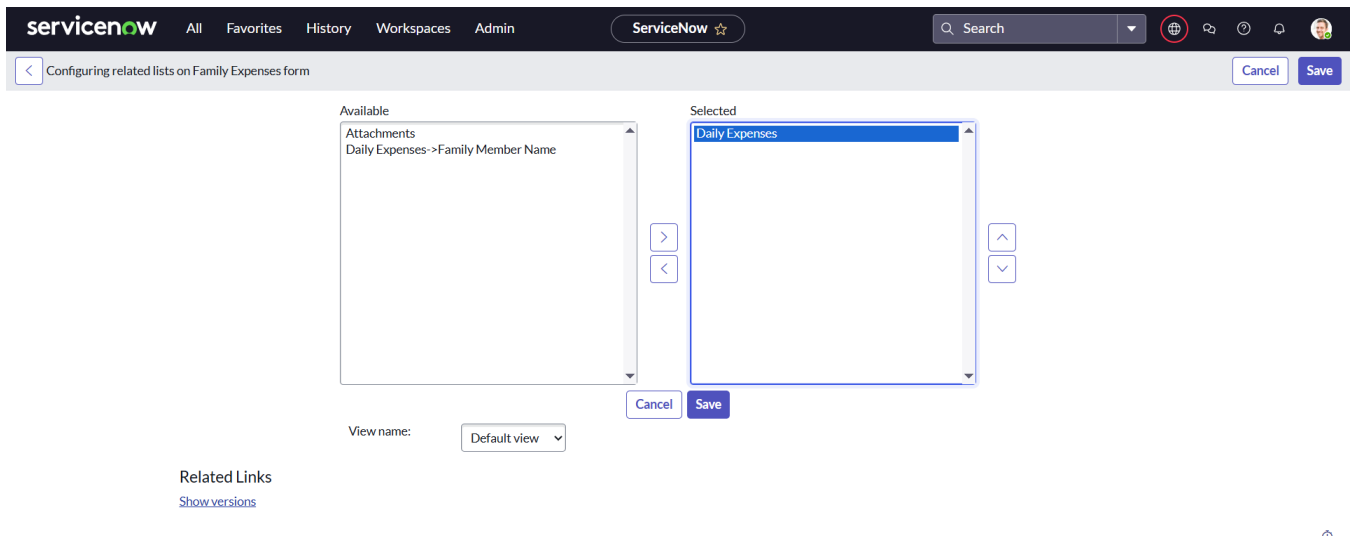
Submit

Milestone 7: Configuring Related List on Family Expenses

Activity : 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.



servicenow All Favorites History Workspaces Admin ServiceNow Search

< Configuring related lists on Family Expenses form Cancel Save

Available
Attachments
Daily Expenses -> Family Member Name

Selected
Daily Expenses

View name: Default view

Related Links
[Show versions](#)

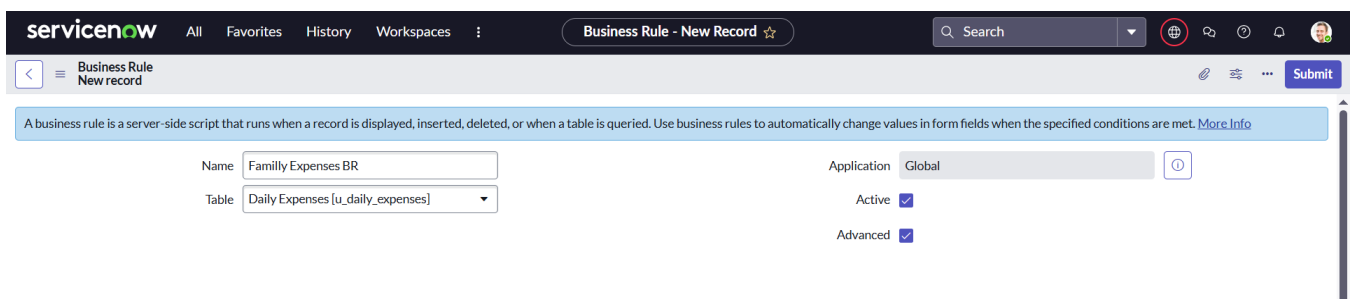
5. Click on Save

Milestone 8: Creation of Business Rules

Activity : 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



servicenow All Favorites History Workspaces Business Rule - New Record Search

< Business Rule New record Submit

A business rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. Use business rules to automatically change values in form fields when the specified conditions are met. [More Info](#)

Name: Family Expenses BR Application: Global

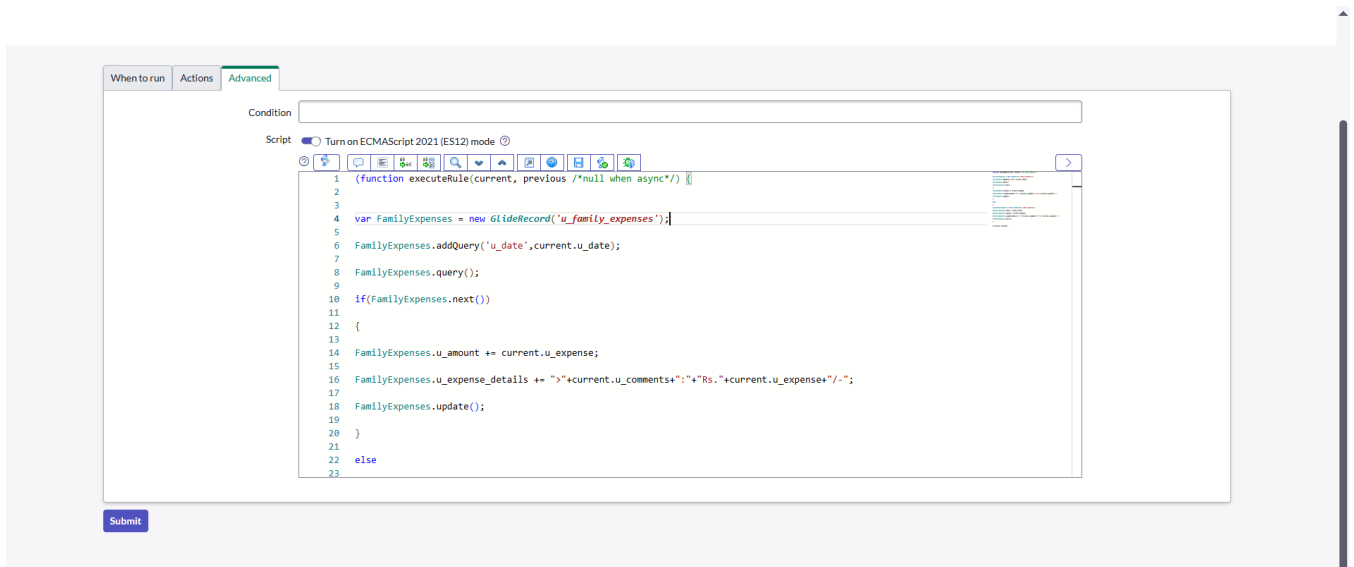
Table: Daily Expenses [u_daily_expenses] Active: ☒ Advanced: ☒

4. In when to run Check Insert and Update
5. 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);
```



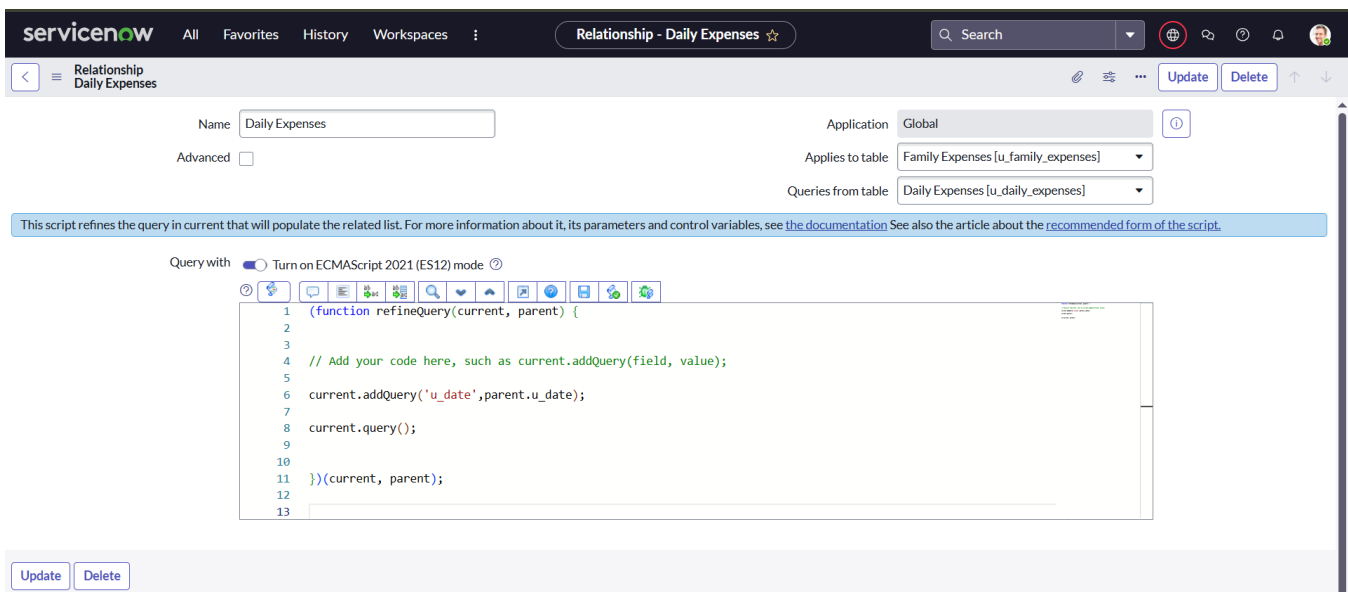
- Go to the Header and right click there>> click on Save.

Milestone 9 : Configure the Relationship

Activity : Configure the Relationship

1. 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);
```



servicenow All Favorites History Workspaces Relationship - Daily Expenses Search

Relationship Daily Expenses Update Delete

Name Daily Expenses Application Global

Advanced Applies to table Family Expenses [u_family_expenses]

Queries from table Daily Expenses [u_daily_expenses]

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  
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
```

Update Delete

5. Click on Update.

Conclusion :

The project effectively demonstrates how ServiceNow can be used to manage and track family expenses with real-time monitoring, automated calculations, and user-friendly dashboards. It simplifies expense tracking, promotes financial discipline, and highlights the flexibility of ServiceNow for solving practical, real-world problems.

