

# **M.A.M**

# **COLLEGE OF ENGINEERING**

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**Subject Name : ServiceNow Administrator  
(NM1051)**

**Project Title : Educational Organisation Using  
ServiceNow**

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# Educational Organisation Using ServiceNow

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## 1. Objective

- The objective of this project is to develop an **Educational Management System** using **ServiceNow** to automate and simplify the key administrative processes of educational institutions. The system aims to enhance productivity by managing student and teacher data, streamlining admissions, and monitoring academic progress through a centralized and user-friendly interface.
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## 2. Introduction

- Educational institutions often face challenges in managing large volumes of student and staff information, handling admissions, and tracking performance. Manual systems can lead to errors, data redundancy, and inefficiency.
  - This project introduces an **Educational Management System** built on the **ServiceNow platform**, leveraging its powerful automation and workflow management capabilities. The system is designed to ensure seamless data integration, real-time updates, and secure access to educational records. Additionally, the integration of **TensorFlow** enables data-driven insights and predictive analytics to support better decision-making and performance analysis.
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## 3. Project Scope

The scope of this project includes the development and deployment of a digital management system for educational organizations with the following modules:

- **Student Information Management:** Securely store, update, and access student details.
- **Teacher Management:** Maintain records of faculty members, schedules, and teaching activities.
- **Admission Management:** Simplify and automate the admission and enrollment process.
- **Academic Progress Monitoring:** Track student grades, attendance, and performance trends.
- **Notifications & Reporting:** Automate alerts and generate performance reports.
- **Analytics Module (TensorFlow):** Implement AI-based analysis for predicting student outcomes and optimizing learning strategies.

The project will be implemented within the ServiceNow environment, ensuring scalability, reliability, and role-based access control.

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## 4. Tools and Technologies Used

Category	Tools / Technologies
Platform	ServiceNow
ServiceNow	ServiceNow Cloud platform for workflow automation
Update Sets	To capture and move customizations
Tables & Fields	Used to store expense records
Forms & Lists	For user interaction and record display
Reports Module	For data visualization and analytics
Other Tools	ServiceNow Flow Designer, Service Catalog, Workflow Editor

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## 5. System Requirements

### Hardware Requirements

- Processor: Intel Core i5 or above
- RAM: Minimum 8 GB
- Hard Disk: 500 GB or higher
- Network: Stable Internet connection

### Software Requirements

- Operating System: Windows 10 / Linux / macOS
  - Web Browser: Google Chrome / Mozilla Firefox
  - ServiceNow Developer Instance
  - ServiceNow Account & Studio
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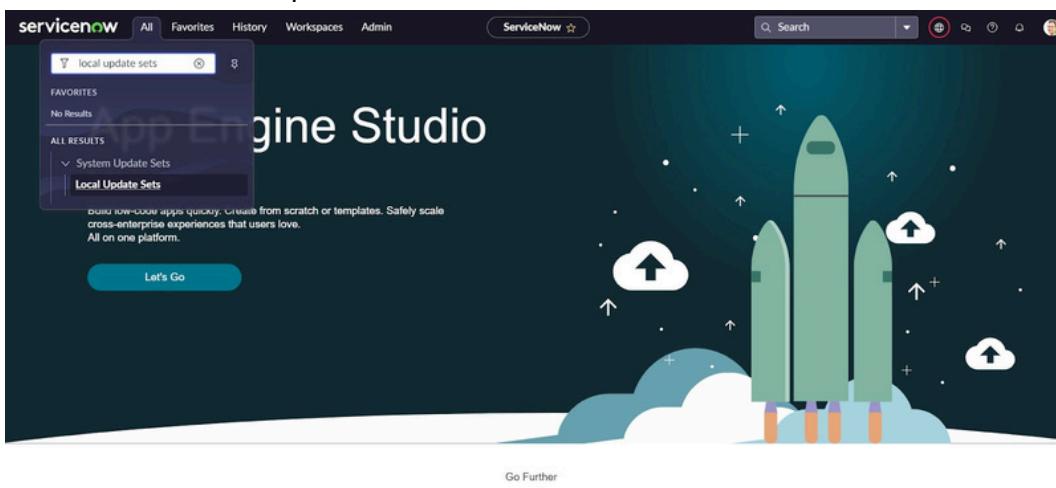
# 6. Project Implementation Steps

## Step 1: Setting up ServiceNow Instance

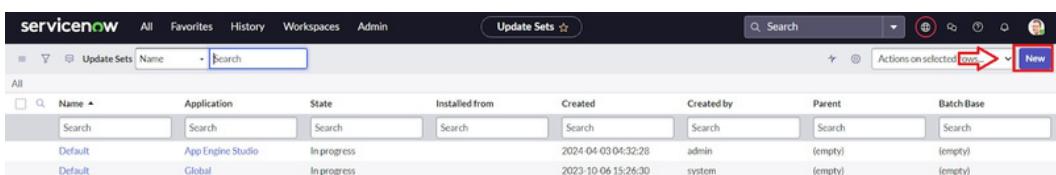
1. Sign up for a developer account on the ServiceNow Developer site "<https://developer.servicenow.com>".
2. Once logged in, navigate to the "Personal Developer Instance" section.
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.
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.

## Step 2: Creating a Update Set

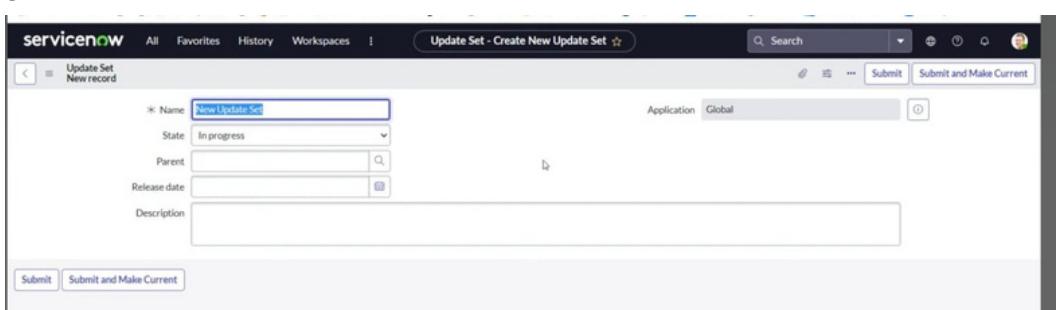
1. Click on All >> Local update sets



2. Click on new



3. Enter the Details Name: Educational Organisation >> Click on Submit and make Current.



## Step 3: Creating Salesforce Table

1. All >> Tables.
2. Click on new
3. Enter the Label(Anything you want): Salesforce >> Click on Name it will Automatically generate Api name.
4. Create columns as given below, Double Click on Column label and Enter the Column labels and click on the tick mark >> Give Type as given .
5. For “Admin Number” Give Display as True and right click on the toggle bar on top >> save.
6. Click on controls >> Enable Extensible.
7. Click on “Admin Number” column, In Related Links Click on Advanced View >> Default View (Enable Use dynamic default) >> select Get Next Padded Number in Dynamic default value >> Update .
8. Click on “Grade” Column >> Click on Choices and give Label, Value and Sequence as given below.

## Step 4: Creating Admission Table

- Create an Admission Table with Columns given.
- Select Extends Table >> Salesforce and also Select Add module to menu >> Salesforce.
- Create Fields as shown

The screenshot shows the ServiceNow interface for creating a new table. At the top, the title bar says "servicenow" and "Table - New Record". The main form has fields for "Label" (Admission), "Name" (u\_admission), and "Extends table" (Salesforce). A red box highlights the "Extends table" field. To the right, there are checkboxes for "Create module" and "Create mobile module", and a dropdown for "Add module to menu" which is also highlighted with a red box and set to "Salesforce". Below the form is a "Columns" tab where various fields are defined:

Column label	Type	Reference	Max length	Default value	Display
Sys ID	Sys ID (GUID)	(empty)	32		false
Admin Status	Choice	(empty)	40		false
Admin Number	Reference	Salesforce	32		false
Area	String	(empty)	40		false
City	String	(empty)	40		false
Comments	String (Full UTF-8)	(empty)	255		false
District	String	(empty)	40		false
Fee	Price	(empty)	20		false
House No	String	(empty)	40		false
Mandal	String	(empty)	40		false
Plecode	Choice	(empty)	40		false
Purpose of join	Choice	(empty)	40		false
School	Choice	(empty)	40		false
School Area	Choice	(empty)	40		false
Class	System Class Name	(empty)	80	javascript:current.getTableName();	false

- Create choice for Admin Status as:

The screenshot shows the 'Dictionary Entry' screen for 'Admin Status'. The 'Choices' tab is selected. The table displays the following data:

Label	Value	Language	Sequence	Inactive	Updated
New	on	en	1	false	2024-04-02 21:10:23
Join in progress	In progress	en	2	false	2024-04-02 21:11:03
Joined	Joined	en	3	false	2024-04-02 21:11:26
Rejected	Rejected	en	4	false	2024-04-02 21:12:00
Closed	Closed	en	5	false	2024-04-02 21:13:09
Rejoined	Rejoined	en	6	false	2024-04-02 21:13:08
Cancelled	Cancelled	en	7	false	2024-04-02 21:13:27

- Create choice for Pincode as:

The screenshot shows the 'Dictionary Entry' screen for 'Pincode'. The 'Choices' tab is selected. The table displays the following data:

Label	Value	Language	Sequence	Inactive	Updated
509258	509258	en	1	false	2024-04-02 21:15:19
500079	500079	en	2	false	2024-04-02 21:15:46
500081	500081	en	3	false	2024-04-02 21:16:05

- Create choice for Purpose of Join as:

The screenshot shows the 'Dictionary Entry' screen for 'Purpose of Join'. The 'Choices' tab is selected. The table displays the following data:

Label	Value	Language	Sequence	Inactive	Updated
Tuition	Tuition	en	1	false	2024-04-02 21:17:09
Coaching	Coaching	en	2	false	2024-04-02 21:17:31
Teacher	Teacher	en	3	false	2024-04-02 21:17:53

- Create choice for School as:

The screenshot shows the 'Dictionary Entry' screen for 'School'. The 'Choices' tab is selected. The table displays the following data:

Label	Value	Language	Sequence	Inactive	Updated
Stanley	Stanley	en	1	false	2024-04-02 21:19:14
Nareesh It	Nareesh It	en	2	false	2024-04-02 21:19:35

- Create choice for School Area as:

The screenshot shows the 'Dictionary Entry' screen for 'School Area'. The 'Choices' tab is selected. The table displays the following data:

Label	Value	Language	Sequence	Inactive	Updated
Near Market	Near Market	en	1	false	2024-04-02 21:20:53
Near Bus Stand	Near Bus Stand	en	2	false	2024-04-02 21:21:24

## Step 5: Creating Student Progress Table

- Create a Student Progress Table with Columns given.
- Select Add module to menu >> Salesforce.
- Create Fields as shown:

The screenshot shows the 'Field Definition' page for the 'Student Progress' table. The table displays the following data:

X	Admission Number	Reference	Salesforce	32	false
X	English	String	(empty)	40	false
X	Hindi	String	(empty)	40	false
X	Maths	String	(empty)	40	false
X	Percentage	String	(empty)	40	false
X	Result	String	(empty)	40	false
X	Science	String	(empty)	40	false
X	Social	String	(empty)	40	false
X	Telugu	String	(empty)	40	false
X	Total	String	(empty)	40	false

## Step 6: Configuring Table form for Student Progress Table

- In the Student Progress Table Page , Click on Layout form .

- Click on Admission Number [+].

- Select below Admission Number fields in Available side and send it to selected side as below >> save.

## Step 7: Creating Form Design for Salesforce Table

1. All >> System Definition >> Tables .
2. In Label Search for Salesforce and open .

The screenshot shows the ServiceNow 'Tables' list view. A search bar at the top has 'salesforce' typed into it. Below the search results, there is a table with columns: Label, Name, Extends table, Extensible, and Updated. The first row, labeled 'salesforce', is selected and highlighted. A red arrow points to the 'Label' column of this row.

3. Right Click on top Toggle >> Configure >> Form Design.

The screenshot shows the 'Table - Salesforce' configuration page. A context menu is open over the table name 'Salesforce'. The 'Configure' option is highlighted. A red arrow points to the 'Form Design' option in the dropdown menu.

4. In drop down select Salesforce(u\_salesforce).

The screenshot shows the 'Form Design' editor for the 'Salesforce' table. A dropdown menu is open above the editor, showing 'Salesforce' and 'Salesforce(u\_salesforce)' as options. A red arrow points to 'Salesforce(u\_salesforce)'. The main editor area displays the form design with various fields and their properties.

5. Drag and drop the fields to the left side as below.

The screenshot shows the 'Form Design' editor with the 'Salesforce(u\_salesforce)' view selected. On the left, a sidebar lists fields like 'Admin Number', 'Admin Date', 'Grade', and 'Student Name'. These fields have been drag-and-dropped into the main 'Fields' section on the right, which is currently set to a 2-column layout.

6. Save

## Step 8: Creating Form Design for Admission Table

- Follow the same Step s as Activity1,Configure the fields as below and Save.

The screenshot shows the 'Form Design' interface for the 'Admission [x\_admission]' table. The left sidebar lists fields like 'Admission Number', 'Class', 'Created', etc. The main area contains several sections: 'Process Flow (Formate)' with fields for Admin Date, Grade, Fee, Father Cell, Mother Cell, and Admin Status; 'Comments'; 'School Details' with School Area; and 'Address' with fields for Postcode, City, and District. Each section has a '1 Col' button and a '2 Col' button.

## Step 9: Creating Form Design for Student progress Table

- Follow the same steps as Activity1,Configure the fields as below and Save.

The screenshot shows the 'Form Design' interface for the 'Student Progress [x\_student]' table. The left sidebar lists fields like 'Class', 'Created', etc. The main area contains two sections: 'New Section' with fields for Admission Number, Grade, Father Name, Mother Name, Father Cell, and Mother Cell; and 'Student Progress' with fields for Telugu, Hindi, English, Maths, Science, Total, Percentage, and Result. Each section has a '1 Col' button and a '2 Col' button.

## Step 10: Creating Number Maintenance for Admin Number

- All >> Number Maintenance >> New

A screenshot of the ServiceNow interface showing the 'Number Maintenance' list. A red arrow points to the 'Number Maintenance' link in the left sidebar. The list table has columns: Reference, Maxlength, Default value, and Display. Data rows include: Created by (String), Created (Date/Time), Sys ID (Sys ID (GUID)), Updates (Integer), and Updated by (String).

- Fill the details >> Submit.

A screenshot of the ServiceNow 'Number Maintenance' creation form for 'Number - SAL'. The form fields are: \* Table (Salesforce), Prefix (SAL), \* Number (1,000), Application (Global), and Number of digits (7). Buttons at the bottom include 'Update' and 'Delete'.

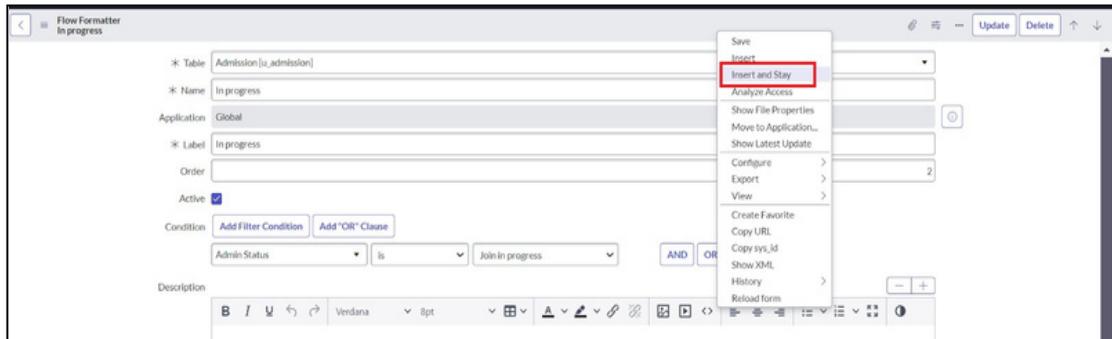
## Step 11: Creating Process Flow for Admission Table

- All >> Process Flow >> New.
- Fill the Details as given Below

A screenshot of the ServiceNow 'Flow Formatter' creation form for a new process flow. The form fields are: \* Table (Admission [u\_admission]), \* Name (New), Application (Global), \* Label (New), Order (0), Active (checked), Condition (Admin Status is New), and Description (empty). A context menu is open over the form, showing options like Save, Insert, Analyze Access, and Configure. Buttons at the bottom include 'Update' and 'Delete'.

- Right Click on toggle and click on the save .

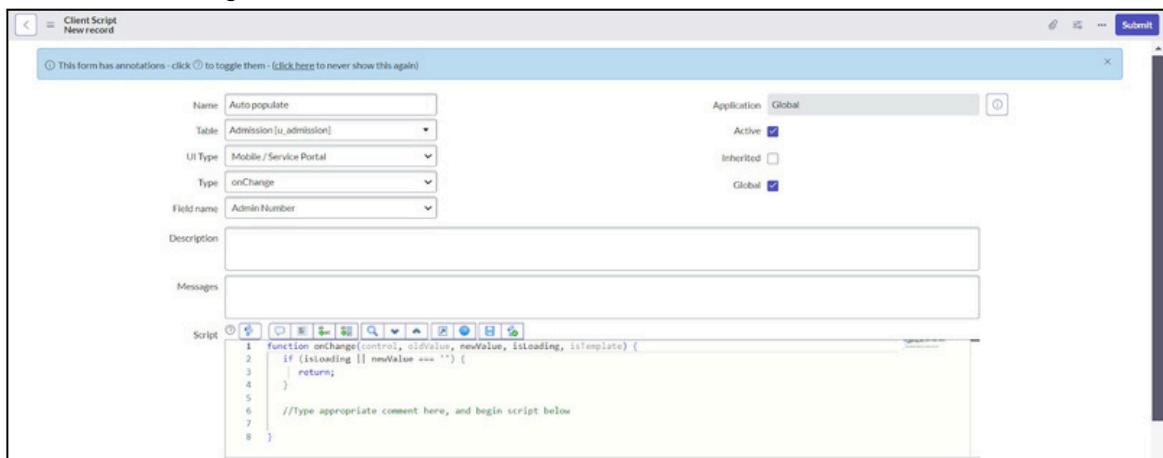
- Replace the Name and Label as below and click on Insert on stay.



- Replace the Name and Label in order and click on Insert on stay.  
Joined >> Rejected >> Rejoined >> Closed >> Cancelled.
- Order should be New >> InProgress >> Joined >> Rejected >> Rejoined >> Closed >> Cancelled.

## Step 12: Creating “Auto populate” Client Scripts for Admission Table

- All >> Client Scripts >> New.
- Fill the Details as given.



- Write the Code as below, Enable Isolate script and Save.
- ```

function onChange(control, oldValue, newValue, isLoading, isTemplate) {
    if (isLoading || newValue === '') {
        return;
    }
}

```

```

//Type appropriate comment here, and begin script below
var a = g_form.getReference('u_admission_number');
g_form.setValue('u_admin_date',a.u_admin_date);
g_form.setValue('u_grade',a.u_grade);
g_form.setValue('u_student_name',a.u_student_name);
g_form.setValue('u_father_name',a.u_father_name);

```

```

g_form.setValue('u_mother_name',a.u_mother_name);
g_form.setValue('u_father_cell',a.u_father_cell);
g_form.setValue('u_mother_cell',a.u_mother_cell);

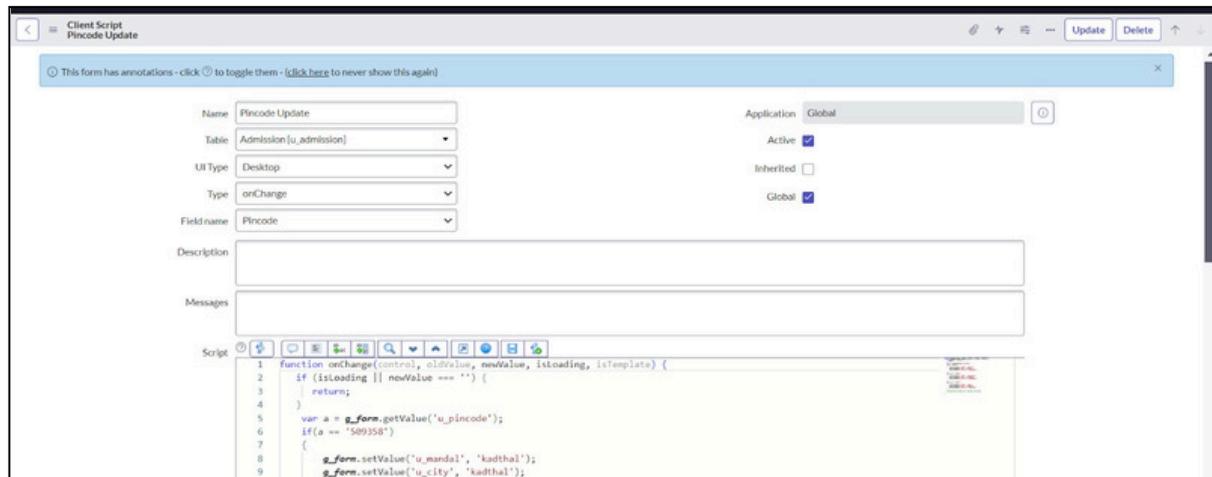
g_form.setDisabled('u_admin_date',a.u_admin_date);
g_form.setDisabled('u_grade',a.u_grade);
g_form.setDisabled('u_student_name',a.u_student_name);
g_form.setDisabled('u_father_name',a.u_father_name);
g_form.setDisabled('u_mother_name',a.u_mother_name);
g_form.setDisabled('u_father_cell',a.u_father_cell);
g_form.setDisabled('u_mother_cell',a.u_mother_cell);
}

```

**Note:** Make sure the Field names should be the same as you created .

## Step 13: Creating “Pincode Update” Client Scripts for Admission Table

- Fill the Details as given.



- Write the Code as below, Enable Isolate script and Save.

```

function onChange(control, oldValue, newValue, isLoading, isTemplate) {
    if (isLoading || newValue === "") {
        return;
    }
    var a = g_form.getValue('u_pincode');
    if(a == '509358')
    {
        g_form.setValue('u_mandal', 'kadthal');
        g_form.setValue('u_city', 'kadthal');
        g_form.setValue('u_district', 'RangaReddy');
    }
}

```

```

}
else if(a == '500081')
{
g_form.setValue('u_mandal', 'karmanghat');
g_form.setValue('u_city', 'karmanghat');
g_form.setValue('u_district', 'RangaReddy');

}

else if(a == '500079')
{
g_form.setValue('u_mandal', 'Abids');
g_form.setValue('u_city', 'AsifNagar');
g_form.setValue('u_district', 'Hyderabad');
}

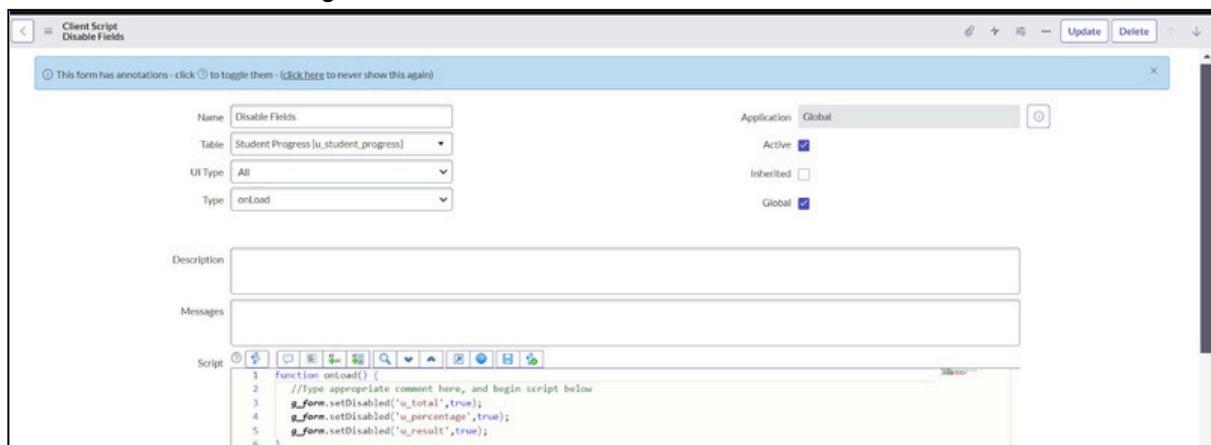
```

//Type appropriate comment here, and begin script below

```
}
```

## Step 14: Creating “Disable Fields” Client Scripts for Student progress Table

- Fill the Details as given.



- Write the Code as below, Enable Isolate script and Save.

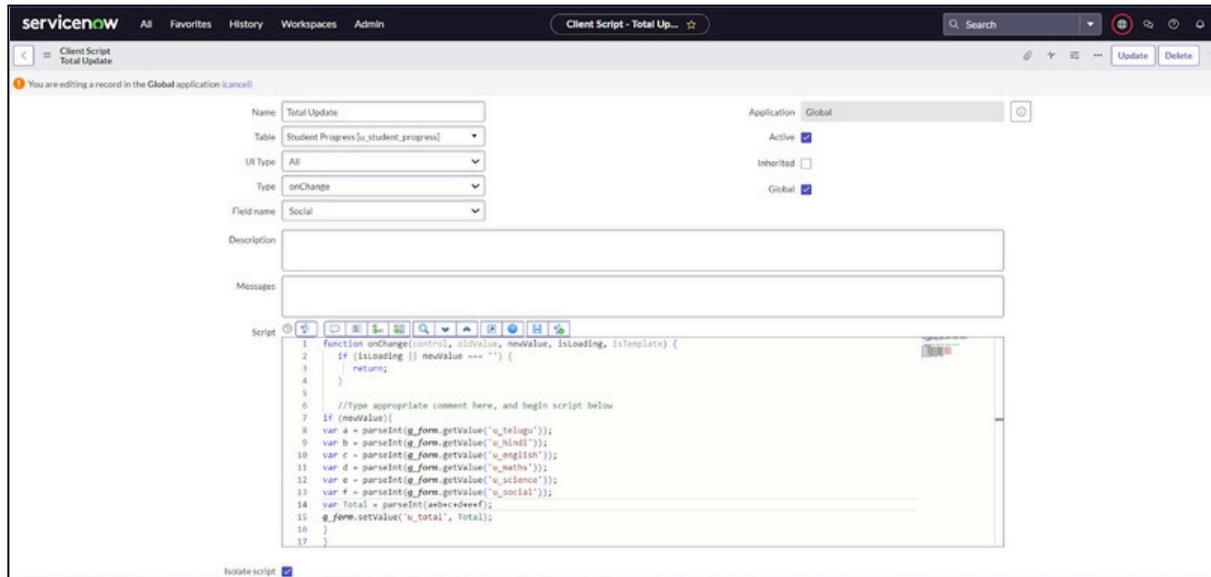
```

function onLoad() {
//Type appropriate comment here, and begin script below
g_form.setDisabled('u_total',true);
g_form.setDisabled('u_percentage',true);
g_form.setDisabled('u_result',true);
}

```

## Step 15: Creating “Total Update” Client Scripts for Student progress Table

- Fill the Details as given.



- Write the Code as below, Enable Isolate script and Save.

```
function onChange(control, oldValue, newValue, isLoading, isTemplate) {
```

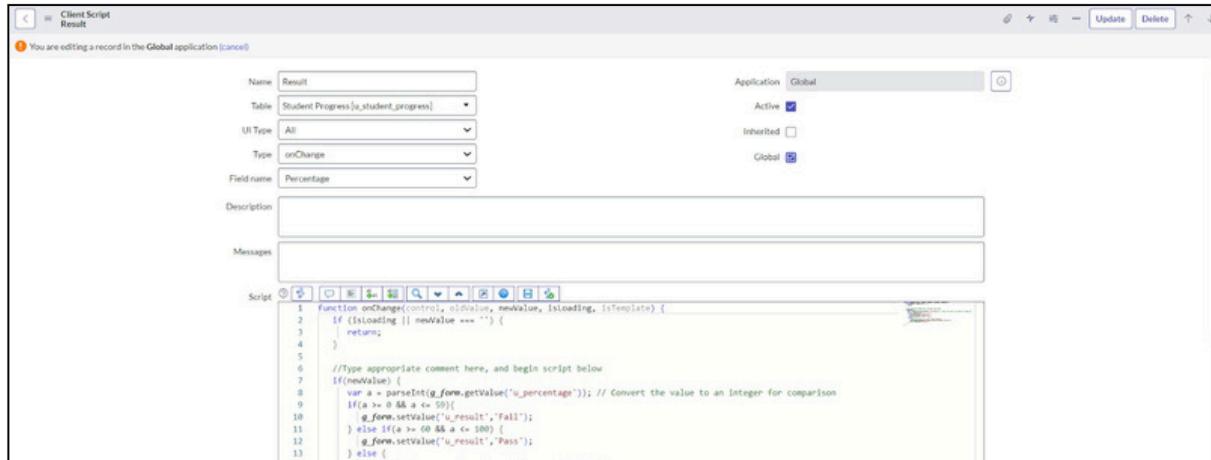
```
    if (isLoading || newValue === "") {
        return;
    }
```

```
//Type appropriate comment here, and begin script below
```

```
if (newValue){
    var a = parseInt(g_form.getValue('u_telugu'));
    var b = parseInt(g_form.getValue('u_hindi'));
    var c = parseInt(g_form.getValue('u_english'));
    var d = parseInt(g_form.getValue('u_maths'));
    var e = parseInt(g_form.getValue('u_science'));
    var f = parseInt(g_form.getValue('u_social'));
    var Total = parseInt(a+b+c+d+e+f);
    g_form.setValue('u_total', Total);
}
```

## Step 16: Creating “Result” Client Scripts for Student progress Table

- Fill the Details as given.

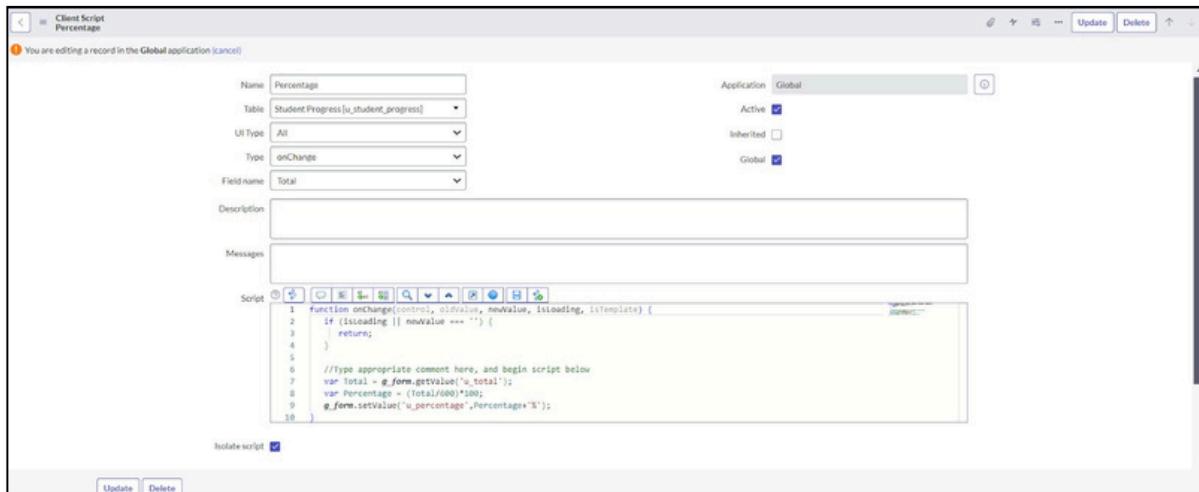


- Write the Code as below, Enable Isolate script and Save.

```
function onChange(control, oldValue, newValue, isLoading, isTemplate) {
    if (isLoading || newValue === "") {
        return;
    }
    //Type appropriate comment here, and begin script below
    if(newValue) {
        var a = parseInt(g_form.getValue('u_percentage')); // Convert the value to an
        integer for comparison
        if(a >= 0 && a <= 59){
            g_form.setValue('u_result','Fail');
        } else if(a >= 60 && a <= 100) {
            g_form.setValue('u_result','Pass');
        } else {
            // Handle the case if a is out of range (optional)
            g_form.addErrorMessage('Percentage should be between 0 and 100.');
            g_form.clearValue('u_result');
        }
    }
}
```

## Step 17: Creating “Percentage” Client Scripts for Student progress Table

- Fill the Details as given.



- Write the Code as below, Enable Isolate script and Save.

```
function onChange(control, oldValue, newValue, isLoading, isTemplate) {
    if (isLoading || newValue === '') {
        return;
    }

    //Type appropriate comment here, and begin script below
    var Total = g_form.getValue('u_total');
    var Percentage = (Total/600)*100;
    g_form.setValue('u_percentage',Percentage+'%');
}
```

## 7. Conclusion:

- The Educational Organisation Using ServiceNow project effectively automates and streamlines key administrative tasks in educational institutions. By integrating ServiceNow for workflow management and TensorFlow for data analysis, the system ensures efficient handling of student and teacher data, smooth admissions, and improved decision-making. Overall, it provides a reliable and scalable solution for modern educational management.

## 8. Result:

The image displays three separate ServiceNow application windows, each showing a form for data entry:

- Educational Organisation Form:** This window shows fields for Name (set to "Educational Organisation"), State (set to "In progress"), Parent (with a search icon), Release date (with a calendar icon), and Description (a large text area). Buttons at the bottom include "Submit" and "Submit and Make Current".
- Salesforce Form:** This window shows fields for Admin Number (set to "SAL0001002"), Admin Date (with a calendar icon), Grade (set to "-- None --"), Student Name, Father Name, Mother Name, Father Cell, Mother Cell, and a "Submit" button.
- Student Progress Form:** This window shows fields for Maths, Science, English, Result, Percentage, Admission Number, Hindi, Social, Total, and Telugu. There is also a search bar for Admission Number and a "Submit" button.