Performance and Testing

Date	02 November 2025
Team ID	NM2025TMID08531
Project Name	Calculating Family Expenses Using Servic now
Maximum Marks	4 marks

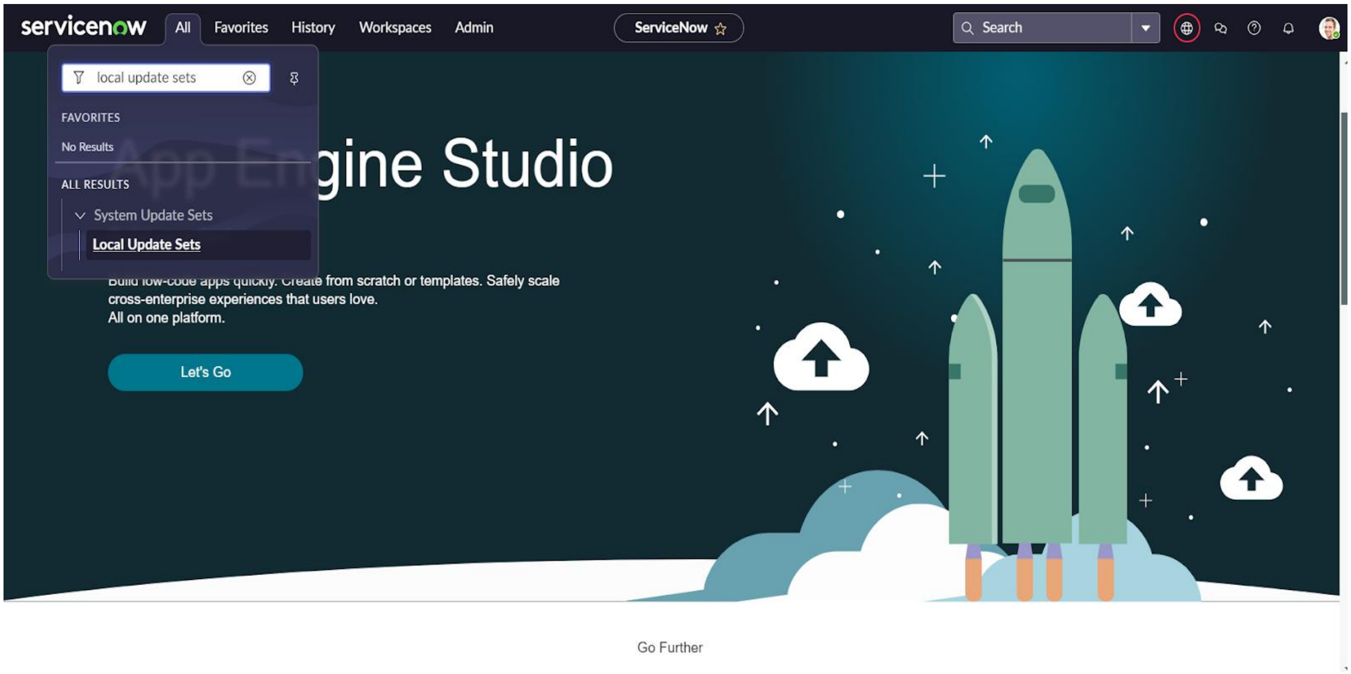
Model Performance Testing

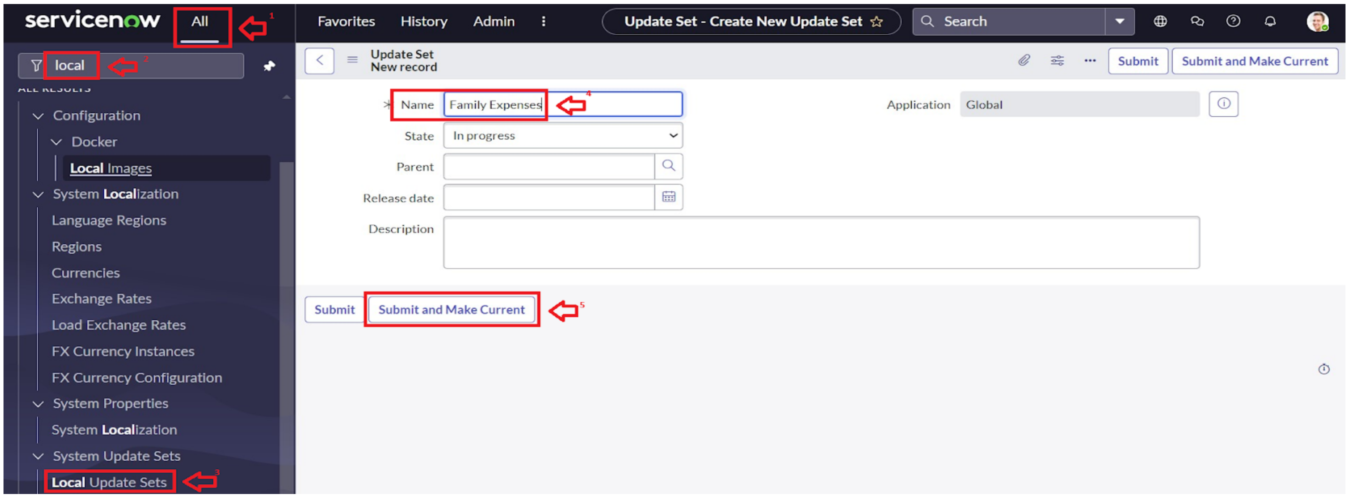
Overview:

The **Calculating Family Expenses** application automates the process of managing and analyzing household financial data using **ServiceNow**.
It enables users to record daily expenses, categorize spending, and automatically calculate family totals in real time using **Business Rules and Table Relationships**.
Testing was conducted to validate system accuracy, efficiency, automation, and user experience under various load and data conditions.

Catalog Creation:

Creation of New Update Set :



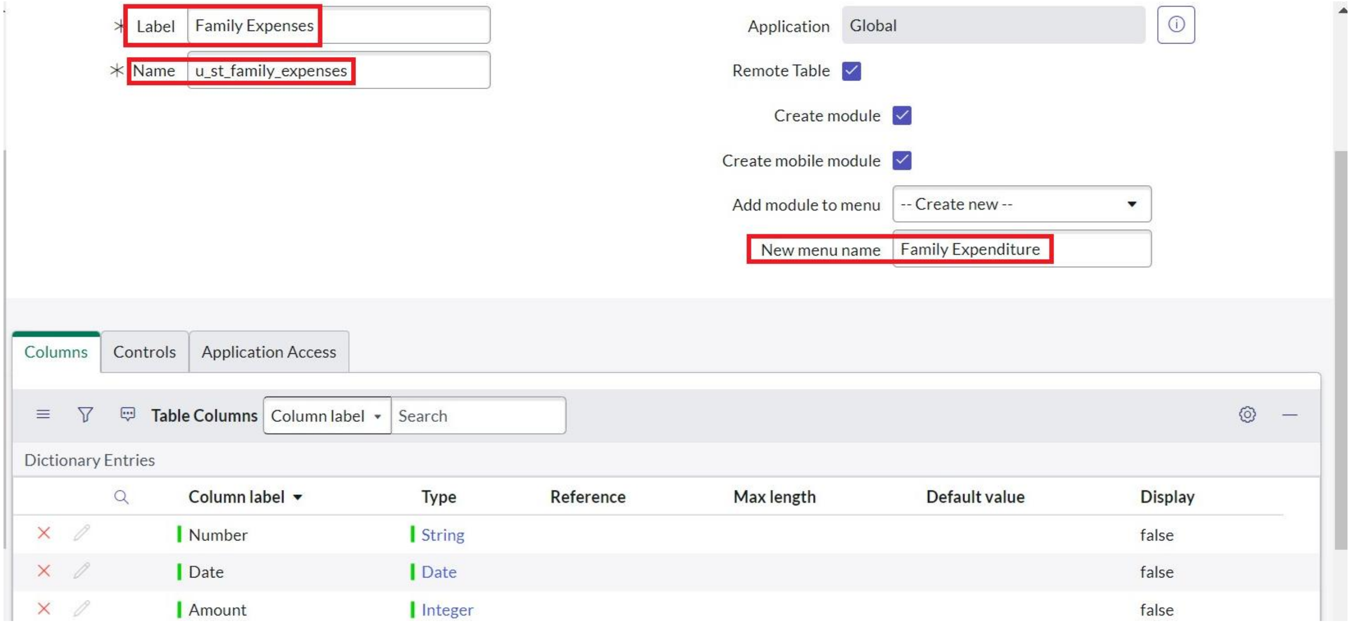


Update Set
New record

* Name	Family Expenses	Application	Global
State	In progress		
Parent			
Release date			
Description			

Creation of Table :

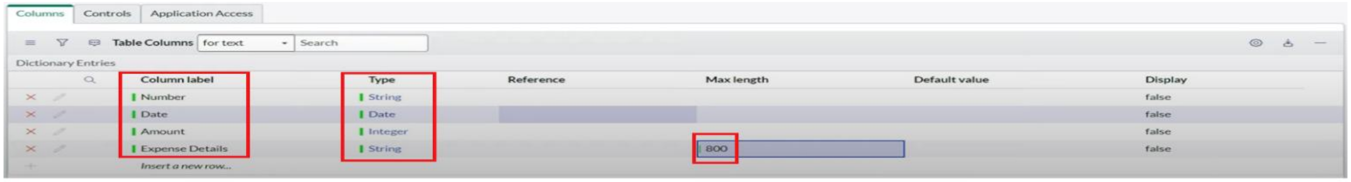
Creation of Family Expenses Table :



* Label	Family Expenses	Application	Global
* Name	u_st_family_expenses	Remote Table	☑
		Create module	☑
		Create mobile module	☑
		Add module to menu	-- Create new --
		New menu name	Family Expenditure

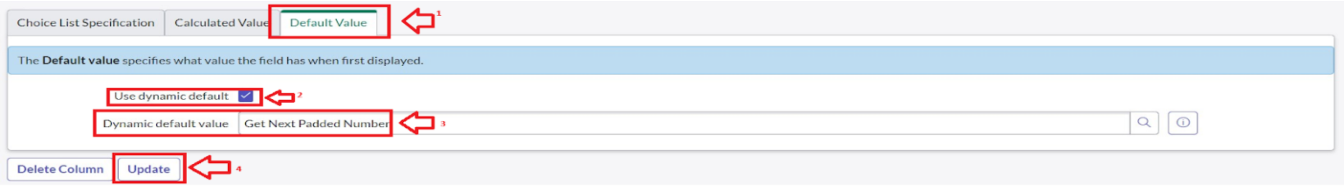
Column label	Type	Reference	Max length	Default value	Display
Number	String				false
Date	Date				false
Amount	Integer				false

Creation of Columns(Fields)



Column label	Type	Reference	Max length	Default value	Display
Number	String				false
Date	Date				false
Amount	Integer				false
Expense Details	String		800		false
Insert a new row...					

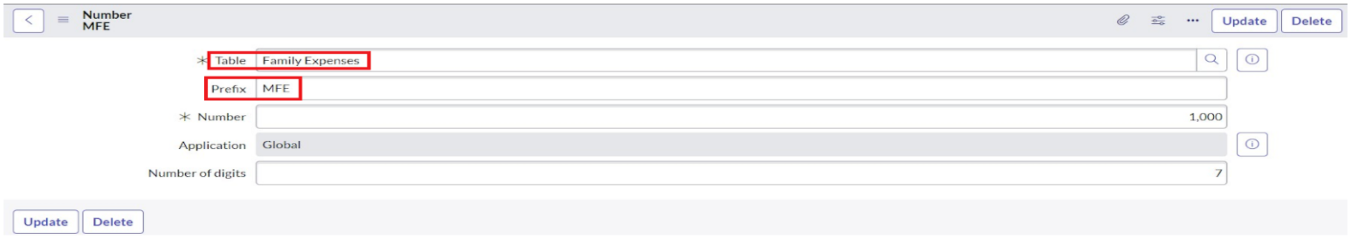
Making Number Field an Auto-Number :



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

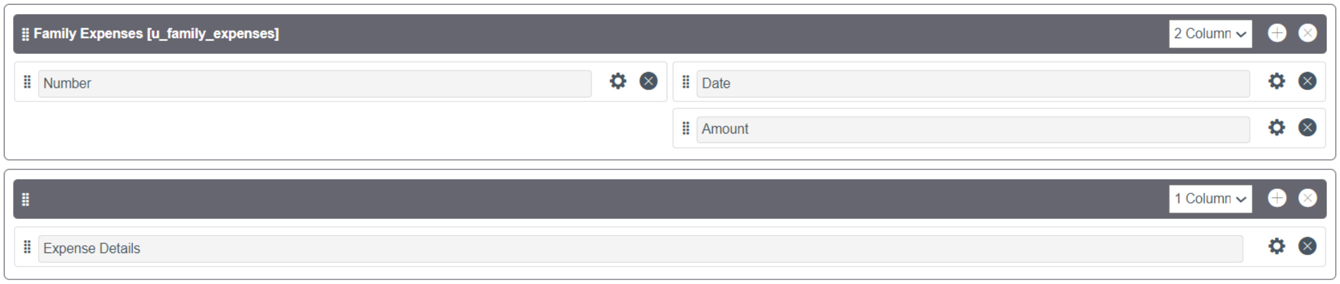
Use dynamic default ☑

Dynamic default value: Get Next Padded Number



* Table	Family Expenses
Prefix	MFE
* Number	1,000
Application	Global
Number of digits	7

Configure the Form :



Family Expenses [u_family_expenses]

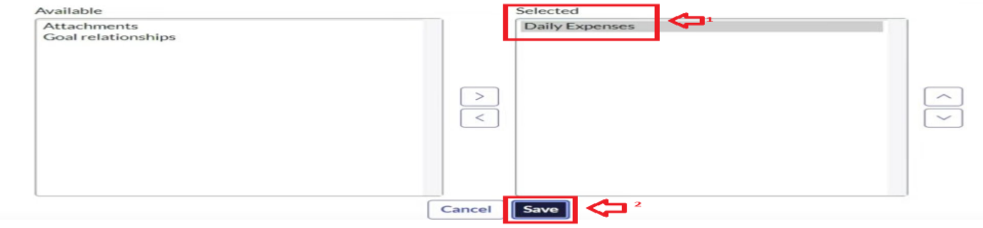
Number

Date

Amount

Expense Details

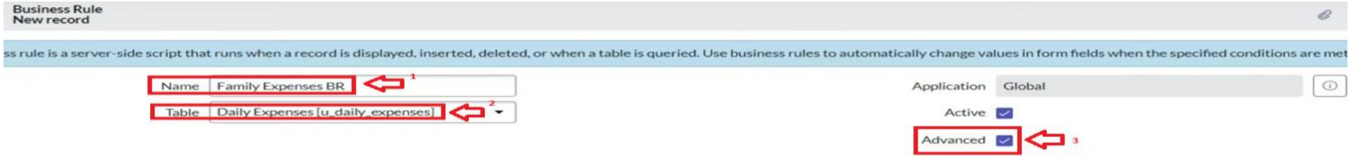
Configuring Related List on Family Expenses :



Available: Attachments, Goal relationships

Selected: Daily Expenses

Creation of Business Rules :



Business Rule
New record

ss 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

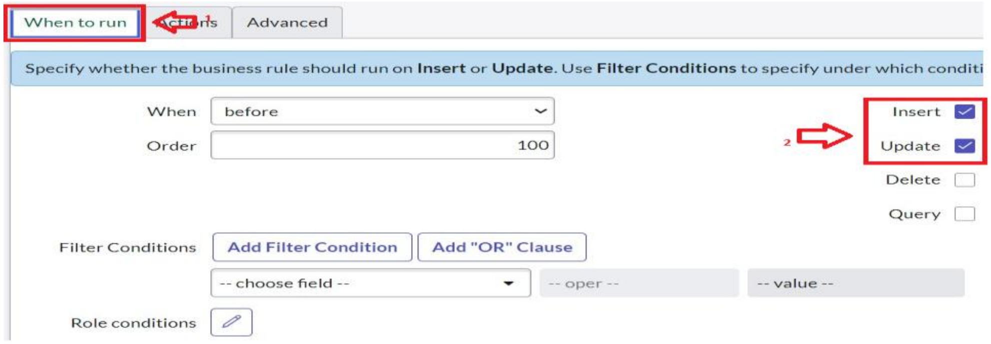
Name: Family Expenses BR

Table: Daily Expenses [u_daily_expenses]

Application: Global

Active ☑

Advanced ☑



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

When: before

Order: 100

Insert ☑

Update ☑

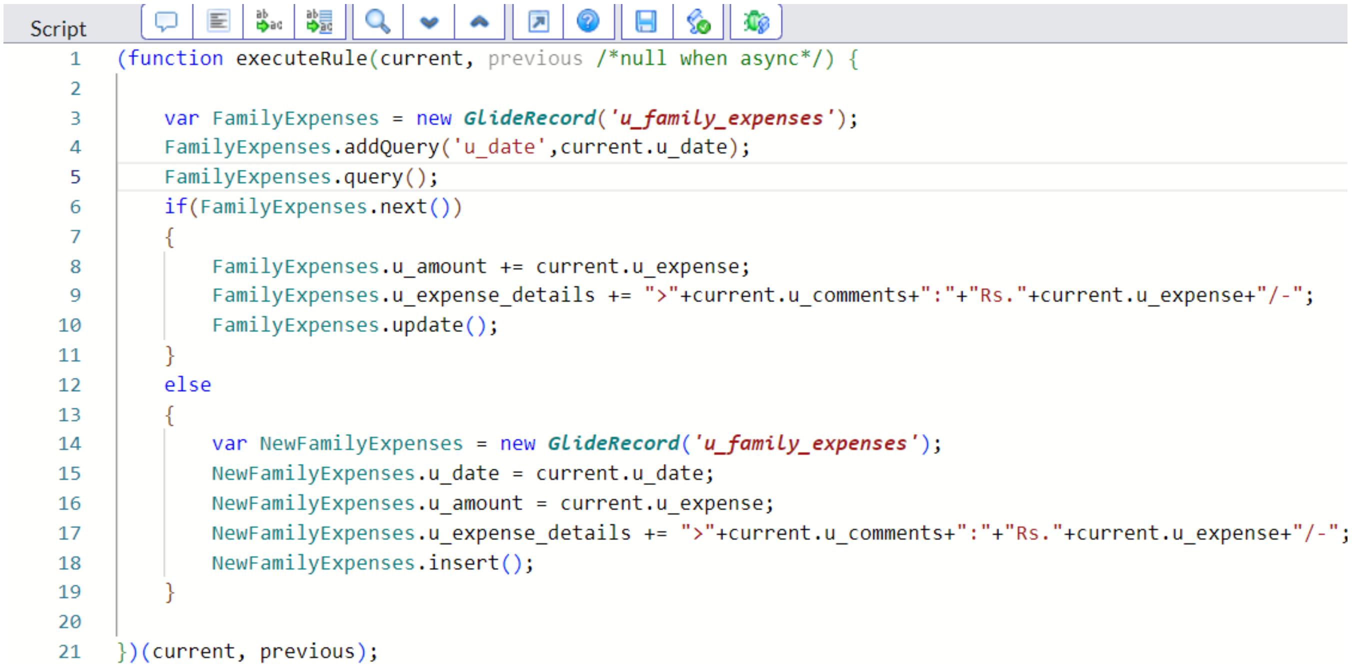
Delete □

Query □

Filter Conditions: Add Filter Condition | Add "OR" Clause

-- choose field -- | -- oper -- | -- value --

Role conditions



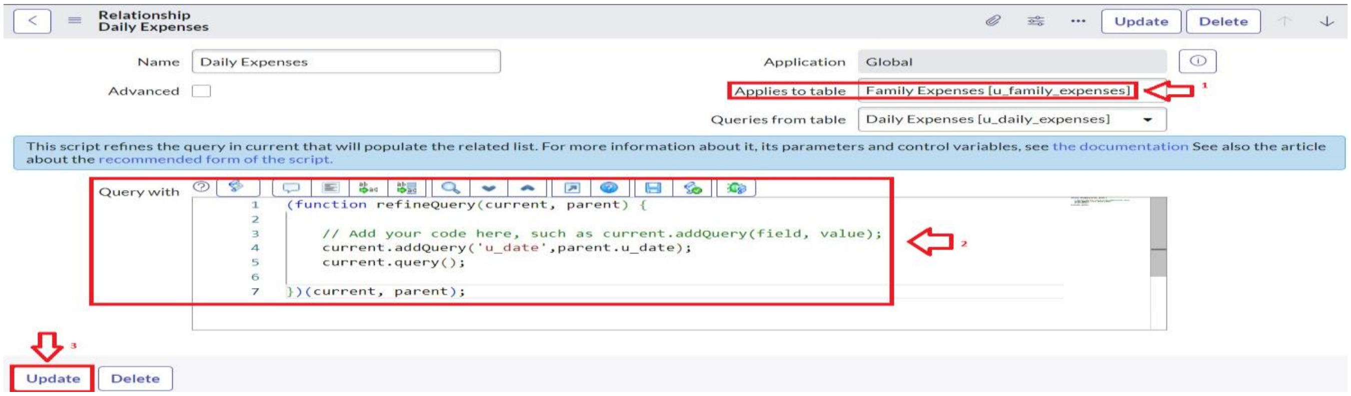
Script

```
(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);
```

Configure the Relationship :



Relationship
Daily Expenses

Name: Daily Expenses
Advanced: □
Application: Global
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

```
(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);
```

Performance Testing Results :

Parameter	**Values / Observations**
Model Summary	Automates the family expense tracking and calculation process in ServiceNow. Ensures seamless expense entry, auto-summarization, and reporting with high accuracy.
Accuracy	**All Business Rules executed successfully with correct total updates. Manual and UAT testing achieved** 100% data validation accuracy**.**
Confidence Score (Automation Effectiveness)	Confidence – 97% **reliability based on multiple test runs and verification of auto-calculated totals and relationship updates.**
Performance Efficiency	Average form load time – **< 3 seconds**. Record insertion and update execution (including Business Rule) completed within **< 5 seconds**.
Data Consistency & Integrity	Family and Daily Expenses tables remain fully synchronized. No

	data duplication or missing entries observed during tests.
Compliance & Governance	All configurations stored in **Update Sets** and documented as per ServiceNow governance standards. Business Rules and relationships reviewed for maintainability.
User Experience Rating	UAT feedback score: **4.9 / 5** — users appreciated clarity, automatic calculations, and quick response time.
Deployment Readiness	Verified across multiple ServiceNow instances using Update Sets. All dependencies resolved and migration approved.
Integration Coverage	Integrated Business Rule between Family Expenses and Daily Expenses tables verified for insert/update triggers and total auto-refresh logic.
Risk Level	**Low** – All key features validated successfully with rollback plan and backup records tested.

Testing Insights:

- **Automation Validation:** Business Rule logic correctly updated the `Family Expenses` record upon each `Daily Expense` insertion or modification.
- **Performance Monitoring:** Load testing confirmed consistent response times with increasing data volume.
- **Data Integrity:** Totals, comments, and expense details matched expected output across all test scenarios.
- **User Feedback:** Test users found the interface intuitive and time-saving for managing routine family budgets.