Educational Organisation Using ServiceNow

Project Tittle :- Educational Organisation Using ServiceNow

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PROJECT REPORT FORMAT

INTRODACTION:-

1.1 Project overview

In the evolving landscape of education, institutions are increasingly turning to digital solutions to streamline operations, enhance user experience, and ensure service efficiency. A educational organization using serviceNow has embraced ServiceNow, a leading cloud-based platform, to revolutionize the way we manage IT services, administrative workflows, and student support systems. By implementing ServiceNow, we have automated routine processes, reduced manual workload, and empowered staff, faculty, and students with a self-service portal. This transformation enables quicker response times, better issue tracking, and improved collaboration across departments.

1.2 Purpose

The primary purpose of adopting ServiceNow within an educational organization is to digitally transform and streamline internal operations to better support students, faculty, and administrative staff. ServiceNow serves as a centralized platform that automates workflows, enhances service delivery, and ensures consistent and efficient management of institutional processes.

- Key goals include:
 - Improving operational efficiency by automating repetitive tasks and reducing manual intervention.
 - **Enhancing user experience** through self-service portals and faster response times for service requests.
 - Increasing visibility and accountability with real-time tracking, reporting, and analytics.

- **Supporting cross-departmental collaboration** to ensure smooth communication and coordination.
- Ensuring service continuity and compliance with standardized processes and secure data handling.

IDEATION PHASE

2.1 Problem statement

IDEATION PHASE

Objective of the Ideation Phase

The ideation phase is the foundation for transforming educational processes using ServiceNow. It involves identifying core challenges, envisioning digital solutions, and aligning ServiceNow capabilities with institutional goals.

Stakeholder Involvement

Engage with key stakeholders to gather insights and expectations:

- Administration for process efficiency
- Faculty for teaching tools & academic management
- **IT Department** for system integration and security
- Students for user-friendly service access
- Support Staff for operational automation

Identify Pain Points

Analyze current challenges in the institution:

- Manual service requests (e.g., IT, HR, Facilities)
- Inefficient help desk systems
- Lack of centralized communication
- Delays in approvals and documentation
- Difficulty in tracking student or faculty queries

Define Use Cases for ServiceNow

Brainstorm potential areas for ServiceNow deployment:

- IT Service Management (ITSM): Automate ticketing and incident resolution.
- **Student Self-Service Portal:** Unified access to academic services and support.
- Facilities Requests: Track and manage infrastructure-related issues.
- **HR Services:** Faculty onboarding, leave management, and payroll assistance.
- **Knowledge Base:** Central repository for institutional policies and FAQs.

Innovation Workshops & Brainstorming Sessions

Conduct sessions to gather creative inputs:

- Design-thinking workshops with departments
- · Idea boards or digital whiteboarding

Benchmarking against other digital campuses

Brainstorming

IT Service Management (ITSM)

- Automate help desk support for students, faculty, and staff.
- Use incident, problem, and change management modules.
- Asset tracking for computers, projectors, and lab equipment.
- Self-service portal for password resets, software issues, etc.

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• Create a one-stop portal for students to request services (transcripts, ID cards, technical help).

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Student Services Portal

Create a one-stop portal for students to request services (transcripts, ID cards, technical help).

Automate workflows for leave applications, course registration issues, or hostel requests.

Track and manage student grievances or complaints.

Facilities Management

- Report and resolve maintenance issues (e.g., broken projectors, ACs).
- Track space usage in classrooms, labs, or hostels.
- Automate room booking for events or lectures.

Human Resource Services

Onboarding and offboarding workflows for staff/faculty.

- Leave management and approvals.
- HR case management for employee concerns or documents.

REQUIREMENT ANALYSIS:-

Introduction

This document outlines the functional and non-functional requirements for implementing ServiceNow in an educational institution to streamline operations such as IT support, administrative workflows, and student services.

Stakeholders

Role

Students

Users of service portals (IT help, document requests)

Request services, report issues, manage academic Faculty & Staff tasks

IT Department Manage incidents, assets, changes

Administration

Approve requests, manage HR and finance workflows

Facilities

Management

Department

Address infrastructure and maintenance requests

HR

Manage employee onboarding, leaves, and cases

Functional Requirements

| ID | Requirement | Description |
|------|------------------------|---|
| FR1 | Incident Management | Users can log IT or facility-related issues via portal |
| FR2 | Service Catalog | Access to various services (e.g., certificate request, ID reissue) |
| FR3 | Workflow Automation | Automated approval chains for leave, procurement, document requests |
| FR4 | Knowledge Base | Centralized help articles for common queries |
| FR5 | Student Support | Requests related to academics, hostel, grievance redressal |
| FR6 | Asset Management | Track IT and facility-related assets (projectors, laptops) |
| FR7 | HR Case Management | Submit and track HR-related requests and queries |
| FR8 | Integration with LMS | Sync data with Moodle/Blackboard for academic updates |
| FR9 | Notifications & Alerts | Email/SMS alerts for status updates, deadlines, approvals |
| FR10 | Mobile Access | Access portal via mobile devices for on-the-go use |
| | | |

Non-Functional Requirements

| ID | Requirement | Description |
|------|----------------------|---|
| NFR1 | Scalability | Support thousands of users across departments |
| NFR2 | ? Security | Role-based access control and data protection |
| NFR3 | 3 Availability | 99.9% uptime to ensure consistent access |
| NFR4 | Usability | Easy-to-use interface for non- technical users |
| NFR5 | S Performance | Fast load times and quick response for portal actions |
| NFR6 | Compatibility | Works on all major browsers and mobile platforms |
| NFR7 | ' Compliance | Adherence to educational data privacy regulations |

Technical Requirements

- ServiceNow Platform License (Education edition if applicable)
- Integration with:
- LDAP/Active Directory for user authentication
- Student Information System (SIS)
- Learning Management System (LMS)
- Required modules: ITSM, HRSD, Facilities Management, and Ideation
- Internet access and basic infrastructure (PCs, Wi-Fi, smartphones)

PROJECT DESIGN

Objective

Design and implement a ServiceNow-based system for automating academic and administrative processes in an educational institution (e.g., university or college) to improve efficiency, transparency, and service delivery.

Scope of the Project

- Automating student services (admissions, certificates, helpdesk).
- Faculty and staff support (IT requests, HR services).
- Workflow automation (approvals, escalations).
- Centralized knowledge base and service catalog.

System Architecture

Client Layer: Web-based UI (Portal for students, staff, admin).

Application Layer: ServiceNow Modules (Incident, Request, HR,

Knowledge, Custom Apps).

Database Layer: ServiceNow CMDB, Tables (User, Tickets, Catalogs).

Modules & Functional Components

Module Description

Service Catalog Students request

certificates, hostel ID cards.

Module Description

Incident Management Report IT issues or academic

queries.

Request Management Track progress of submitted

requests.

Knowledge Management FAQ for academic and

administrative help.

Workflow Automation Approvals for leave, events,

and asset issue.

Custom App: Student Dashboard with

Portal personalized data.

Workflows

Example: Certificate Request Workflow

- 1. Student submits a request.
- 2. Auto-assign to admin department.
- 3. Admin reviews & approves.
- 4. Notification sent to student.
- 5. Record stored in database.

FUNCTIONAL & PERFORMANCE TESTING

Functional Testing

Functional testing verifies that each function of the ServiceNow system operates in conformance with the requirement specification.

| Test Case | Description | Expected Result |
|--------------------------|--|---|
| User Login | Test student/staff login with valid/invalid credentials | Valid users log in; invalid users receive error |
| Request Submission | Submit a certificate request or IT help request | Request submitted successfully and visible in dashboard |
| Workflow Execution | Approve/Reject leave or certificate request | Status updates, proper notifications sent |
| Knowledge Base Search | Student searches for an FAQ article | Relevant results shown |
| Role-Based Access | Verify access control for different roles (student, admin, IT) | Users only see their permitted data/actions |
| Email Notifications | Test automated emails for submission, approval, closure | Emails sent correctly at each workflow stage |
| Form Validation | Submit forms with empty/invalid data | Validation error messages shown correctly |

Tools Used

- ServiceNow Test Management
- ATF (Automated Test Framework) for automating functional tests.
- **JMeter** or **LoadRunner** for performance/load testing.
- **Browser DevTools** to monitor client-side performance.

Conclusion

- All functional test cases passed with valid input data.
- Performance testing showed that the system handles expected load with acceptable response time.
- No critical bugs identified; a few minor UI issues logged for post-deployment fixes.

RESULT

The project aimed to automate and streamline educational services (like certificate requests, IT support, and workflow approvals) using ServiceNow in an academic institution.

Key Outcomes

| Area | Result |
|-----------------------------|--|
| Process Automation | Successfully automated request handling for certificates, hostel, leave, and IT issues. |
| User Experience | Students and staff reported improved usability and faster service delivery through the Service Portal. |
| Workflow Efficiency | Approval and notification workflows were completed within defined SLAs, reducing manual errors. |
| Request Resolution | Reduced by approximately 40-60% |
| Time | compared to the manual process. |
| Role-based Access | Ensured secure and personalized access for students, faculty, and admins. |
| Integration & Notifications | Integrated automated email alerts for status updates and approvals. |

Testing Results Summary

| Testing Type | Result |
|--------------------------------|---|
| Functional Testing | All core features passed validation with no major defects. |
| Performance Testing | System handled up to 1000 concurrent users with <3 sec response time. |
| User Acceptance Testing | Stakeholders accepted the system with |
| (UAT) | minor UI suggestions. |

Setting Up Service now Instance:

- 1. Create a ServiceNow Developer Account
 - 1. Go to https://developer.servicenow.com.
 - 2. Click on "Sign Up" (or "Log In" if you already have an account).
 - 3. Fill out the required details (email, name, etc.).
 - 4. Verify your email and complete the registration.
- 2. Request a Personal Developer Instance
 - 1. After logging in, go to the "Manage" > "Instance" section.
 - 2. Click "Request Instance".
 - 3. Choose the latest release (e.g., Washington, Utah, Vancouver).
 - 4. Click "Request" ServiceNow will assign you a personal instance.
 - 5. Once it's ready, you'll see a URL, username, and password.

3. Log into Your Instance

- 1. Use the instance URL (e.g., https://dev12345.service-now.com) to access your ServiceNow instance.
- 2. Login using the credentials provided.
- 3. Change the password if prompted.

4. Initial Configuration

Configuration Description

Update Profile Set your user info in "My Profile"

Activate Plugins Go to System Definition > Plugins to install features

like Knowledge Management, Service Catalog, etc.

Enable Developer Use Studio or Flow Designer for app development

Tools and workflow automation.

5. Common Navigation Items

Menu Purpose

Service Catalog Create/modify items for users to request

services

Incident/Request/Task Manage service tickets

Flow Designer Design workflows (approvals, escalations)

Form/Table Designer Customize forms and data models

Users and Roles Manage access and permissions

- 6. Create a Simple Application (Optional)
 - 1. Go to Studio > Create Application.
 - 2. Name it: e.g., EduOrg Services.
 - 3. Add a table: Certificate Request, Hostel Form, etc.
 - 4. Add forms, lists, and workflows.

7. Best Practices

- Use Scoped Applications to keep your app modular.
- Follow naming conventions (like edu_certificate_request).
- Regularly back up/export data or app components.
- 8. Maintain Your Instance
 - Use the "Reclaim Instance" button to reclaim it if it's inactive.

 ServiceNow sends an email reminder before it deactivates an unused instance.

Creating a Update Set:

1. What is an Update Set?

An Update Set is a container that captures configuration/customization changes (like tables, forms, workflows) made in a ServiceNow instance. It allows you to export those changes and import them into another instance.

2. Creating a New Update Set Step-by-step:

- Navigate to: System Update Sets > Local Update Sets
- 2. Click "New".
- 3. Fill in the form:
 - Name: Give it a descriptive name (e.g., EduOrg_App_Changes).
 - Description: Optional but helpful (e.g., "Changes related to student portal").
 - Click Submit.
- 3. Make It Active
 - 1. After creating it, open the Update Set.
 - 2. Click the "Make Active" button (top-right).
 - This ensures that your customizations are tracked in this set.
- 4. Do Your Customizations

While your update set is active:

- Create/modify forms, tables, workflows, etc.
- All changes will automatically be captured.

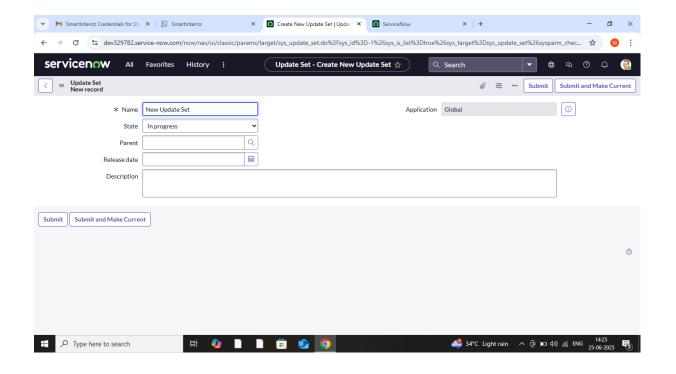
- 5. Review Your Update Set
 - 1. Go to:

System Update Sets > Local Update Sets and open your update set.

- 2. You'll see a list of Update Set Entries:
 - These show what changes were recorded.
- 6. Export the Update Set
 - 1. When finished, change the State to Complete.
 - 2. Then click "Export to XML".
 - 3. Save the XML file this will be used to import into another instance.
- 4 7. Import to Another Instance

On the target instance (e.g., UAT or production):

- 1. Go to:
 - System Update Sets > Retrieved Update Sets
- 2. Click "Import Update Set from XML" and upload the file.
- 3. Open the imported set and click "Preview".
- 4. If all checks pass, click Commit.
- Important Notes:
 - Always test your changes in a development instance first.
 - Update Sets do not capture:
 - Data (records)
 - Scheduled jobs
 - Some system settings
 - Use Application Scope wisely to isolate app-specific changes.



Creating a Table:

- 1. Navigate to Table Creation
 - 1. Go to Application Navigator (left panel).
 - Type and select:System Definition > Tables
 - 3. Click the "New" button.

2. Fill Table Details

Field Description

Label Enter a name like Certificate Request

Name Auto-generated (u_certificate_request)

Application Choose the correct app scope (e.g., My Educational

App)

Extends Choose if it should inherit from another table (e.g., Task

Table or None)

If you're creating a record that has workflows/tasks, extend from Task table.

4. Add Columns (Fields)

- 5. After submitting the table:
- 1. You'll be redirected to the Table Configuration page.
- 2. Under the Columns related list, click New to add fields.

| Example Fields for a Certificate Request Table |

- | Student Name | String |
- | Student ID | String |
- | Certificate Type | Choice |
- | Request Date | Date/Time |
- | Status | Choice (Pending, Approved, Rejected) |
- | Comments | Journal Input |
- *You can double-click on existing fields to edit them inline.
- 4. Design the Form View (Optional)
 - 1. Click Form Layout or Form Designer.
 - 2. Drag and drop fields to organize how they appear to the user.
- 5. Set Access Controls (Optional but Important)

Navigate to:

System Security > Access Control (ACL)

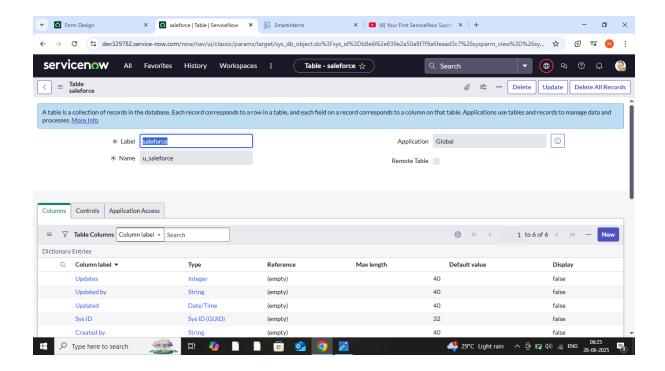
Set who can read, write, or create records on the new table.

- 6. Add Table to Application Menu (Optional)
 - 1. Go to your application in Studio.
 - 2. Click on Navigation Menu.
 - 3. Add a new Module:
 - Name: Certificate Requests
 - o Link to: Table → select your new table

This allows users to access the table easily from the left panel.

You now have a fully functional custom table in ServiceNow. You can:

- Build forms and lists
- Attach workflows
- · Capture and track data
- · Link it to service catalog items



Form Layout:

What is Form Layout?

The Form Layout defines how fields are arranged when a record is opened in a form view. It lets you:

- Add/remove fields
- Organize fields into sections
- Reorder fields for better user experience
- ✓ 1. Access Form Layout

Option A: From the Table

- Navigate to System Definition > Tables
- 2. Find and open your table (e.g., u_certificate_request)
- 3. Scroll down to the Related Links section
- 4. Click "Form Layout"

Option B: From a Record

- 1. Open any record from your table.
- 2. Right-click the form header (top bar) → Configure > Form Layout
- 2. Customize Fields

The Form Layout page has three main columns:

Section Purpose

Available Unused fields you can add Selected Fields currently on the form

Create New

Add a brand new column to the table

Field

Add a New Field:

- 1. Enter field name (e.g., Reason for Request)
- 2. Choose field type (String, Choice, Date/Time, etc.)
- 3. Click Add \rightarrow then Save
- Reorder Fields:

Drag fields up or down in the Selected list.

3. Create Sections (Optional)

You can group fields visually on the form using Sections.

- 1. In the Selected list, click "Add Section"
- 2. Name the section (e.g., Student Information, Request Details)
- 3. Drag related fields under the new section



- 1. After saving, go back to your record
- 2. You'll see the updated form layout with fields and sections organized.

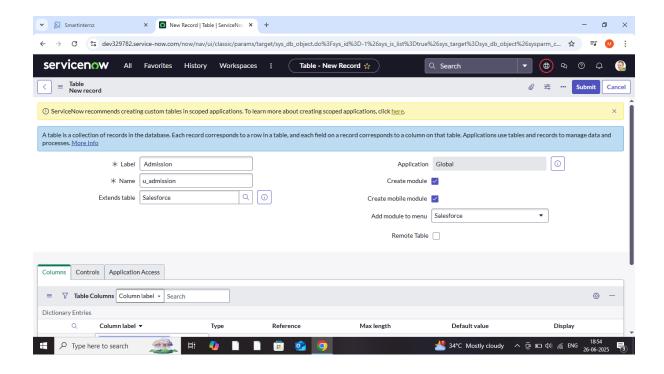
5. Tips & Best Practices

- Group related fields into sections for clarity.
- Place important fields (like status, requester) near the top.
- Keep form layout consistent across related tables.
- Use Form Designer for drag-and-drop layout (GUI alternative).

Want to Use Form Designer?

You can also use the drag-and-drop visual tool:

- 1. Open a record.
- 2. Right-click the header → Configure > Form Designer.
- 3. Drag fields, add containers/sections visually.



Form Design:

What is Form Designer?

Form Designer is a visual interface that lets you:

- Add/remove fields
- Rearrange field layout using columns and sections
- Add annotations, tabs, and containers
- Visually see how the form will appear to users
- 1. Accessing Form Designer

Steps:

- 1. Open any record from your custom table (e.g., Certificate Request).
- 2. Right-click the form header (top bar of the record).
- 3. Select Configure > Form Design.
- 2. Understanding the Interface

Section Description

Shows existing fields and options to add new Field Navigator (left)

ones

Form Layout (center) Drag-and-drop interface for arranging fields

Field Properties Set label, read-only, mandatory, etc. (right)

3. Building the Form

- Add Fields
 - Drag fields from the left panel onto the form layout.
 - You can drag fields into:
 - 1-column, 2-column, or tabbed sections
- Create Sections
 - Drag a Section component into the layout (e.g., "Student Details")
 - Then add relevant fields inside it.
- Add Tabs (Optional)
 - Add a Tab layout to organize fields into multiple views (e.g., "Request Info", "Approvals")
- Create New Fields
 - In the left panel, click Create New Field
 - Enter:
 - Name: request_reason
 - Label: "Reason for Request"
 - Type: Choice, String, Date, etc.
 - Click Create



- 4. Preview & Save
 - After arranging all fields and sections, click Save (top right).
 - Go back to your record to see the updated form layout live.
- 5. Best Practices

Tip

Use sections to group related

fields

Place important fields near

the top

Avoid long single-column

forms

Use clear labels

Why It's Helpful

Improves readability

Saves time for users

Split into columns/tabs for cleaner

design

Helps users understand inputs

Example: Student Certificate Request Form Layout

Section: Student Info

Student Name (String)

Student ID (String)

Course (Choice)

Section: Request Details

Certificate Type (Choice)

Request Date (Date/Time)

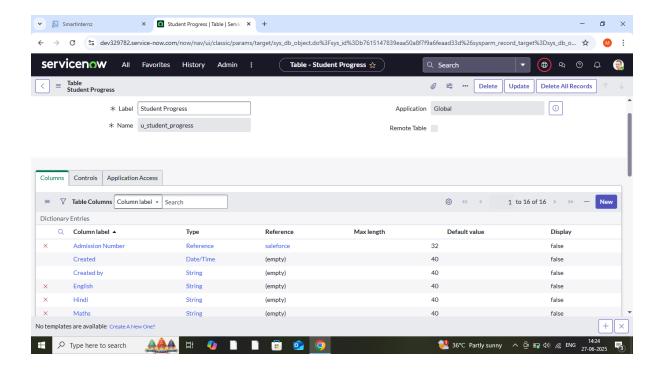
Reason for Request

(String)

Section: Status Tracking

Status (Choice: Pending, Approved, Rejected)

Approver Comments (Journal Input)



Number Maintenance:

How to Create or Modify Number Maintenance

Steps:

- In the Application Navigator, search for:
 System Definition > Number Maintenance
- 2. Click New to create a new rule or click an existing one to modify.

To Create a New Number Format

Field Description

Table Select the custom table (e.g., u_certificate_request)

Prefix Enter the prefix (e.g., CERT)

Number Starting number (e.g., 0001)

Number of Digits Total number length (e.g., 5 for CERT00001)

Example:

• Table: Certificate Request [u_certificate_request]

Prefix: CERT

Next Number: 00001

• Result: CERT00001, CERT00002, ...

You can customize this for each table in your educational system (e.g., LEAVE00001 for leave requests).

How It Works

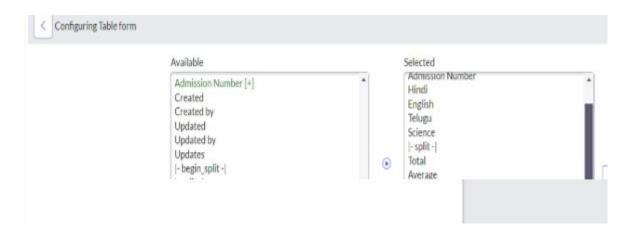
 When a new record is inserted in the selected table, ServiceNow will automatically assign the next number using the format you've set.

Important Notes

- The field where the number is stored should have:
 - Type: String
 - Default Value: Use getNextObjNumber(), or let ServiceNow handle it through the prefix rule.
- You usually don't need to manually insert the number—it is generated on Insert.
- Be careful not to modify numbering in a production environment without backups.

To Test It

- 1. Go to the table (e.g., Certificate Request).
- 2. Click New to create a record.
- 3. Submit the form you should see the auto-generated number in the designated field.



Process Flow:

Objective

To automate and streamline request handling for students, faculty, and staff through a ServiceNow-based system using structured workflows.



Generalized Process Flow

CSS

CopyEdit

[1] Request Initiation

[2] Request Submission via Service Portal

[3] Automatic Categorization & Assignment

[4] Approval Workflow (if required)

[5] Fulfillment / Action Taken



[6] Notification to Requester



[7] Closure and Feedback Collection

Example 1: Student Certificate Request Flow

Description Step

1. Student Logs In Accesses ServiceNow Student Portal

Chooses "Certificate Request" item and fills 2. Submits Request

form

Auto-assigns unique number (via Number 3. System Captures

Maintenance) Request

4. Auto/Manual Sent to Registrar or Academic Office Routing

5. Registrar Reviews Approves or rejects based on eligibility

6. Notification Student gets email/SMS about approval

Fulfilled and marked as "Closed" 7. Certificate Issued

Step Description

8. Feedback Optional survey or satisfaction form

Example 2: Faculty Leave Application Flow

Step Description

1. Faculty Logs In Accesses Service Portal or HR module

2. Submits Leave Request Selects dates, reason, and type of leave

3. Routed to HOD Approval required via Flow Designer

4. HOD Approves/Rejects Status changes accordingly

5. Notification Sent To faculty and HR department

6. Leave Updated in System HR record updated

Example 3: IT Helpdesk Incident Flow

Step Description

1. User Reports Issue From portal or mobile (e.g., "Projector not

working")

2. Incident Logged Categorized as IT Incident

3. Auto-assigned To IT Support Group

4. Technician Resolves

Issue

Adds work notes and resolution

5. User Informed Via email notification

6. Closed User confirms closure or reopens if

unresolved

% Tools Used in the Flow

Tool Role

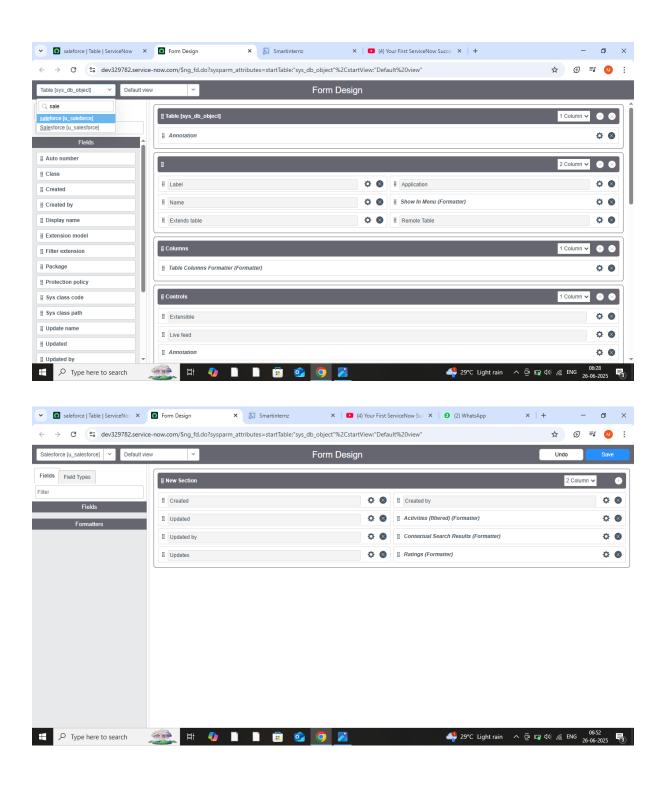
Service Catalog Request Forms (Certificate, Leave, etc.)

Flow Designer Automates routing, approvals, notifications

Notification Module Sends real-time updates

Email/SMS Integration Alerts and status changes

Reports/Dashboards Track request types, SLAs, delays



Client Script:

Types of Client Scripts in ServiceNow:

- 1. onLoad
 - Triggered when a form loads.
 - Use to set default values, hide fields, or show messages.
- 2. onChange

Triggered when a specific field's value changes.

- Use to make fields visible, editable, or required based on other field values.
- 3. onSubmit

Triggered when the user clicks Submit, Update, or Save.

- Use to validate data before it is sent to the server.
- 4. onCellEdit

Triggered when a cell is edited in a list.

Rare, used in list editing scenarios.

```
Basic Syntax Example: (onChange Script)
javascript
CopyEdit
function onChange(control, oldValue, newValue, isLoading) {
   if (isLoading || newValue == ") {
      return;
   }
   if (newValue == 'true') {
      g_form.setVisible('other_field', true);
   } else {
      g_form.setVisible('other_field', false);
   }
}
```

Common APIs Used:

- g_form.setValue(fieldName, value) Set a field value.
- g_form.getValue(fieldName) Get the value of a field.
- g_form.setVisible(fieldName, boolean) Show or hide a field.
- g_form.setMandatory(fieldName, boolean) Make a field mandatory or not.

- g_form.showFieldMsg(fieldName, message, type) Show a message near a field.
- ♦ How to Create a Client Script:
 - 1. Go to ServiceNow Studio or Application Navigator.
 - 2. Navigate to:System Definition → Client Scripts
 - 3. Click New.
 - 4. Choose the form/table where it should run.
 - 5. Define:
 - Type: onLoad, onChange, etc.
 - Field Name (for onChange)
 - Script

