ServiceNow Administration

ServiceNow Development and

ServiceNow Scripting and Product ITSM

**Getting Access to Instance**

1: Getting instance from ServiceNow by signing up to the site and activate your account.

https://developer.servicenow.com/

2. Go to Now learning ServiceNow.

https://nowlearning.service-now.com/lxp?id=nl\_kb\_home

certificate Course:

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Certified System Administrator (CSA) Learning Path

ServiceNow Administration Fundamentals On Demand

3. Partner Portal access

a. Please Log out from all sites of ServiceNow

b Log out from now learning and Developer site.

https://partnerportal.service-now.com/

**Assignments**

1. Play back.

2. Document the Training.

3. Requirement based Assignments

4. ServiceNow Administration Fundamentals On Demand.- By March 3rd

5. ServiceNow Development On Demand -BOT – By March 3rd.

5. You need to Do CSA Certification- main Line.- CSA certification need to be done

ServiceNow Administration, Development and Scripting,

One Product: ITSM

ITSM-Incident, Problem, Change, Service Catalog, Knowledge, Release and CMDB

1. Do You Code -YES

2. Do you need developer-oriented IDE - I need Developer oriented IDe

sites:

https://developer.servicenow.com/dev.do

https://nowlearning.servicenow.com/lxp

ServiceNow Administration Fundamentals on Demand

https://partnerportal.service-now.com/

Assignment:

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1. Field types In ServiceNow

2. system Properties ->Basic Configuration UI 16

3. User preferences in ServiceNow

4. Basics of ITSM Process.

**BR: Enhance Incident application with the fields and Sections.**

* Form Administration

1. Add Fields: Incident Section ->Employee Name, Department, Branch, Date of joining

Date of Posting, Contract Employee, Manager, Delivery Manger

and on-site Co Ordinator, qualification, Resume, Website Address, Phone Number,company

2. Configure choices for choice fields.

3. Field Level Dependency and Choice Level Dependency on Choice Fields.

4. Rearrange or order the Fields in ServiceNow using **Split, End Split, begin split**.

5. How to Create Section- Closure Information in form and Add fields, Closed, Closed By, Closed Code, closed Reason and Additional information.

6. How to Make Fields Mandatory and Read only in Form using Configure Dictionary.

7. How to delete Fields and Configure label for Fields using Configure label and Configure dictionary. Please note that Out of Box fields Given by ServiceNow will not deleted.

8. What is Reference Specification (will be applied to Reference and List Fields) in ServiceNow.

9. What is Choice List Specification (for Choice fields) in ServiceNow.

10. OOB Dynamic Filters (Me and Now (Date and Time)) in ServiceNow using Dynamic default value for Caller and Date of Joining Fields.

11. Enhance the Form by using form Design in ServiceNow-Create new fields, new sections, Delete sections and fields.

12. Journal Input fields in ServiceNow.

13. Incident, Problem, Change Request, Incident Task, Problem task and Change Task Tables -extends Task Table creates Parent and child relationship.

Assignment:

1. What is work notes journal input and Additional comment journal input Differences
2. Create a Journal Input field in notes section.

List Administration:

1. Sorting of Records IN List
2. Group BY and ungroup in list
3. Quick Filters: Show matching and Filter out
4. Filter Conditions - Priority 1 or 2 tickets I want to See.
5. Saving Filter and Providing access to Filters.
6. How to Export the List of records into excel and XML form of List of records.
7. Personalize list of Columns Using Gear Box. - Created, Created By which is used to Personalize your view- It stored Only Locally.
8. When I want to set columns globally visible to all the people Use List lay out ->Right click on any column in the list and using list layout you cans set global columns to set Columns.
9. Show Visual Task board, Import XML, Show XML, Update selected and update all.
10. LIST View and Configure List Controls and List calculations.
11. Creating Quick Reports (Bar Chart and Pie Chart) in ServiceNow.

Applications and modules development

1. Create a scope for application development.

System applications->Studio

1. What are tables.->Sys\_db\_object
2. What are tables and columns, Index creator in ServiceNow.
3. What is schema map- (extended tables, extending tables, Reference tables and Referencing tables.).
4. What are different Link types in ServiceNow.

**Form module: New Record and List Module: List of Records.**

1. What is dictionary? sys\_dictionary
2. How to create a new application menu and modules (LIST and Form).
3. Extending a table and Auto number In ServiceNow.
4. Auditing on a Table using dictionary.
5. Creating Application menu and modules using existing Table.

**Use system definition in ServiceNow.**

**Import sets and Transform maps:**

**Requirement: Customer/Client Please load all my CI’s data, users’ data, locations, and Company data into ServiceNow.**

1. **Create a Data Source for importing records**
2. **Load data into a staging table**
3. **Create a Transform Field Map**
4. **Mapping Assist**
5. **Change or set field values using a Transform Map script**
6. **Coalesce to detect collisions**
7. **Use a Transform Event script to update but not insert records.**
8. **Coalescing:**

**Use the coalesce option in a Transform Map Field Map to determine if a row in the source data matches a record in the target table.**

**The coalesce option makes a field a record's unique key. Set the coalesce value to true to use a field to check for collisions.**

1. **Scheduling import sets.**

**LDAP Integration and Mid Server Installation**

1. **Integration with LDAP**

LDAP Server Information (read-only access): Windows Team/network team.

* Server: ldap.forumsys.com
* Port: 389
* Bind DN/LoginDN: cn=read-only-admin,dc=example,dc=com
* Bind Password/LoginPwd: password
* Directory Users and Groups exists: dc=example,dc=com
* RDN for Users OU definition:
* Filters for Users OU definition:
* RDN for Groups OU definition:
* Filters for Groups OU definition:
* Any Certificates configured. Please provide certificates and its type.
* **Understand on before on start and on complete scripts in LDAP**

[**https://www.forumsys.com/2022/05/10/online-ldap-test-server/**](https://www.forumsys.com/2022/05/10/online-ldap-test-server/)

1. **Will use concept of Import set and Transform Map for LDAP Integration.**

**Mid Server Installation:**

**Install mid server in Remote Server:**

**Dictionary Override, SLM: In mind :->Base table or Parent table fields.**

1. **Make Assignment group mandatory in Incident Application only**
2. **Make Service and Contact type or channel is mandatory in Problem Application.**

* **Override mandatory**
* **Override read only**
* **Override default value**
* **Override calculation**
* **Override display value and what is display value**
* **Override reference qualifier**
* **Override dependent**
* **Override attributes**

**Service Level Management (SLM):**

1. **SLA (Service level Agreement): Will be triggered according to priority also.**

**Response SLA -> Taking ownership of the Incident (in this case 15 mins). Resolution SLA -> Time taken to Resolve an incident ( in this case incident need to be Resolved in 60 mins at the time of opening an incident ).**

* **Retroactive start and Retroactive pause (Assignment)**
* **Schedule in SLA definitions. (Assignments).**
* **SLA definitions are triggered based on Flows.**

1. **OLA (Operations Level Agreement):**

**Specific to operations teams: OLA will be associated with groups.**

**How to create OLA for Hardware.**

1. **Under Pinning Contract: Contract between the seller and consumer.**

**Create under pinning contract for 3d Pin ball.**

**Process flow and Data Look up definitions and Assignment lookup rules**

1. **Use state field for the Process flow create flow formatters.**
2. **Data Look Up definitions:**

* **Source table and Matcher table.**
* **Create 3 choice fields in Incident table with some choices. Third filed need to populated according to first 2 fields.**

**State: AP, UP and Kerala**

**City: Vizag, Lucknow, Trivandrum**

**Office: Tirupati, Lucknow, Kochi**

1. **Assignment Look up Rules:**

* **Create assignment lookup rules it is populating for Incident**
* **Create assignment Look Up rules for a problem form also Validate and Create.**
* **Check why it is working when reload the form**
* **You go and create Considering Category and Assignment Group**

**Service Catalog:**

1. **Create Catalog**
2. **Create Categories**
3. **Create Items**
4. **What is Request (REQ)**
5. **What is Requested Item (RITM)**
6. **What is Service Catalog Task (SCTASK)**
7. **How to Assign workflow to Service Catalog Items and Request.**
8. **What are variables and types of variables**
9. **What is and order guide and Rule base in order guides.**
10. **What is Record Producers**

**Process: REQ1001->RITM1002->SCTASK002,SCTASK003**

**Two Workflows: Request Workflow and Requested Item workflow**

**Workflows, Update set and Notifications**

**Update set:**

**It is used to migrate or take copy of requirement from Dev Environment to QA and Production.**

**Development instance:**

[**https://dev148423.service-now.com/login\_redirect.do?sysparm\_stack=no**](https://dev148423.service-now.com/login_redirect.do?sysparm_stack=no)

**QA/Testing/production:**

[**https://dev89360.service-now.com/login\_redirect.do?sysparm\_stack=no**](https://dev89360.service-now.com/login_redirect.do?sysparm_stack=no)

**Requirement is go and develop a form.**

* **Update Sets are stored in a table:** **sys\_update\_set.**
* **Customers Updates are stored in a table: sys\_update\_xml**
* **Local update sets**
* **Merge Update sets**
* **Merge complete sets**
* **Update Sources.**
* **Update logs**
* **Preview, Commit Update sets.**
* **Back Out Update set.**
* **Check What will be captured in Update Sets.**

**workflows:**

* **use switch activity set assignment group based on category Values.**
* **If any critical Incident Raised**

1. **Once Manager Approved Approvals need to trigger to technical teams- (Approval needs to trigger to Caller Manager**
2. **Assignment Group team).**
3. **When Technical team also approved An Incident Task need to be Created.**
4. **What is Stage in a workflow how to use it.**
5. **Once Incident task is closed complete incident state need to be Resolved.**
6. **When you try to manually Resolve an Incident where incident task is not in Closed complete state, incident must not move to state resolved.**
7. **Work on Flow designer -Now learning.**

**User Administration and ACL in ServiceNow:**

* **what are users, groups, Roles, departments, Logged In users.**
* **What are ACLS and types of ACL’s**
* **What Role is required to create and ACL’s.**
* **What is \* and Field type ACL’s and difference between them.**
* **What are different operation for an ACL and explain them how they are useful.**

**Scripting in Serevicenow:**

1. **Client-side scripting: Ui Policies and Client Scripts.**

**API: g\_form, g\_user and Glide ajax**

1. **Server-side scripting: Glide system(gs), Glide date, Glide Datetime and Glide Record,**
2. **Data Policies.**

**Client-Side Scripting:**

Client-side scripts execute within a user's browser and are used to manage forms and form fields. Examples of things client-side scripts can do include:

* Place the cursor in a form field on form load
* Generate alerts, confirmations, and messages
* Populate a form field in response to another field's value
* Highlight a form field
* Validate form data
* Modify choice list options
* Hide/Show fields or sections.
  + Get understand about all methods of Glide form API.
  + Get understand all methods of Glide User API.
  + Get understand all methods of Glide AJAX.

UI Policies:

UI Policies are client-side logic that governs form and form field behavior. Unlike Client Scripts, UI Policies do not always require scripting. It was used to make fields mandatory, read only and visible based on conditions.

1. Service is Mandatory when Category is Software and Subcategory is Operating system.
2. Subcategory is Mandatory and visible when category is not none.
3. When category is Database set Priority to Critical.

Adding Decoration.

function onCondition() {

g\_form.removeDecoration('u\_delivery\_manager\_and\_on\_site\_co\_ordinator', 'icon-star', 'Mark as Favorite', 'color-green');

g\_form.addDecoration('u\_delivery\_manager\_and\_on\_site\_co\_ordinator', 'icon-user', 'Employee Manager');

}

function onCondition() {

//g\_form.addDecoration('u\_manager', '', '');

g\_form.removeDecoration('u\_delivery\_manager\_and\_on\_site\_co\_ordinator', 'icon-user', 'Employee Manager');

g\_form.addDecoration('u\_delivery\_manager\_and\_on\_site\_co\_ordinator', 'icon-star', 'Mark as Favorite', 'color-green');

}

**Client Scripts:**

**Client Script Types**

**A Client Script executes client-side script logic when forms are:**

* **Loaded**
* **Changed**
* **Submitted**
* **On Cell Edit.**

1. **On cell edit:** 
   * **Restrict users in editing State cell from a LIST.**
2. **On change :**

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

**if (isLoading || newValue === '') {**

**return;**

**}**

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

**var vCallerInfo=g\_form.getReference('caller\_id');// Record of user selected in Caller field.**

**var vFirstname=vCallerInfo.first\_name;**

**var vLastName=vCallerInfo.last\_name;**

**var vMobilePhone=vCallerInfo.mobile\_phone;**

**var vEmailid=vCallerInfo.email;**

**var vMangerinfo=vCallerInfo.manager;**

**g\_form.setValue('u\_callers\_first\_name',vFirstname);**

**g\_form.setValue('u\_callers\_last\_name',vLastName);**

**g\_form.setValue('u\_callers\_mobile\_phone',vMobilePhone);**

**g\_form.setValue('u\_callers\_email',vEmailid);**

**g\_form.setValue('u\_callers\_manager',vMangerinfo);**

**}**

**Get Reference using Callback function- ServiceNow Suggested way**

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

**if (isLoading || newValue === '') {**

**return;**

**}**

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

**var vCallerInfo=g\_form.getReference('caller\_id',GetCallerdata);**

**function GetCallerdata(vCallerInfo)**

**{**

**// Record of user selected in Caller field.**

**var vFirstname=vCallerInfo.first\_name;**

**var vLastName=vCallerInfo.last\_name;**

**var vMobilePhone=vCallerInfo.mobile\_phone;**

**var vEmailid=vCallerInfo.email;**

**var vMangerinfo=vCallerInfo.manager;**

**g\_form.setValue('u\_callers\_first\_name',vFirstname);**

**g\_form.setValue('u\_callers\_last\_name',vLastName);**

**g\_form.setValue('u\_callers\_mobile\_phone',vMobilePhone);**

**g\_form.setValue('u\_callers\_email',vEmailid);**

**g\_form.setValue('u\_callers\_manager',vMangerinfo);**

**}**

**}**

**Requirement:**

**I do have very important Configuration items when every any change is getting implemented on those configuration items**

**Imp Configuration item:3d Pin Ball**

**Set priority to 1-Crtical, Set Risk to High and Impact to High and Fields must be read only.**

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

**if (isLoading || newValue === '') {**

**return.**

**}**

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

**var affectedCI = g\_form.getReference('cmdb\_ci', checkCI);**

**function checkCI(affectedCI) {**

**if (affectedCI.name == '3D Pinball') {**

**g\_form.setValue('priority', 1);**

**g\_form.setValue('risk', 2);**

**g\_form.setValue('impact', 1);**

**g\_form.setReadOnly('priority', true);**

**g\_form.setReadOnly('risk', true);**

**g\_form.setReadOnly('impact', true);**

**}**

**else {**

**g\_form.setValue('priority', 4);**

**g\_form.setValue('risk', 4);**

**g\_form.setValue('impact', 3);**

**g\_form.setReadOnly('priority', false);**

**g\_form.setReadOnly('risk', false);**

**g\_form.setReadOnly('impact', false);**

**}**

**}**

**}**

**Requirement:**

**Organization has 400 Plus Important Configuration Items. For all these configuration items follow the rule: Set priority to 1-Crtical, Set Risk to High and Impact to High and Fields must be read only.**

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

if (isLoading || newValue === '') {

return;

}

// worng way var vConfigITem=g\_form.getReference('cmdb\_ci');//synchorinuss way of calling

var vConfigITem = g\_form.getReference('cmdb\_ci', CheckCIDetails);

//async it contains Glide record of confit ite of #d Pinball

function CheckCIDetails(vConfigITem) {

if (vConfigITem.u\_impconfigitem == 'true') {

g\_form.setValue('priority', 1);

g\_form.setValue('risk', 2);

g\_form.setValue('impact', 1);

g\_form.setReadOnly('priority', true);

g\_form.setReadOnly('risk', true);

g\_form.setReadOnly('impact', true)

} else {

g\_form.setValue('priority', 4);

g\_form.setValue('risk', 4);

g\_form.setValue('impact', 3);

g\_form.setReadOnly('priority', false);

g\_form.setReadOnly('risk', false);

g\_form.setReadOnly('impact', false);

}

}

}

**Flash important Configuration items;**

**function onLoad() {**

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

**g\_form.addInfoMessage("Please Fill Important Configuraiton items",'info');**

**g\_form.flash("incident.caller\_id", "#F44336", 0);**

**g\_form.flash("incident.subcategory", "#F44336", -2);**

**g\_form.flash("incident.short\_description", "#F44336", -3);**

**2.**

**function onLoad() {**

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

**g\_form.addInfoMessage("Please Fill Important fileds");**

**g\_form.addFormMessage('info message', 'info');**

**g\_form.addFormMessage('warning message', 'warning');**

**g\_form.addFormMessage('error message', 'error');**

**g\_form.flash("incident.caller\_id", "#61c934", 0);**

**g\_form.flash("incident.cmdb\_ci", "#61c934", -2);**

**g\_form.flash("incident.short\_description", "#61c934", -4);**

**}**

**}**

**On Submit:**

**Major Incident Manager Is responsible for submitting the P1 incidents. This Ensures the Incident adheres to Strict Process and communication Guidelines. Twice The on-Duty manager is not available to perform this duty and the initial information provided by IT analyst was not complete. This results to incomplete P1 Email Notifications**

**A P1 incident need to be populated with the following information**

1. **Category**
2. **Configuration Item**
3. **Assignment Group**
4. **Short Description**

**function onSubmit() {**

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

**if(g\_form.getValue('impact')==1 && g\_form.getValue('urgency')==1 && !g\_user.hasRoleExactly('major\_inc\_mgr'))**

**{**

**var ans=confirm("DO customer is Notified with all Priority-1 Incidents.Confirm base information is included before submitting this p1 incident,\n\n Select ok to submit, or Cancel to return to the record.");**

**if(!ans)**

**{**

**g\_form.addInfoMessage("Incident Not Submitted");**

**g\_form.addInfoMessage("If base information is unavailable, use the additional comments field to document why it is missing");**

**g\_form.showFieldMsg('category',"Major Incident base field");**

**g\_form.showFieldMsg('short\_description',"Major Incident Base Field");**

**g\_form.showFieldMsg('cmdb\_ci',"Major incident Base Field");**

**g\_form.showFieldMsg('assignment\_group', "Major Incident base field");**

**}**

**return ans;**

**}**

**}**

**Server-Side Scripting:**

**UI Actions , Business Rules, Script Include and Data Policies.**

**UI Actions:**

* + **Reopen Incident UI action**
  + **When Gayla Geimer is Trying to reopen Incident Ensure Gayla need to write some comments to reopen an Incident.**
  + **Validation :Until and Unless Gayla Write Comments incident must not be Reopened. I need to write Client script for this I can write in UI Action only**

**function TCSReopenIncident() {**

**// In this function we need to write code for Validations**

**if (g\_form.getValue('comments') == '') {**

**//Remove any existing field message, set comments mandatory, and show a new field message**

**g\_form.hideFieldMsg('comments');**

**g\_form.setMandatory('comments', true);**

**g\_form.showFieldMsg('comments', 'Comments are mandatory when reopening an Incident.', 'error');**

**return false; //Abort submission**

**}**

**//Call the UI Action and skip the 'onclick' function**

**gsftSubmit(null, g\_form.getFormElement(), 'ReopenIncidentTCS'); //MUST call the 'Action name' set in this UI Action**

**//Code that runs without 'onclick'**

**}**

**////Ensure call to server-side function with no browser errors**

**if(typeof window == 'undefined')**

**TcsIncidentReopen();// UI action function**

**function TcsIncidentReopen()**

**{**

**//Set the 'State' to 'Active', update and reload the record**

**current.state=2;**

**current.update();**

**gs.addInfoMessage('Incident ' + current.number + ' reopened.');**

**//action.setRedirectURL(current);**

**}**

**Business Rules:**

* **Insert Example with script.**
* **Update example with script.**
* **Setting Assignment Group based on Category.**
* **Go and Get ASYNC, Display , before , After How to use in Business Rules.**
* **Dot Walking in Business rules- Is applied to Reference Fields. When Caller is VIP assign the Incident to Service Desk group.**
* **Restriction of Role to update an incident. Any user who has itil role must not cancel an Incident**
* **Setting CabDate to next week Thursday**

**(function executeRule(current, previous /\*null when async\*/ ) {**

**// Add your code here**

**try {**

**current.cab\_date.setDisplayValue(gs.beginningOfNextWeek()); // //2023-05-22 02:18:35+3**

**var nextMonday = current.cab\_date.dateNumericValue(); //converting into Numeric Value**

**var ThreeDays = 3 \* 24 \* 60 \* 60 \* 1000; //cConvering days into Millseconds**

**var nextThursday = nextMonday + ThreeDays;**

**current.cab\_date.setDateNumericValue(nextThursday);**

**} catch (err) {**

**gs.log("Runtime error Occured" + err);**

**}**

**})(current, previous);**

* **Set cab date to Next Thurday using add Days method.--**
* **CabDate need to be Set Previous week Wednesday of Planned State Date.**
* **Set VIP to true for users with titile Vice or VP.**

**(function executeRule(current, previous /\*null when async\*/ ) {**

**try {**

**// Add your code here**

**var makeVIP = new GlideRecord("sys\_user");**

**var q1 = makeVIP.addQuery('title', 'STARTSWITH', 'Vice');**

**q1.addOrCondition('title', 'STARTSWITH', 'VP');**

**makeVIP.query(); //select\* from sys\_user where title startwith 'vice' or title statrtswith 'VP';**

**if (makeVIP.vip == false) {**

**while (makeVIP.next()) {**

**makeVIP.vip = true;**

**gs.log("ADMIN:" + makeVIP.name + " with Title :" + makeVIP.title + "is now VIP");**

**makeVIP.update();**

**}**

**}**

**} catch (err) {**

**gs.log("Runtime error Occured" + err);**

**}**

**})(current, previous);**

**Script Include:**

Have you ever written a Script Include that you thought was truly amazing? Reusable.. concise.. adheres to best practices. dare I say, has some class about it? In this article we'll discuss the difference between a classy Script Include, and one lacking in class. That is, Script Includes containing Class definitions vs Script Includes with standalone function definitions. For those new to ServiceNow, Script Includes are JavaScript definitions which can be called from any server side script, and in some cases from the client side too. They are most used as an alternative to Global Business Rules,

For example, Script Includes are most frequently called from:

* Business Rules,
* UI Actions,
* Reference Qualifiers,
* Transform Maps and
* Other Script Includes.