

M.A.M ENGINEERING OF COLLEGE

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

**Project Title : Educational Organisation Using
ServiceNow**

Team ID: NM2025TMID04717

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Educational Organisation Using ServiceNow

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.

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.

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.

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

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

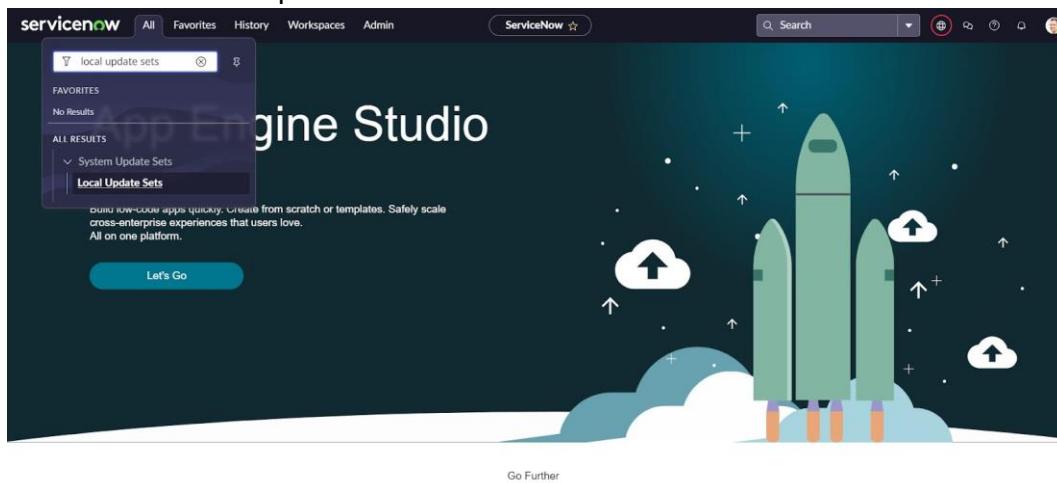
6. Project Implementation Steps

Step 1: Setting up ServiceNow Instance

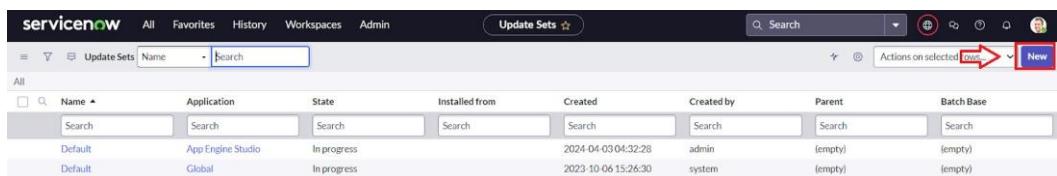
1. Sign up for a developer account on the ServiceNow Developer site "<https://developer.servicenow.com>".
2. Once logged in, navigate to the "Personal Developer Instance" section.
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.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

A screenshot of the ServiceNow 'Update Set - Create New Update Set' form. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Update Sets'. A search bar at the top right contains the text 'Search'. The form fields include:

- * Name:
- State:
- Parent:
- Release date:
- Description:

At the bottom of the form are two buttons: 'Submit' and 'Submit and Make Current'. The 'Submit and Make Current' button has a red box around it.

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 Table - New Record interface. At the top, there are fields for Label ('Admission') and Name ('u_admission'). Below these, a dropdown menu 'Extends table' is set to 'Salesforce'. On the right side, application settings include 'Application: Global', 'Create module: checked', 'Create mobile module: checked', and 'Add module to menu' set to 'Salesforce'. A yellow banner at the top states: 'ServiceNow recommends creating custom tables in scoped applications. To learn more about creating scoped applications, click here.' Another note below says: 'This form has annotations - click ⓘ to toggle them - (click here to never show this again)'.

Table Columns

Column label	Type	Reference	Max length	Default value	Display
Sys ID	Sys ID (GUID)	(empty)	32		false
Admin Status	Choice	(empty)	40		false
Admission 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
Pincode	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 ServiceNow Dictionary Entry screen for 'Admin Status'. It lists several choices: 'New', 'In progress', 'Joined', 'Rejected', 'Closed', 'Rejoined', and 'Cancelled'. Each choice has a value, language (en), sequence (1-7), and update timestamp (e.g., 2024-04-02 21:10:25).

Label	Value	Language	Sequence	Inactive	Updated
New	New	en	1	false	2024-04-02 21:10:25
In progress	In progress	en	2	false	2024-04-02 21:11:26
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 21:13:05
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 ServiceNow Dictionary Entry screen for 'Pincode'. It lists three choices: '509358', '500079', and '500081'. Each choice has a value, language (en), sequence (1-3), and update timestamp (e.g., 2024-04-02 21:15:46).

Label	Value	Language	Sequence	Inactive	Updated
509358	509358	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 ServiceNow Dictionary Entry screen for 'Purpose of Join'. It lists three choices: 'Tuition', 'Coaching', and 'Teacher'. Each choice has a value, language (en), sequence (1-3), and update timestamp (e.g., 2024-04-02 21:17:53).

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:

Step

Access Controls										
Choices (2)		Attributes		Labels (1)		Dictionary Overrides				
<input type="button" value="Actions on selected rows..."/> <input type="button" value="New"/>										
Choices										
<input type="checkbox"/>	<input type="text" value="Label"/>	<input type="text" value="Value"/>	<input type="text" value="Language"/>	<input type="text" value="Sequence"/>	<input checked="checked" type="checkbox" value="Inactive"/>	<input type="text" value="Updated"/>				
	Stanley	Stanley	en	1	<input checked="checked" type="checkbox" value="false"/>	2024-04-02 21:19:14				
	Naresh It	Naresh It	en	2	<input checked="checked" type="checkbox" value="false"/>	2024-04-02 21:19:35				
<input type="button" value="Insert a new row..."/>										

- Create choice for School Area as:

Access Controls										
Choices (2)		Attributes		Labels (1)		Dictionary Overrides				
<input type="button" value="Actions on selected rows..."/> <input type="button" value="New"/>										
Choices										
<input type="checkbox"/>	<input type="text" value="Label"/>	<input type="text" value="Value"/>	<input type="text" value="Language"/>	<input type="text" value="Sequence"/>	<input checked="checked" type="checkbox" value="Inactive"/>	<input type="text" value="Updated"/>				
	Near Market	Near Market	en	1	<input checked="checked" type="checkbox" value="false"/>	2024-04-02 21:20:53				
	Near Bus Stand	Near Bus Stand	en	2	<input checked="checked" type="checkbox" value="false"/>	2024-04-02 21:21:24				
<input type="button" value="Insert a new row..."/>										

Step 5: Creating Student Progress Table

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

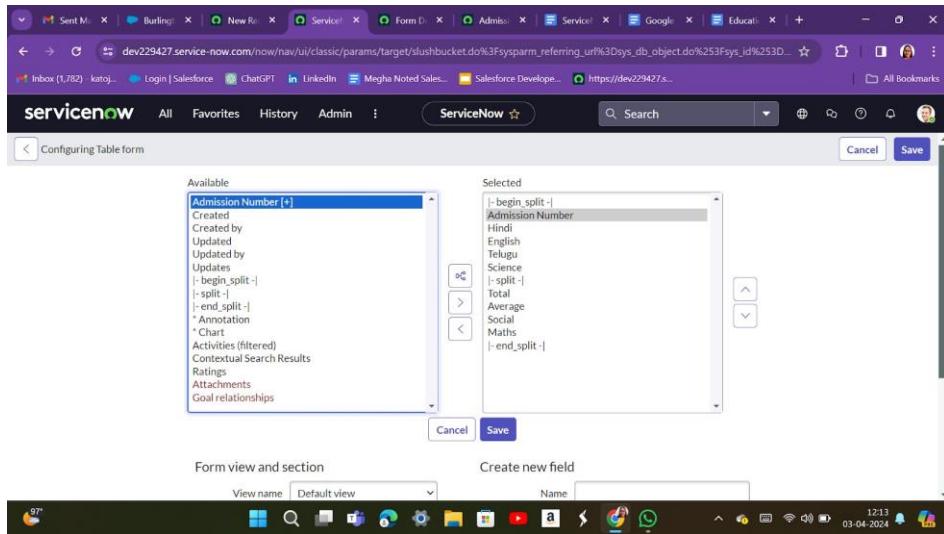
<input type="checkbox"/>	Admission Number	Reference	Salesforce	32	false
<input type="checkbox"/>	English	String	(empty)	40	false
<input type="checkbox"/>	Hindi	String	(empty)	40	false
<input type="checkbox"/>	Maths	String	(empty)	40	false
<input type="checkbox"/>	Percentage	String	(empty)	40	false
<input type="checkbox"/>	Result	String	(empty)	40	false
<input type="checkbox"/>	Science	String	(empty)	40	false
<input type="checkbox"/>	Social	String	(empty)	40	false
<input type="checkbox"/>	Telugu	String	(empty)	40	false
<input type="checkbox"/>	Total	String	(empty)	40	false
<input type="button" value="Insert a new row..."/>					

6: Configuring Table form for Student Progress Table

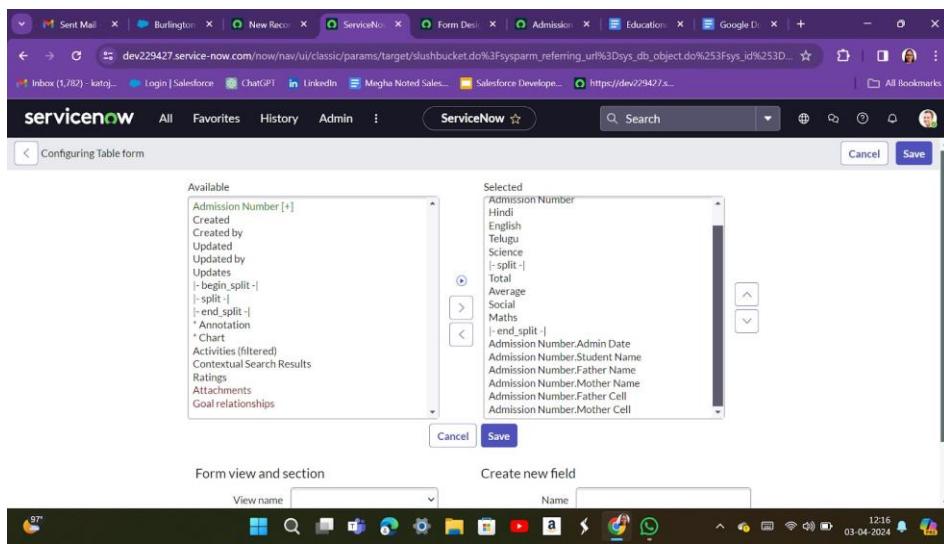
- In the Student Progress Table Page , Click on Layout form .

Table student progress					
<input type="checkbox"/>	Telugu	String	(empty)	40	40
<input type="checkbox"/>	Total	String	(empty)	40	40
<input type="button" value="Insert a new row..."/>					
<input type="button" value="Update"/>	<input type="button" value="Delete"/>	<input type="button" value="Delete All Records"/>			
Related Links					
Design Form Layout Form Layout List Show Form Show List Show Schema Map Add to Service Catalog Run Point Scan Explore REST API					

- 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 screen with a search bar at the top. A search result for 'salesforce' is highlighted with a red arrow pointing to the 'Label' column.

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

The screenshot shows the ServiceNow Table - Salesforce screen. A context menu is open over the 'Label' field, with 'Configure' selected. The 'Configure' option is highlighted with a red arrow.

In drop down select Salesforce(u_salesforce).

The screenshot shows the ServiceNow Form Design screen. A context menu is open over the 'Label' field, with 'Configure' selected. The 'Configure' option is highlighted with a red arrow.

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

The screenshot shows the ServiceNow Form Design screen with several fields (Admin Number, Admin Date, Grade, Student Name) already placed in the main design area.

6. Save
- 3.

Step

4.

5.

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 [s_admission]' table. On the left, there's a sidebar with tabs for 'Fields' and 'Form Types'. Under 'Fields', a list of fields is shown: Admin Number, Class, Created, Created by, Updated by, Updated at, and Updates. Under 'Form Types', there are links to 'Activities (Thread)', 'Contextual Search Results', and 'Ratings'. The main area is titled 'Form Design' and contains several sections: 'Admission [s_admission]' (with a 'Process Flow (Formatter)' dropdown), 'Comments' (with a 'Comments' section), 'School Details' (with 'School Area' and 'School' fields), and 'Address' (with 'Pincode', 'Ward', and 'District' fields). Each field has a small icon and a 'Data' dropdown arrow to its right.

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 with two main sections: 'New Section' and 'Student Progress'. The 'New Section' section contains a grid of fields for 'Admission Number' (Grade, Father Name, Mother Name, Student Name) and their corresponding 'Cell' fields. The 'Student Progress' section contains a grid of fields for various subjects (Telugu, Hindi, English, Maths, Science) with 'Total', 'Percentage', and 'Result' fields.

Step 10: Creating Number Maintenance for Admin Number

- All >> Number Maintenance >> New

The screenshot shows the ServiceNow search results for 'Number Maintenance'. A red arrow points to the first entry in the list, which is 'Number Maintenance'.

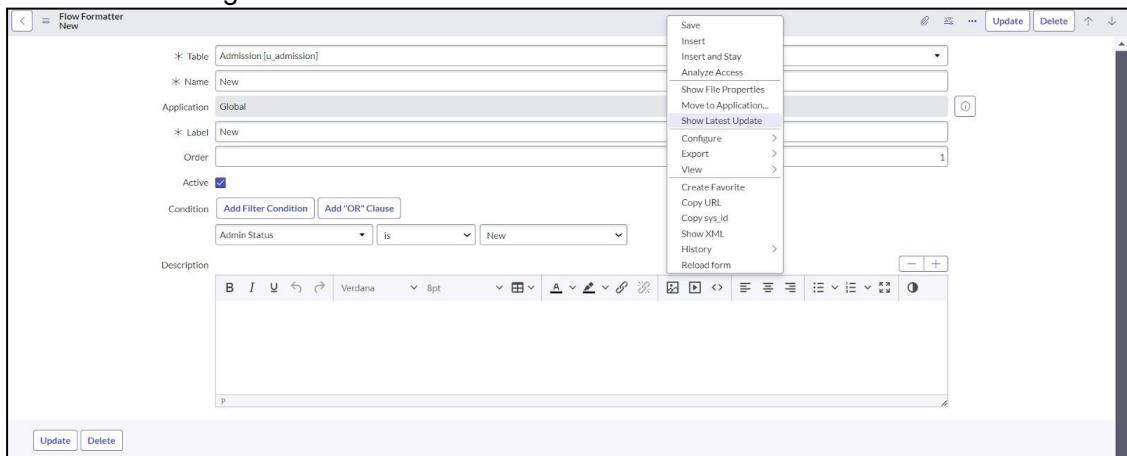
- Fill the details >> Submit.

The screenshot shows the 'Number - SAL' record creation page. The 'Table' field is set to 'Salesforce', 'Prefix' is 'SAL', 'Number' is '1.000', 'Application' is 'Global', and 'Number of digits' is '7'.

Step 11: Creating Process Flow for Admission Table

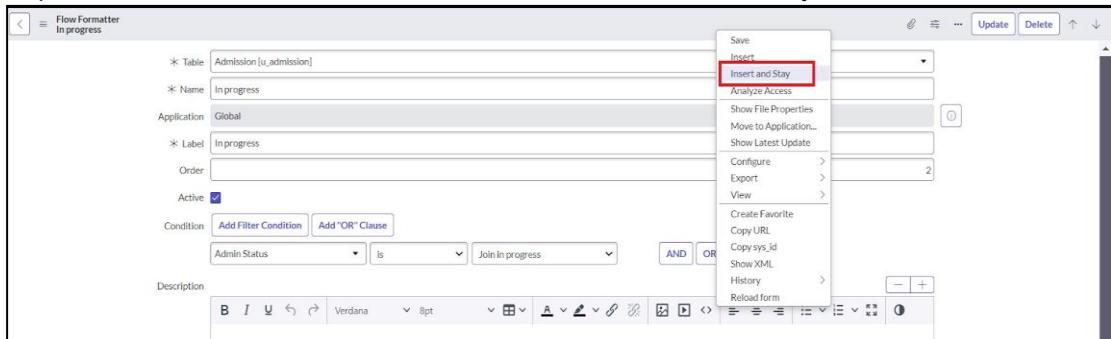
Step

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



- Right Click on toggle and click on the save .

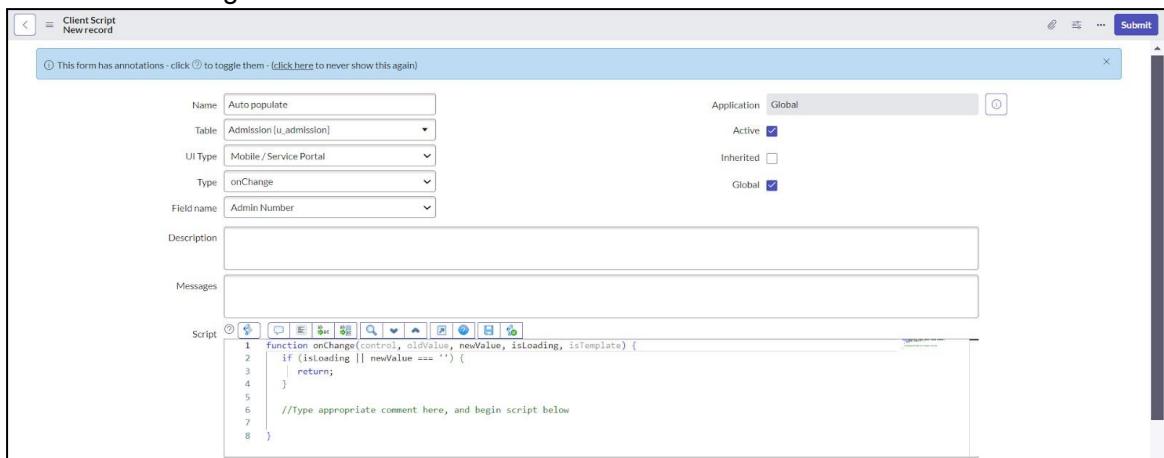
- Replace the Name and Label as below and click on Insert on stay.



- 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);

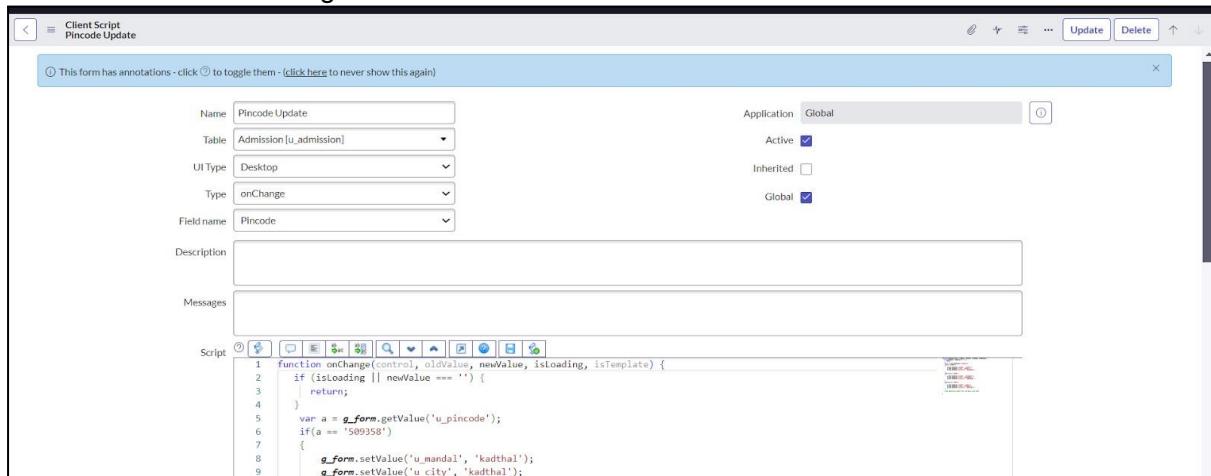
g_form.setDisabled('u_admin_date',a.u_admin_date);
g_form.setDisabled('u_grade',a.u_grade);
g_form.setDisabled('u_student_name',a.u_student_name);
g_form.setDisabled('u_father_name',a.u_father_name);
g_form.setDisabled('u_mother_name',a.u_mother_name);
g_form.setDisabled('u_father_cell',a.u_father_cell);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



```

{
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');
}

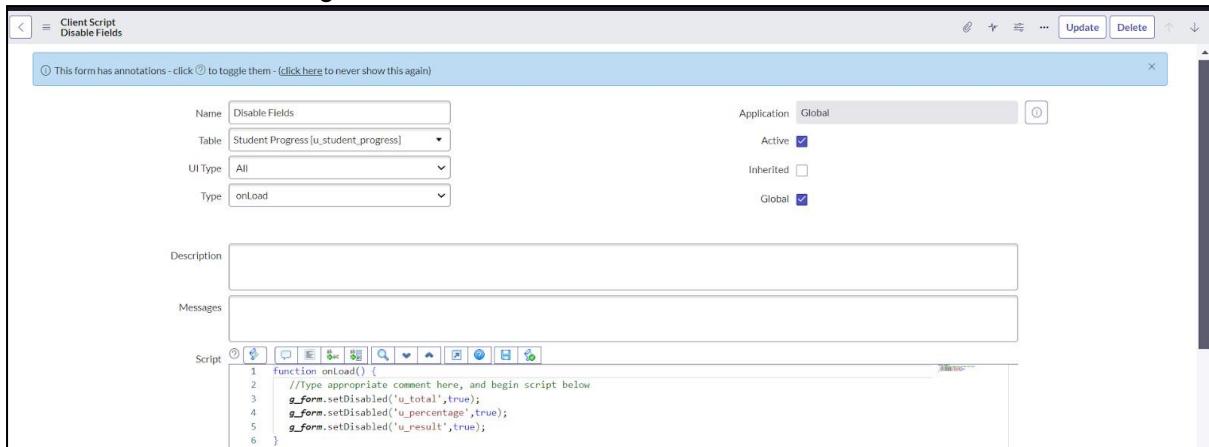
```

//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 Creating

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

- Fill the Details as given.

The screenshot shows the ServiceNow Client Script configuration page for a record named "Total Update". The configuration includes:

- Name: Total Update
- Table: Student Progress [u_student_progress]
- UI Type: All
- Type: onChange
- Field name: Social
- Application: Global
- Active: checked
- Inherited: unchecked
- Global: checked

The "Script" tab contains the following JavaScript code:

```
function onChange(control, oldValue, newValue, isLoading, isTemplate) {
    if (isLoading || newValue === '') {
        return;
    }
    //Type appropriate comment here, and begin script below
    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);
}
```

The "Isolate script" checkbox is checked.

- Write the Code as below, Enable Isolate script and Save. function
onChange(control, oldValue, newValue, isLoading, isTemplate) { if
(isLoading || newValue === "") { return;
}

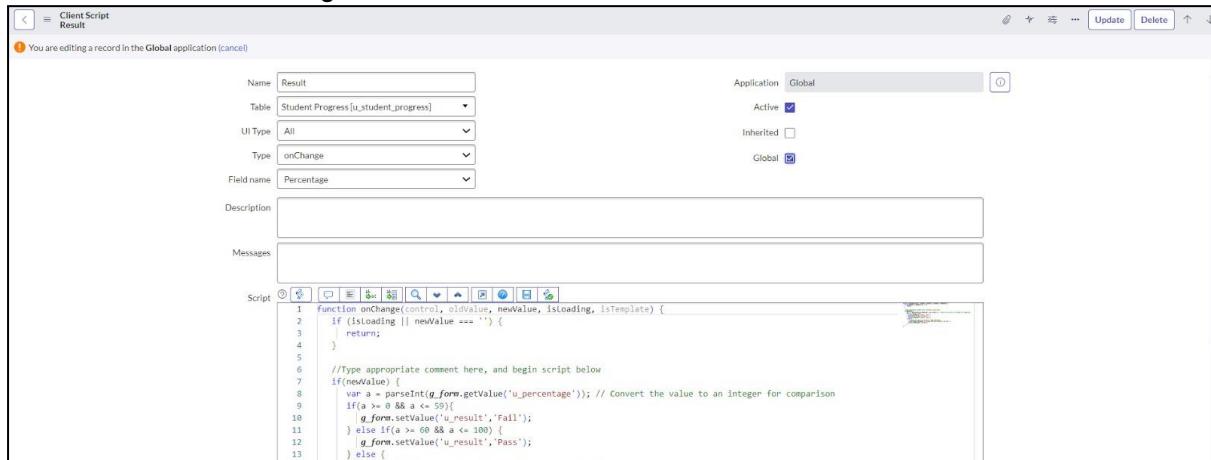
//Type appropriate comment here, and begin script below
if (newValue){ var a =

```
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 Creating

16: “Result” Client Scripts for Student progress Table

- Fill the Details as given.



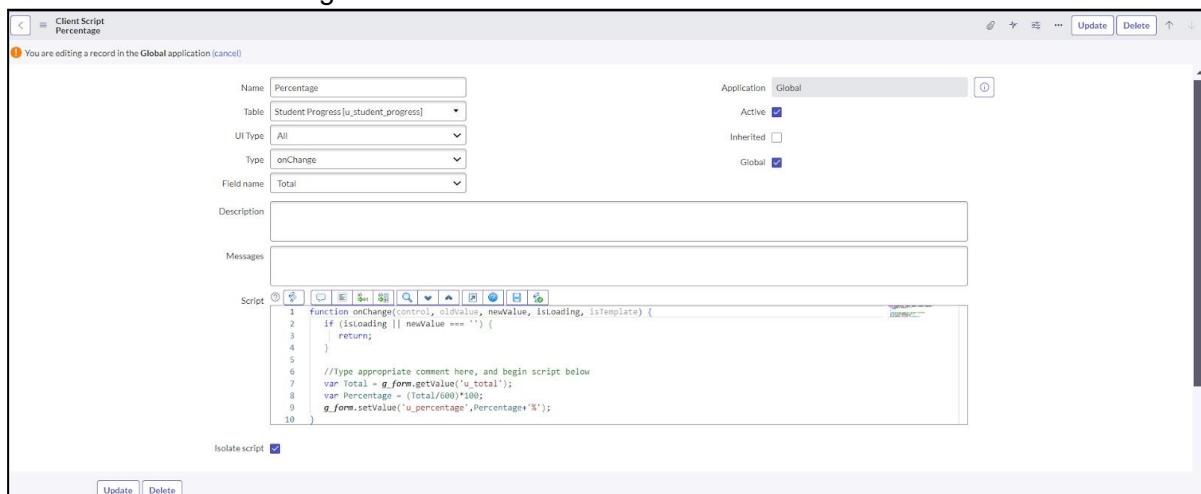
- Write the Code as below, Enable Isolate script and Save. function

```
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 Creating

17: “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 'New record' form.

Educational Organisation Record (Top Window):

- Name:** Educational Organisation
- State:** In progress
- Parent:** (Search field)
- Release date:** (Search field)
- Description:** (Text area)

Salesforce Record (Middle Window):

- Admin Number:** SAL0001002
- Admin Date:** (Search field)
- Grade:** -- None --
- Student Name:** (Search field)
- Father Name:** (Search field)
- Mother Name:** (Search field)
- Father Cell:** (Search field)
- Mother Cell:** (Search field)

Student Progress Record (Bottom Window):

- Maths:** (Text field)
- Science:** (Text field)
- English:** (Text field)
- Result:** (Text field)
- Percentage:** (Text field)
- Admission Number:** (Text field)
- Hindi:** (Text field)
- Social:** (Text field)
- Total:** (Text field)
- Telugu:** (Text field)

