

# 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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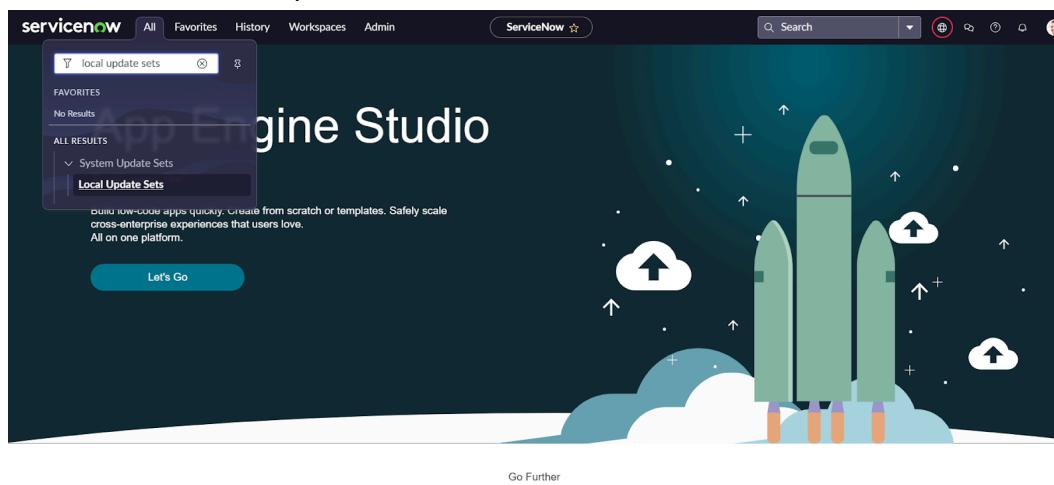
# 6. Project Implementation Steps

## Step 1: Setting up ServiceNow Instance

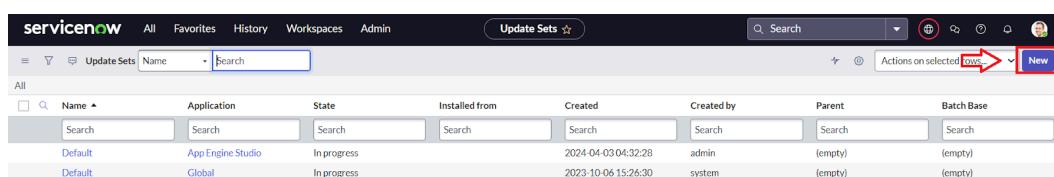
1. Sign up for a developer account on the ServiceNow Developer site "<https://developer.servicenow.com>".
2. Once logged in, navigate to the "Personal Developer Instance" section.
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.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

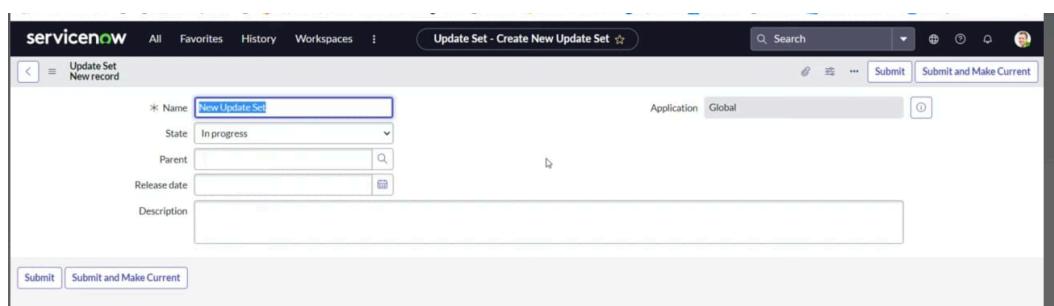
1. Click on All >> Local update sets



2. Click on new



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

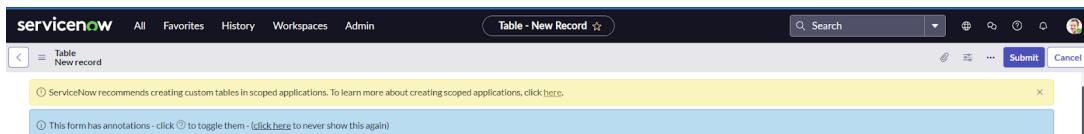


## Step 3: Creating Salesforce Table

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



ServiceNow All Favorites History Workspaces Admin Table - New Record Search ... Submit Cancel

Table - New Record

Label: Admission

Name: u\_admission

Extends table: **Salesforce**

Add module to menu: **Salesforce**

Columns Controls Application Access

Table Columns: for text

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

Table - Admission

Columns Controls Application Access

Table Columns: for text

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:

Dictionary Entry						
Admin Status						
<a href="#">Create Choice List</a> <a href="#">Delete Column</a> <a href="#">Update</a>						
Related Links						
New	New	en	1	false	2024-04-02 21:10:25	
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 21:13:05	
Rejoined	Rejoined	en	6	false	2024-04-02 21:13:08	
Cancelled	Cancelled	en	7	false	2024-04-02 21:13:27	
<a href="#">Insert a new row...</a>						

- Create choice for Pincode as:

Dictionary Entry						
Pincode						
<a href="#">Create Choice List</a> <a href="#">Delete Column</a> <a href="#">Update</a>						
Related Links						
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	
<a href="#">Insert a new row...</a>						

- Create choice for Purpose of Join as:

Dictionary Entry						
Purpose of Join						
<a href="#">Create Choice List</a> <a href="#">Delete Column</a> <a href="#">Update</a>						
Related Links						
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	
<a href="#">Insert a new row...</a>						

- Create choice for School as:

Dictionary Entry						
School						
<a href="#">Create Choice List</a> <a href="#">Delete Column</a> <a href="#">Update</a>						
Related Links						
Stanley	Stanley	en	1	false	2024-04-02 21:19:14	
Nareesh It	Nareesh It	en	2	false	2024-04-02 21:19:35	
<a href="#">Insert a new row...</a>						

- Create choice for School Area as:

Dictionary Entry						
School Area						
<a href="#">Create Choice List</a> <a href="#">Delete Column</a> <a href="#">Update</a>						
Related Links						
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	
<a href="#">Insert a new row...</a>						

## Step 5: Creating Student Progress Table

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

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
<a href="#">Insert a new row...</a>					

## 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 red arrow points to the search bar at the top, which contains the text 'salesforce'.

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

The screenshot shows the ServiceNow Table - Salesforce configuration page. A red arrow points to the 'Configure' context menu, specifically to the 'Form Design' option which is highlighted.

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

The screenshot shows the ServiceNow Form Design editor. A red arrow points to the 'Fields' panel on the left, where 'Salesforce' is selected from a dropdown menu. The main canvas displays the form structure with various fields like Admin Number, Admin Date, Grade, and Student Name.

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

The screenshot shows the ServiceNow Form Design editor with the fields rearranged. The fields are now grouped into two columns: 'Admin Number', 'Admin Date', 'Grade', and 'Student Name' in the first column, and 'Father Name', 'Mother Name', 'Father Cell', and 'Mother Cell' in the second column.

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 contains navigation tabs for 'Fields' and 'Field Types', and sections for 'Filter', 'Fields' (listing 'Admin Number', 'Class', 'Created', 'Created by', 'Updated', 'Updated by', 'Updates'), 'Formatters' (listing 'Activities (Filtered)', 'Contextual Search Results', 'Ratings'), and 'Formatters' (listing 'Activities (Filtered)', 'Contextual Search Results', 'Ratings'). The main area is titled 'Form Design' and contains a grid of fields grouped into sections: 'Admission [x\_admission]', 'Process Flow (Formatter)', 'Comments', 'School Details', and 'Address'. Each section contains multiple fields, each with a configuration icon (gear) and a dropdown menu for '1 Column' or '2 Column' layout.

## 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\_stude]' table. The left sidebar contains navigation tabs for 'Fields' and 'Field Types', and sections for 'Filter', 'Fields' (listing 'Class', 'Created', 'Created by', 'Social', 'Updated', 'Updated by', 'Updates'), 'Formatters' (listing 'Activities (Filtered)', 'Contextual Search Results', 'Ratings'), and 'Formatters' (listing 'Activities (Filtered)', 'Contextual Search Results', 'Ratings'). The main area is titled 'Form Design' and contains a grid of fields grouped into sections: 'New Section' and 'Student Progress'. The 'New Section' section contains fields for 'Admission Number', 'Admission Number Grade', 'Admission Number Student Name', 'Admission Number Father Name', 'Admission Number Mother Name', 'Admission Number Father Cell', and 'Admission Number Mother Cell'. The 'Student Progress' section contains fields for 'Telugu', 'Hindi', 'English', 'Maths', 'Science', 'Total', 'Percentage', and 'Result'. Each field has a configuration icon (gear) and a dropdown menu for '1 Column' or '2 Column' layout.

## Step 10: Creating Number Maintenance for Admin Number

- All >> Number Maintenance >> New

The screenshot shows the ServiceNow interface with the search bar set to 'number'. The results table has a single row labeled 'Number Maintenance' highlighted with a red box and a blue arrow pointing to it. The table includes columns for Reference, Max length, Default value, and Display.

	Reference	Max length	Default value	Display
Created by	String	(empty)	80 Javascript:current.getTableName();	false
Created	Date/Time	(empty)	40	false
Sys ID	Sys ID (GUID)	(empty)	32	false
Updates	Integer	(empty)	40	false
Updated by	String	(empty)	40	false
Number Maintenance				

- Fill the details >> Submit.

The screenshot shows the 'Number - SAL' configuration page. It includes fields for Table (Salesforce), Prefix (SAL), Number (1,000), Application (Global), and Number of digits (7). The 'Update' and 'Delete' buttons are visible at the bottom.

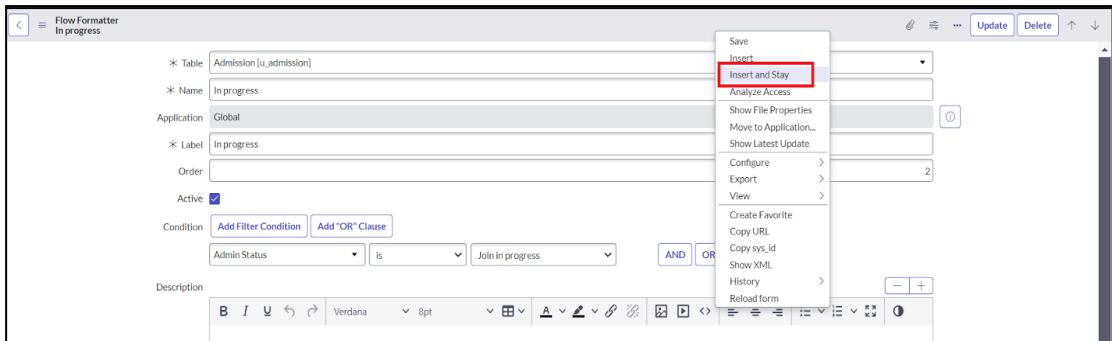
## Step 11: Creating Process Flow for Admission Table

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

The screenshot shows the 'Flow Formatter' configuration page for the 'Admission [u\_admission]' table. The 'Name' field is set to 'New'. A context menu is open over the 'New' entry, showing options like Save, Insert, Analyze Access, and View. The 'View' option is highlighted. Other options include Configure, Export, and Create Favorite.

- Right Click on toggle and click on the save .

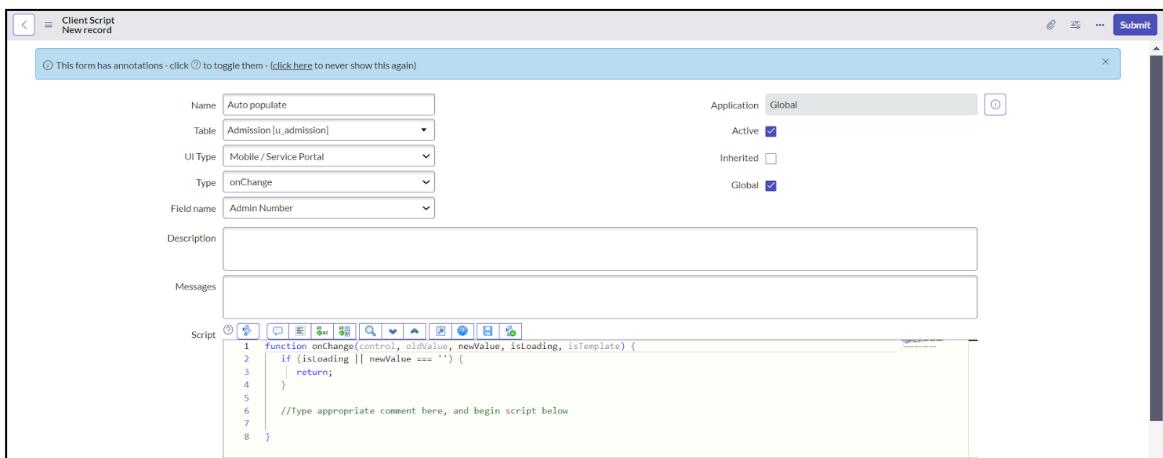
- Replace the Name and Label as below and click on Insert on stay.



- 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);

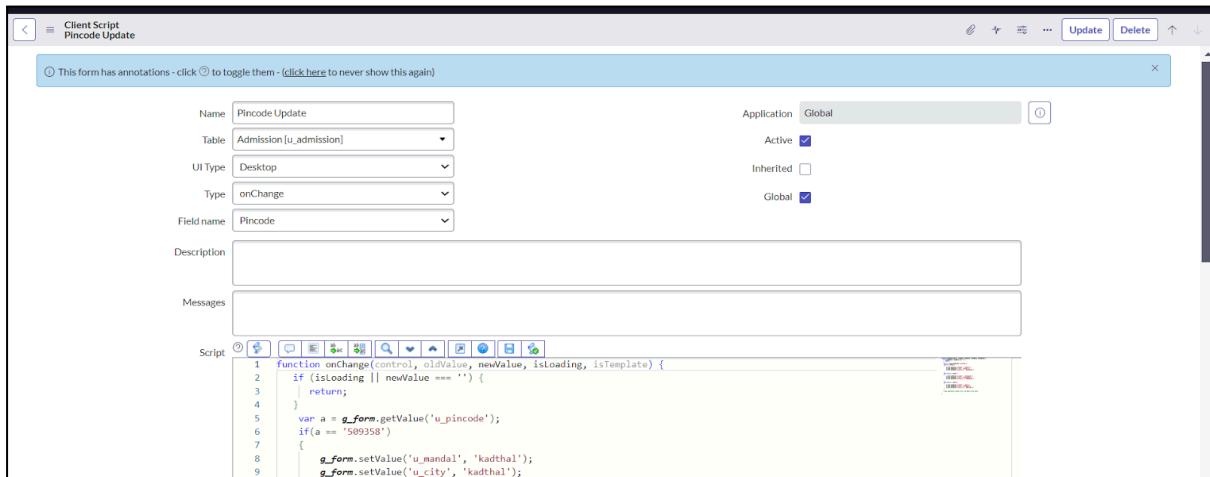
g_form.setDisabled('u_admin_date',a.u_admin_date);
g_form.setDisabled('u_grade',a.u_grade);
g_form.setDisabled('u_student_name',a.u_student_name);
g_form.setDisabled('u_father_name',a.u_father_name);
g_form.setDisabled('u_mother_name',a.u_mother_name);
g_form.setDisabled('u_father_cell',a.u_father_cell);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

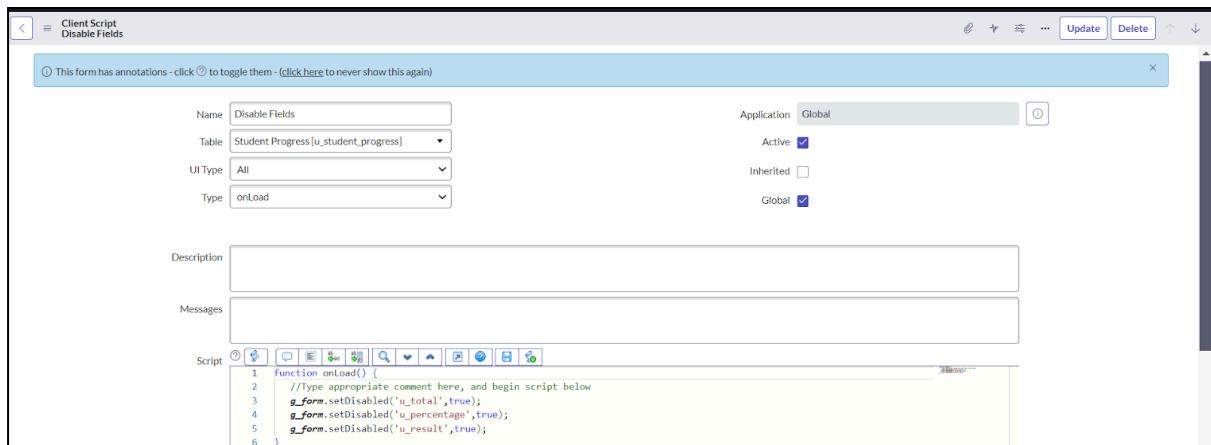
```

//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.

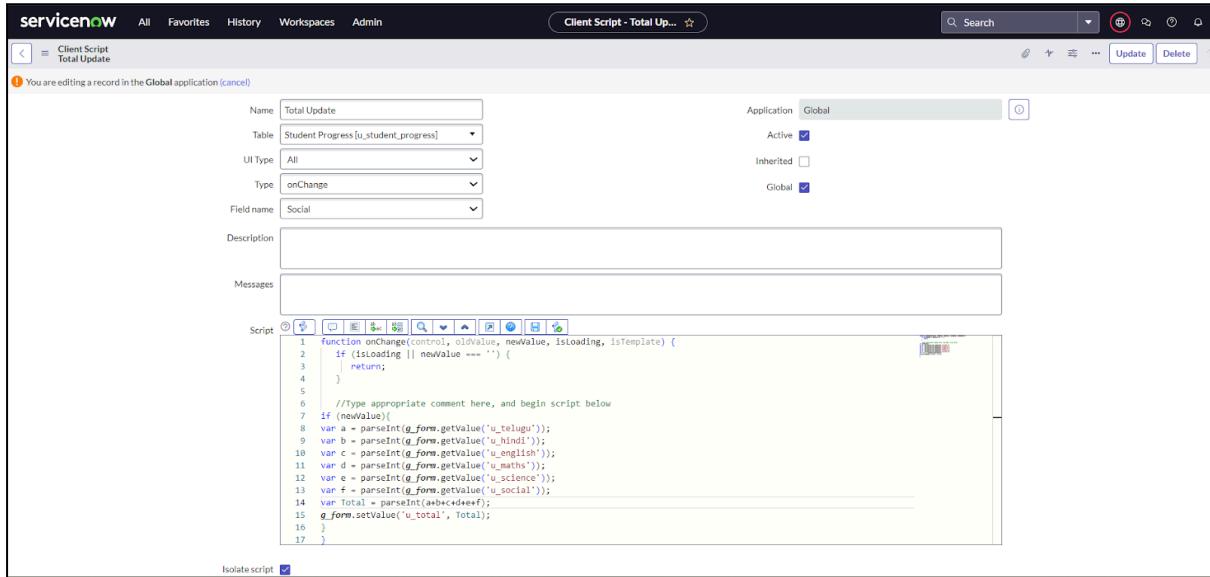
```

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.

The screenshot shows the 'Client Script' configuration screen for a script named 'Result'. The 'Name' field is set to 'Result', 'Table' to 'Student Progress [u\_student\_progress]', 'UI Type' to 'All', 'Type' to 'onChange', and 'Field name' to 'Percentage'. The 'Application' dropdown is set to 'Global'. The 'Active' checkbox is checked, and the 'Inherited' and 'Global' checkboxes are unchecked. The 'Description' and 'Messages' fields are empty. The 'Script' tab is selected, showing the following JavaScript code:

```

1 function onChange(control, oldValue, newValue, isLoading, isTemplate) {
2     if (isLoading || newValue === '') {
3         return;
4     }
5
6     //Type appropriate comment here, and begin script below
7     if(newValue) {
8         var a = parseInt(g_form.getValue('u_percentage')); // Convert the value to an
9         if(a >= 0 && a < 59){
10             g_form.setValue('u_result','Fail');
11         } else if(a >= 60 && a <= 100) {
12             g_form.setValue('u_result','Pass');
13         } else {
14             // Handle the case if a is out of range (optional)
15             g_form.addErrorMessage('Percentage should be between 0 and 100.');
16             g_form.clearValue('u_result');
17         }
18     }
19 }

```

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

```

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

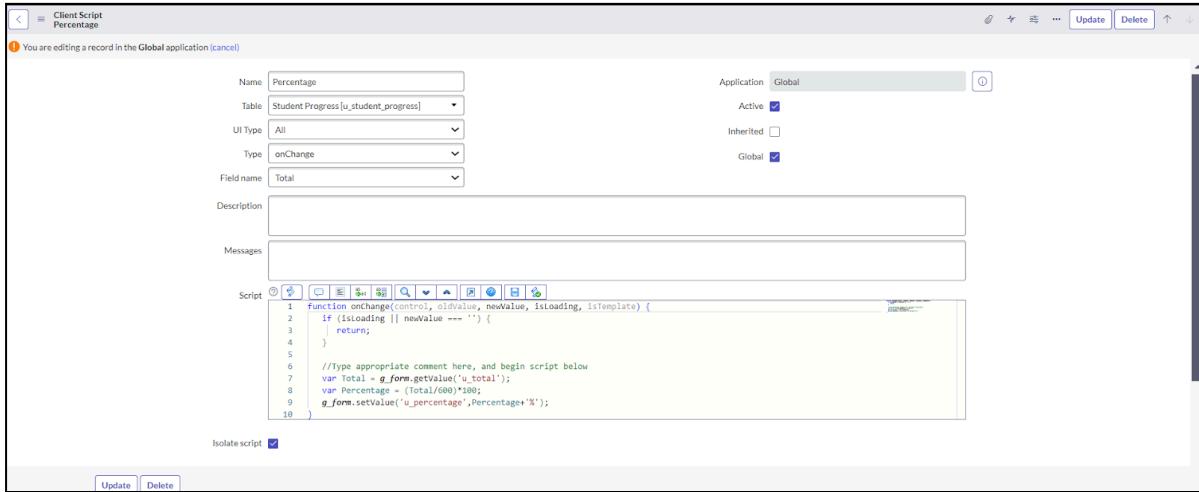
    if (isLoading || newValue === "") {
        return;
    }

    //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.
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## 8. Result:

The image displays three separate ServiceNow application windows, each showing a 'Create' screen for a specific record type.

**Educational Organisation Record (Top Window):**

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

**Salesforce Record (Middle Window):**

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