

**servicenow**

**ADMINISTRATION**

**{BY}**

**SRINIVAS SUNKARA**

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## About Author

**Srinivas Sunkara** is the **Service now Architect & Solution Provider** and founder of **Dettifoss IT Pvt.Ltd.** The education background includes in Master of Computer Application (**MCA**) from Acharya Nagarjuna University, Guntur, India. Total **10 years** of IT expertise and career was begin as Lotus Notes Developer. Previously worked on various technical platforms like... Share Point, Oracle Business Intelligence, Robotic Process Automation and past four years into Service now in software development. Training has been my passion and almost given training for **5000+ students**.

I would like to thanks my spouse **Satyavani** and son **Gautham** given great support to end this first edition of **Service Now LIVE** book and allowing to work at late night and I really appreciate their patience, way of understand, love, support, helping

I enjoyed meeting new people and hearing new perspectives. Reach out if want to talk to me about emerging technology called service now. Creating magic's with our platform. I focus on making new high-quality professional to serve our productivity

I have spent last several years utilizing my professional background as training experts and my service deliver to entire world. Currently lives in **Hyderabad, India**, working with **Dettifoss IT**

## About Reviewers

**Mr. Siva Prasad Kethineni** is working as SME on DevOps, Azure DevOps and AWS. He has more than 9 years' experience in IT. He is expert in automation process and code deployment. Since 9 years providing IT services for various clients and also be a part of corporate training with me. He helped me lot for review and edit my content

Special thanks to **Mr. Siva** without believing in me nurturing my mind, attitude, confidence. None of this would have been possible for **LIVE book**

**Mr. Saidarao Battineni** is working as VLSI Physical Designer and Planning Static, Timing analysis, Hardware Designing, ASIC Design, ASIC Synthesis. since 10 years providing service to different clients. He got best service provider awards more times

Special thanks to **Mr. Saidarao** you helped me a lot and motivation and mind set and positive attitude.

**Mr. Raghavendra** is working as senior consultant and solution provider for Share Point & Mule ESB and working with operation teams to providing services to difference customers. Having 11 years of experience into IT and 5 years on corporate training with me.

Thanks to Mr. Raghavendra for amazing help

## Content Editors & Digital Marketing

Special Thanks to

Mr. Sai Kumar Pothuguta

Mr. Raghu Ram Allamsetty

## Why I am writing this book

I have been working since four years on service now platform into various applications and modules and deep look into the platform.

These all days I faced lots of struggles but did not find any solutions. There is no step by step guide available in market. Finally, I decided to write step by step instruction guide that will help to people who already working on platform also for new learners

My **Service Now LIVE** book will provide step by step instructions in topic wise and very crystal clear, New learners and student are felling happy with my book

We have worked on this practice **Service Now LIVE book**, each topic is categorized into simplified very practical steps that we use with many customers and students. Our approach has improved practice make it easy

In this book we will learn how to get hands on experience on each applications and modules. It was mainly designed for everyone who wants to become a master in service now with practical exercises

## This book for whom

Who wants to become an expert in service now platform like Admins, Developers, implementors and architect's and they will expect each topic is step by step guide lines and very clear with screen shots

Who begin recently to learn service now application and modules and who already working in organization, still anybody looking for step by step hand guide. **This book is help them 100%**

## ServiceNow Live Book

First Edition

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Cover Design & Illustrations: Mr. Sai Babu Pothuguta, Mr. Raghu Ram Allamsetty

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**First Edition: 2019 Aug, Printed in India**

Published by

**Dettifoss IT & Service Now Academy**

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**Chapter – 1**

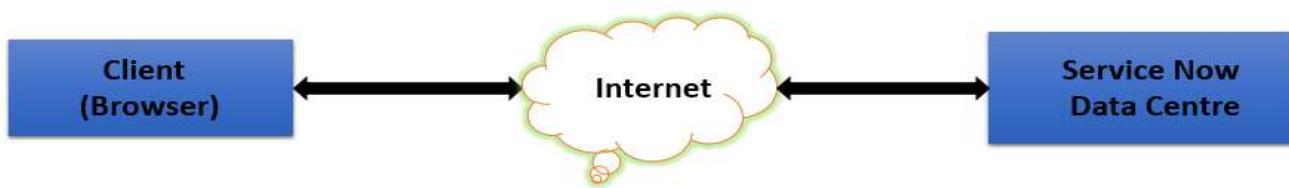
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# **Service Now Introduction**

## What is Service Now?

1. Service Now is a cloud based ITSM platform that supports **IT service management (ITSM)** and automates common business process.
2. This software as a service (SaaS) platform contains a number of modular applications that can vary by instance and user
3. **ITSM Suit**
4. Ticketing Tool
5. **SAAS** (Software as a service)
6. **PAAS** (Platform as a service)
7. Cloud based service
8. Used by **Service Desk**
9. Providing demo environment for Practice purpose
10. Do customization with **Java Script**



## Service Now Application Ecosystem

Dettifoss IT

Incident	Problem	Change	CMDB	Discovery
Service Catalog	Knowledge	Asset	Product Catalog	SDLC
Facilities	Time Cards	Content Management	HR	Analytics
Governance	Vendor	Project	Contract	Orchestration
Cost	Demand	Resource	Inventory	Release

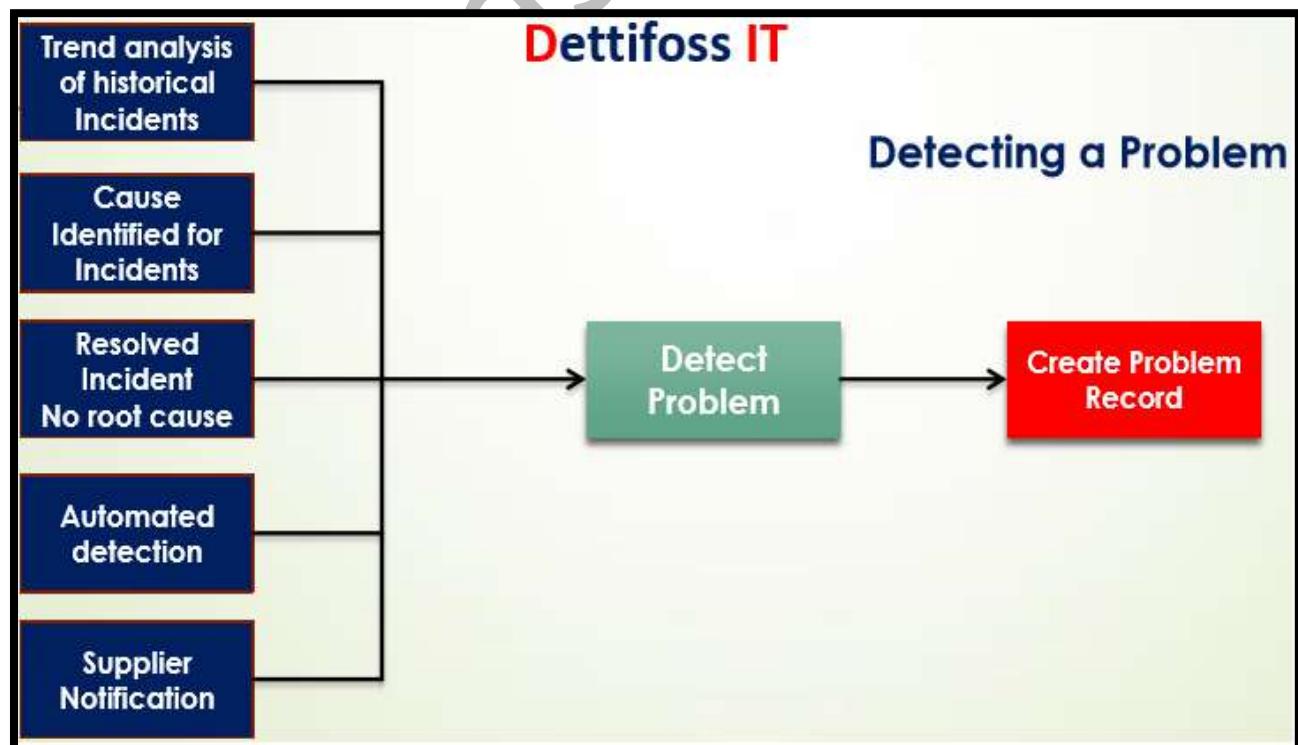
## Incident Management

- ✓ Incident management is typically closely aligned with the **Service Desk**, which is the single point of contact for all users communicating with IT.
- ✓ Incidents interrupt normal service, **such as when a user's computer breaks**,
- ✓ when the **VPN won't connect**, or when the **printer jams**. These are unplanned events that require help from the service provider to restore normal function.



## Problem Management

- ✓ A problem is defined by ITIL as the cause of **One or More Incidents**.
- ✓ Some incidents, such as a malfunctioning mouse at a user's workstation, are not indicative of a problem. Other incidents, such as repeated network outages, create a problem investigation due to their frequency



## Change Management

- ✓ Change management (sometimes abbreviated as CM) is a collective term for all approaches to prepare and support **individuals, teams, and organizations** in making organizational change.
- ✓ It includes methods that redirect or redefine the use of **resources, business process budget allocations**, or other modes of operation that significantly change a company or organization



## Release Management

- ✓ Release management is the process of **managing, planning, scheduling** and controlling a software build through different stages and environments
- ✓ including **testing and deploying** software releases.



## Service Now & Improving IT Service management

- ✓ Service-Now is dedicated to improving the industry's opinion of the value software delivers.
- ✓ Service-Now develops, implements and supports a suite of on-demand IT service management application offered via the internet as software as a service (SaaS).
- ✓ These applications are licensed on a simple and economical subscription basis
- ✓ Service-Now is redefining the IT management market, providing a new opportunity for organizations to fix their age-old problems
- ✓ Effective IT service management is all about implementing process with as much automation as possible,
- ✓ Remaining flexible to your business requirements and responding to reporting and workflow needs

## How Service-Now is different from other competitors

- ✓ Automatic upgrades
- ✓ Pure internet Platform
- ✓ Redundant and resilient data centers in Australia with application data encryption
- ✓ Native mobile interface
- ✓ **Simplified, flexible** subscription to all applications
- ✓ Google-like **global search** of IT
- ✓ Custom self-service portal modeled after your corporate Website
- ✓ Easily configurable applications offered as SaaS
- ✓ Drag-and-Drop graphical workflow
- ✓ **Delegated administration**
- ✓ Un presented growth, financial stability, customer satisfaction

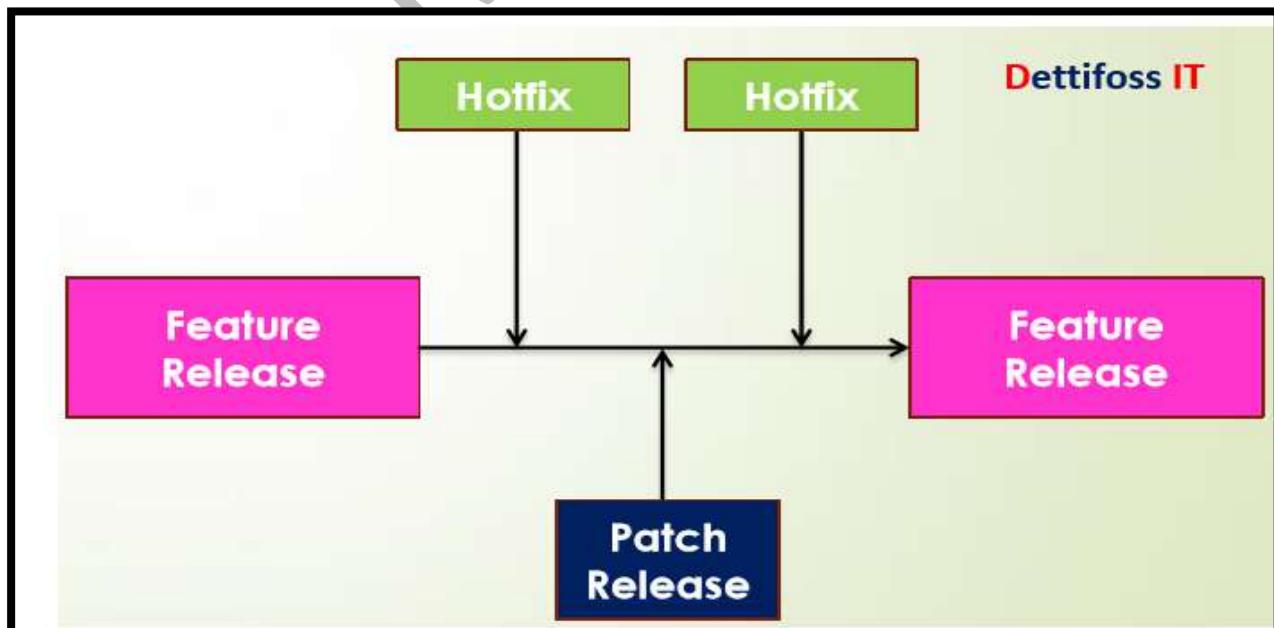
## Releases of Service Now

- ✓ Every ~10-12-month release cycle
- ✓ Feature release, patch release, hotfix
- ✓ New UI, new apps, new features

## Versions of Service Now

Version Name	Year of Release
Aspen	2011
Berlin	2012
Calgary	2013
Dublin	2013
Eureka	2014
Fuji	2015
Geneva	2015
Helsinki	2016
Istanbul	2016
Jakarta	2017
Kingston	2018
London	2018
Madrid	2019
New York	2019
Orlando	2020
Paris	2020

## Releases & Hotfix



## Major Customers of Service Now



## Service Now User Interface

Different roles in Service Now will experience different UI components.

- ✓ End User
- ✓ ITIL User (Fulfiller)
- ✓ System Administrator

## Benefits of Service Now

- ✓ Hosted in the Cloud
- ✓ Easy upgrade
- ✓ Based on ITIL
- ✓ Customization Possibilities
- ✓ Data Confidentiality
- ✓ More Integration
- ✓ Improved Operational Tracking
- ✓ On demand of IT service Management
- ✓ Powerful Reporting Feature



## Why is Service Now

1. Reduction of ITSM costs by **80%**
2. Uses Technology as a tool not a barrier
3. Process improvements with agility and low risk
4. Don't have to choose between upgrading/configuring



## How to use for Business Prospective

1. **Asset and Configuration:** identify and monitor IT service assets and their relationships.
2. **Planned and Policy:** define IT strategies' and manage projects.
3. **IT Services:** deliver IT services and support to business users.
4. **IT Operations Management:** track and manage IT resources and systems.
5. **Non-IT Services:** automate business process outside of IT

## Who use Service Now

### Employees

To request IT business services.

### IT Support staff

To manage service requests, Incidents and problems

### Administrators

To manage applications available to selected users, granting them roles and other access controls

### Implementers

To deploy process applications and platform features that address an organization business needs

### Developers

To create new functionality with scripts or custom applications to extend standard configuration

## Who can learn Service Now

- ✓ There are no prerequisites to learn service now
- ✓ Although awareness of programming knowledge would be little helpful during the course
- ✓ Every API feature used, will be based on the service now platform

## History of Service Now

- ✓ Service Now, Inc. is a cloud computing company headquartered in Santa Clara, California.
- ✓ It was founded in 2004 by **Fred Leddy**
- ✓ The previous CTO of software companies Peregrine Systems and Remedy Corporation.
- ✓ Service Now is listed on the New York Stock Exchange and is a constituent of the Russell 1000 index
- ✓ This tool is based on the ITIL Standards

## Features of Service Now

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>✓ Asset management.</li><li>✓ Change and release management.</li><li>✓ Configuration management.</li><li>✓ Incident management.</li><li>✓ IT cost management.</li><li>✓ Problem management.</li><li>✓ Service catalog.</li><li>✓ Demand management.</li><li>✓ Simple and Consistent</li><li>✓ Flexible</li><li>✓ Secure</li><li>✓ Easy to Integrate</li><li>✓ Speed time to Production</li><li>✓ All is in Table format</li></ul> | <ul style="list-style-type: none"><li>✓ Different type of Modules</li><li>✓ Different Types of Users</li><li>✓ Update Set</li><li>✓ Functionality in Service now</li><li>✓ Manage the Data (group, users)</li><li>✓ Load the Data</li><li>✓ Import the data</li><li>✓ Export the data</li><li>✓ Email Notification and SM</li><li>✓ Workflow</li><li>✓ Reporting</li><li>✓ Mobile, Desktop, Tablets view</li><li>✓ Live feed (Chat Portal)</li><li>✓ Catalog</li><li>✓ Knowledge Module</li><li>✓ Service Portal</li><li>✓ Content Management System (CMS)</li></ul> |
|---|--|

## Founder and CEO Service Now

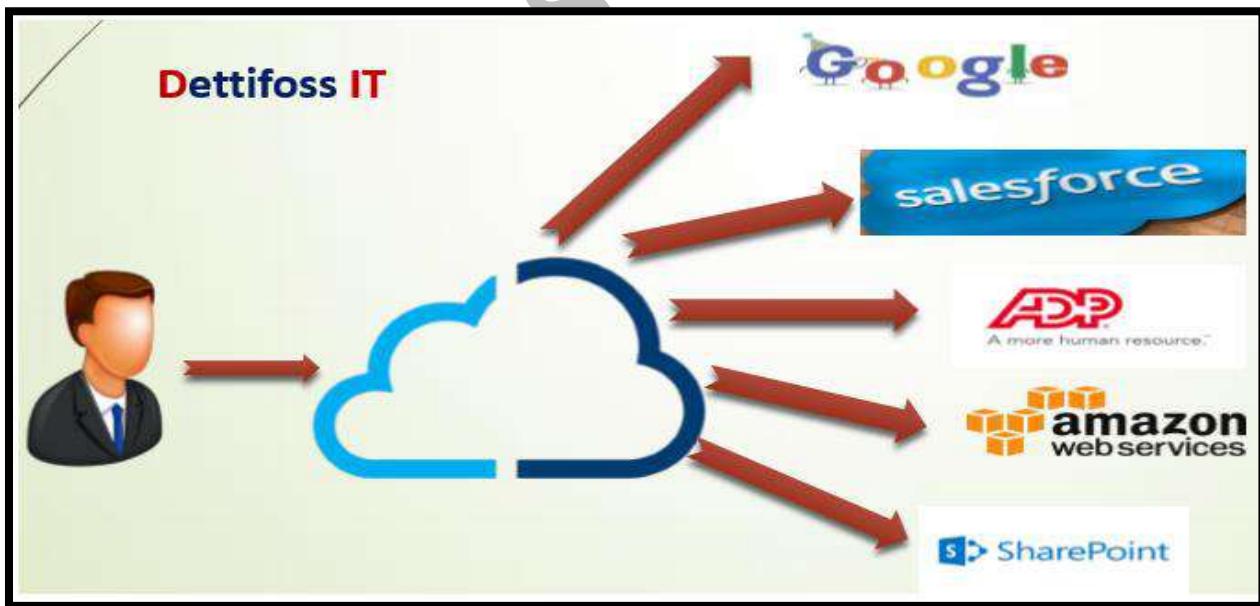


CEO : John Donahoe

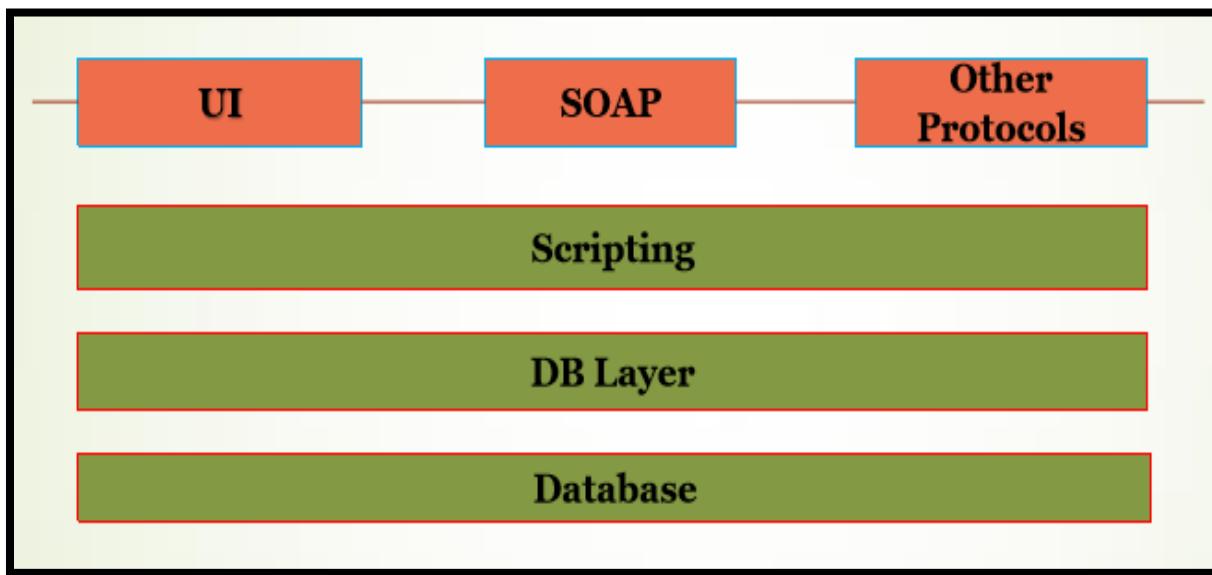


Founder : Fred Luddy

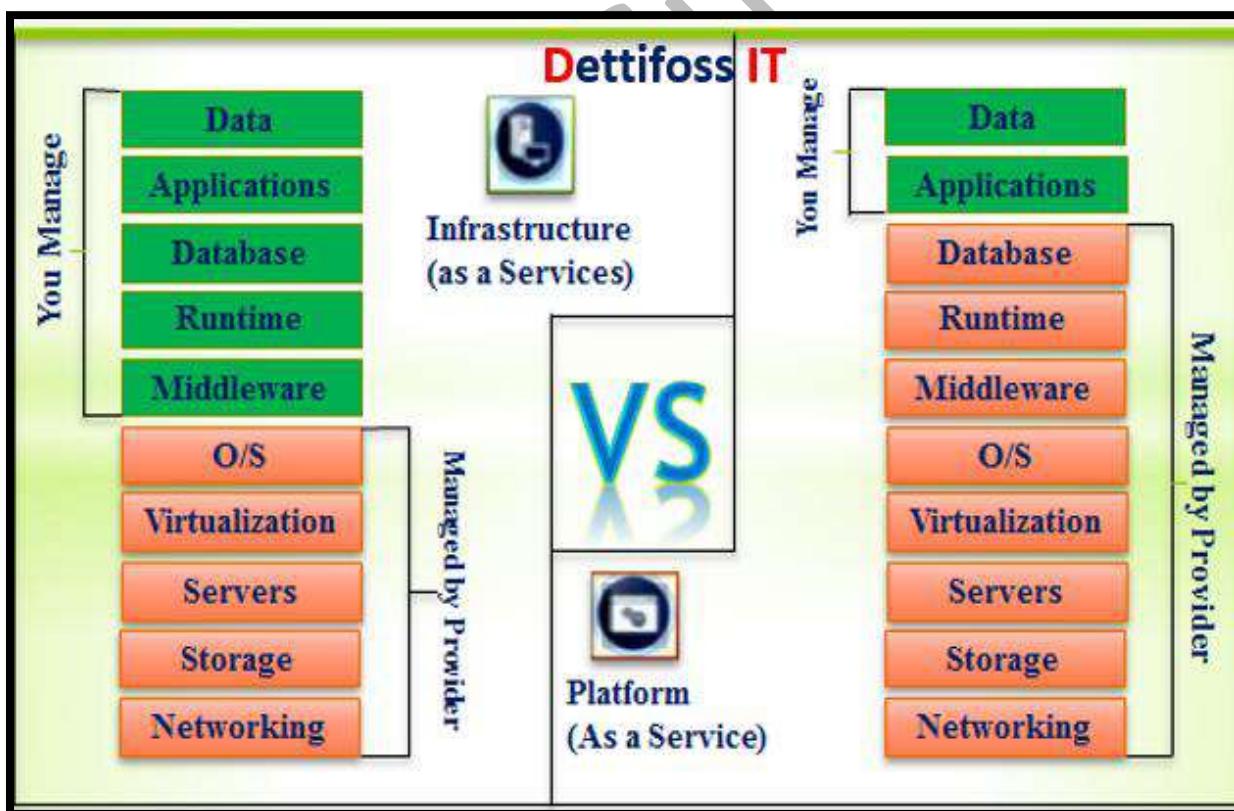
## What is SaaS



## Service Now Architecture



## IaaS Vs. PaaS



## Chapter - 2

# **Personal Instance Account Creation**

## Service Now Developer Account Creation

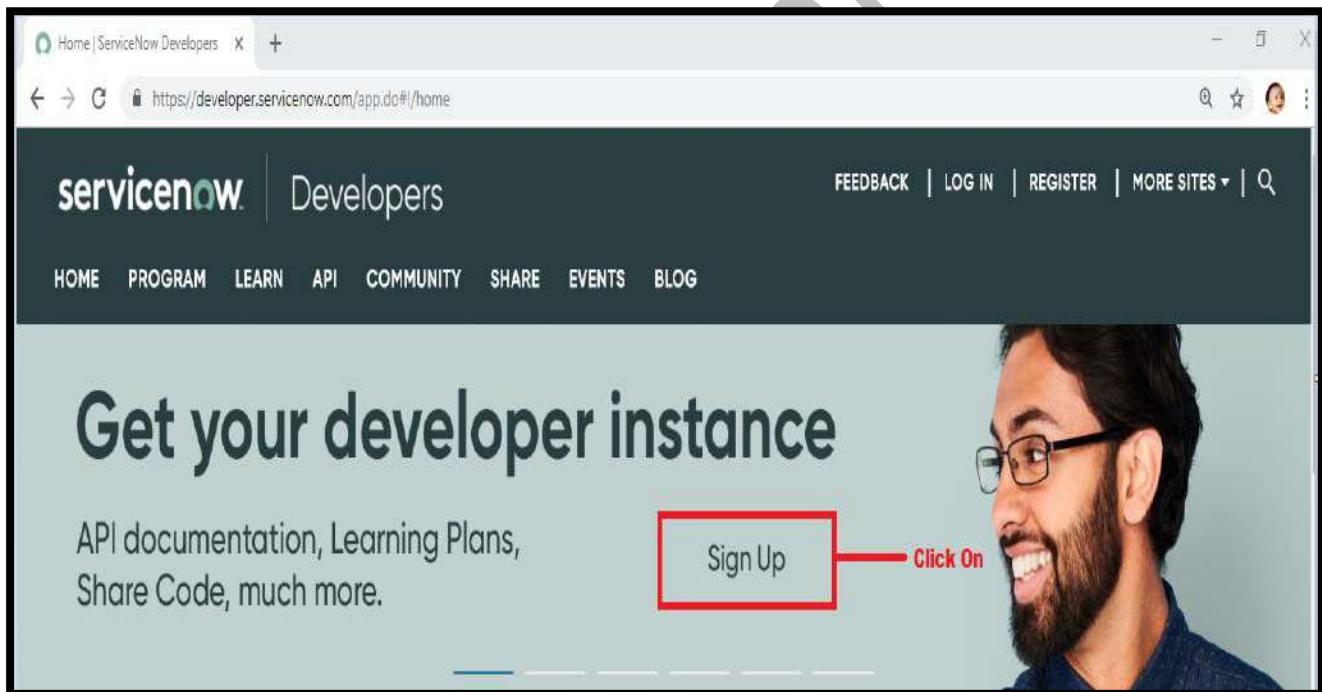
In this chapter we will learn how to create a personal developer instance:

Service Now offering free and full-fledged personal developer instances (**PDI**) to registered users who want to develop scope applications on the Service Now platform or improve their skills with Service Now. Members of the Service Now Developer Program can use their PDI as long as there is activity on the instance.

### Exercise 1: Creating a Personal Developer Instance

Create a personal developer instance is very fast and easy.

1. Log in to the [Service Now developer site](https://developer.servicenow.com) ( <https://developer.servicenow.com> )



2. Provide all **required** details below

Welcome to ServiceNow Registration

Sign up for a ServiceNow ID

Srinivas

Snow167

srinivassnow167@gmail.com

.....

.....

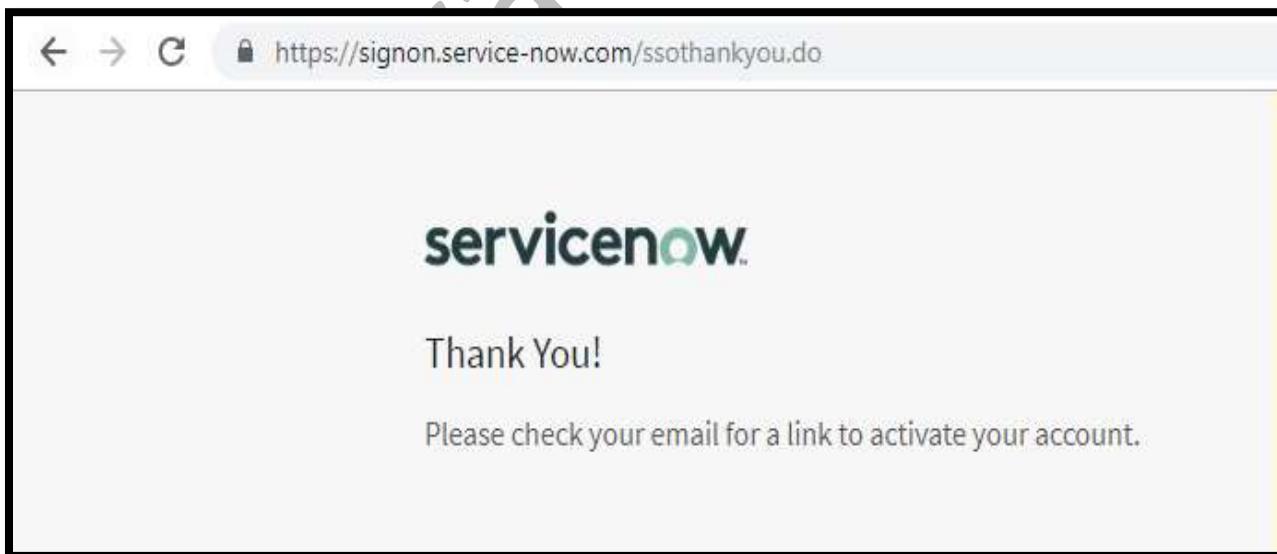
mhm3c

**mhm3c**

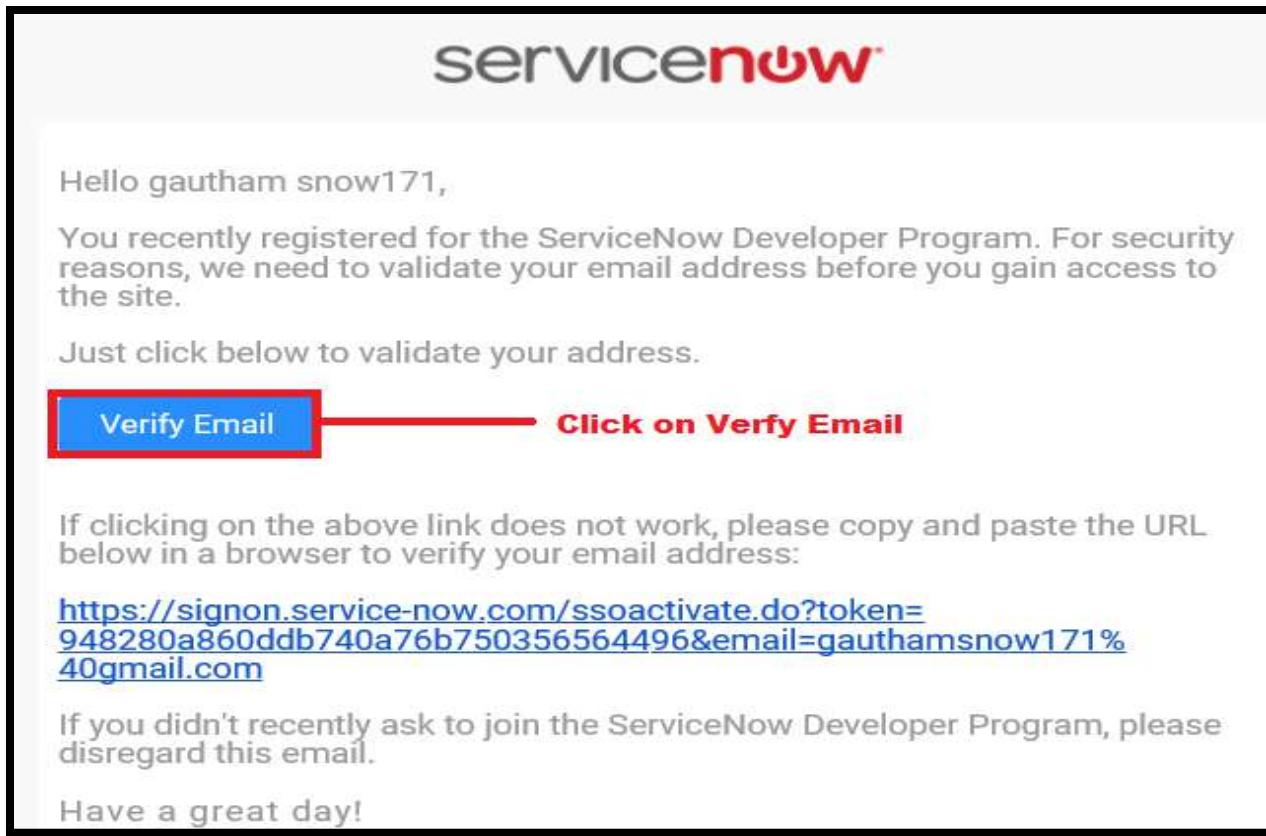
I have read and agree to the [terms of use](#) and understand that my personal information is processed in accordance with ServiceNow's [privacy statement](#).

**Sign Up**

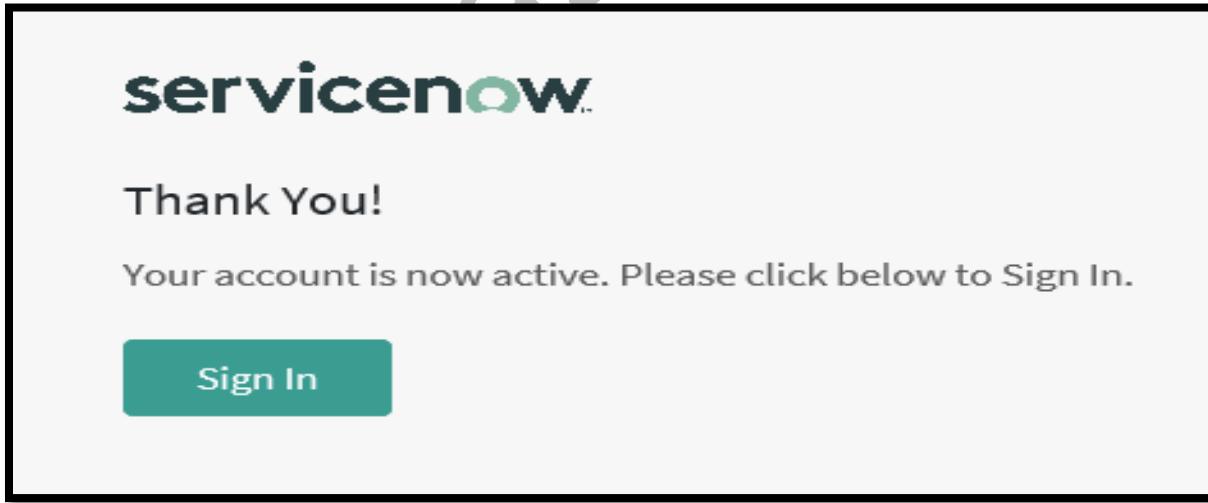
3. Click on **Sign Up**



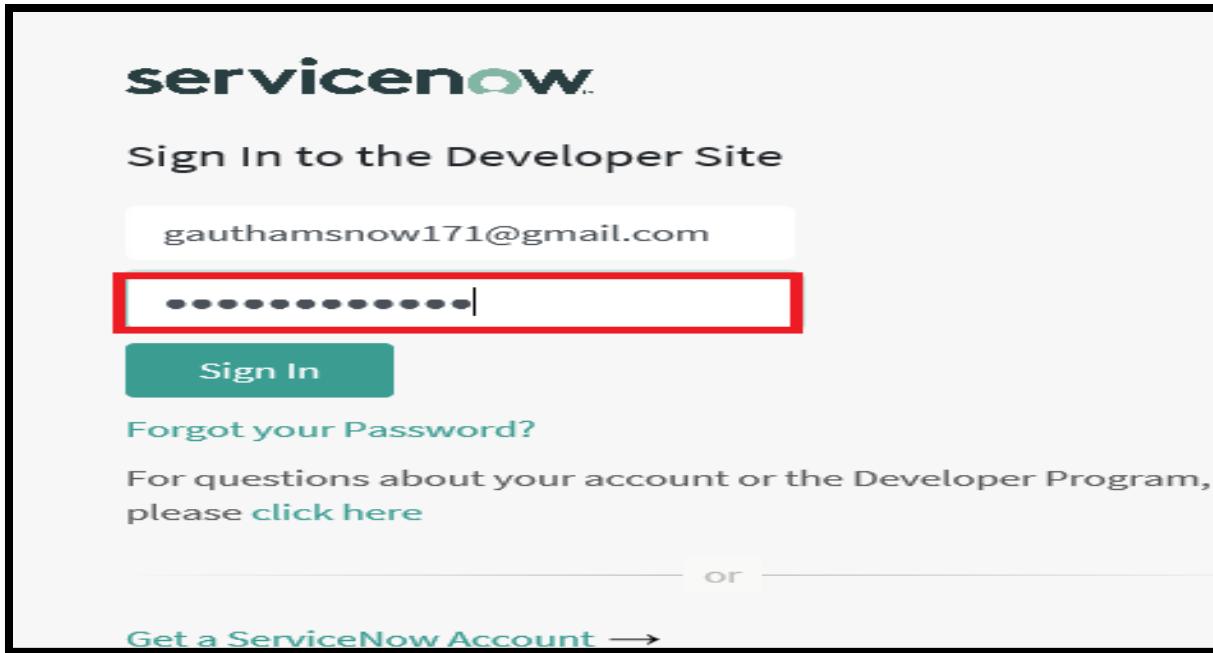
4. Open your **Gmail account** and verify it



5. Now account is active, try to login in account



1. Click on **Sign in** and Provide your account password and



The image shows the ServiceNow developer sign-in page. It features a "Sign In to the Developer Site" header, a login input field containing "gauthamsnow171@gmail.com", a password input field with redacted text, a "Sign In" button, a "Forgot your Password?" link, and a note about account questions. A "Get a ServiceNow Account →" link is also present.

Sign In to the Developer Site

gauthamsnow171@gmail.com

.....

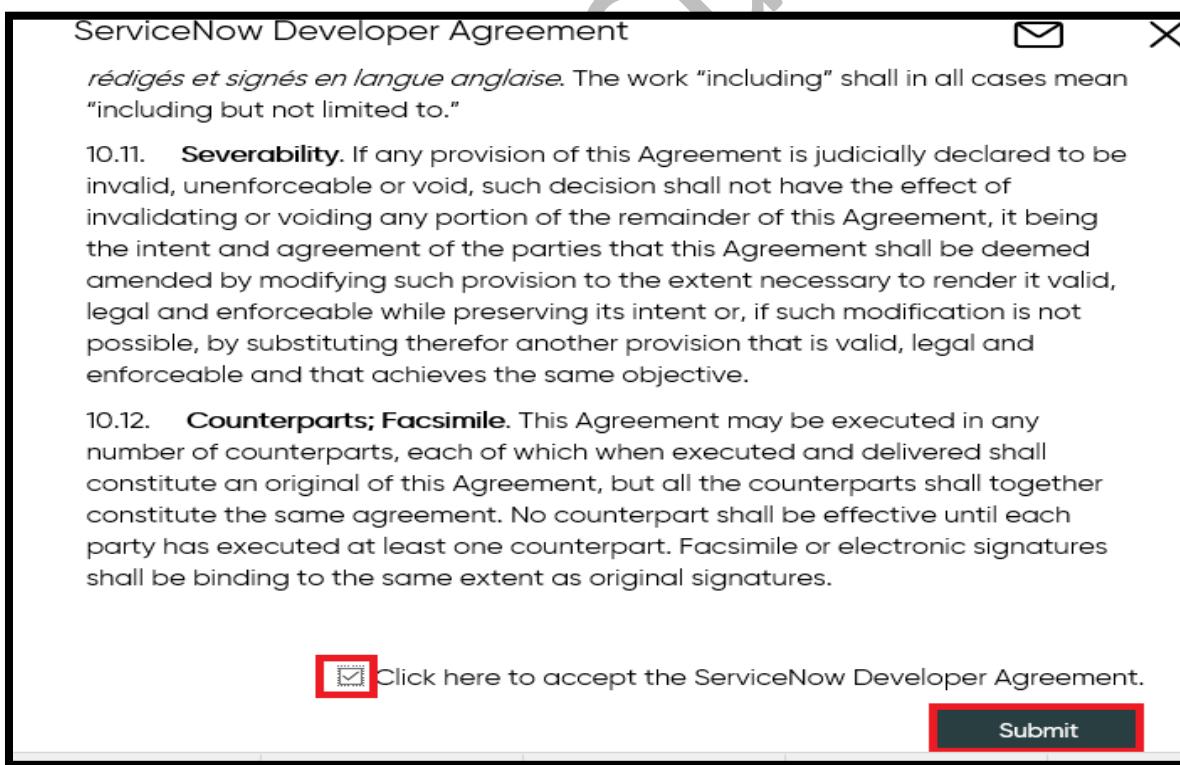
Sign In

Forgot your Password?

For questions about your account or the Developer Program,  
please [click here](#)

Get a ServiceNow Account →

2. Sign on developer agreement and click on **Submit**



The image shows the ServiceNow developer agreement page. It displays two paragraphs of legal text: one about severability and another about counterparts/facsimile. At the bottom, there is a checkbox labeled "Click here to accept the ServiceNow Developer Agreement." and a "Submit" button.

ServiceNow Developer Agreement

*rédigés et signés en langue anglaise.* The work "including" shall in all cases mean "including but not limited to."

10.11. **Severability.** If any provision of this Agreement is judicially declared to be invalid, unenforceable or void, such decision shall not have the effect of invalidating or voiding any portion of the remainder of this Agreement, it being the intent and agreement of the parties that this Agreement shall be deemed amended by modifying such provision to the extent necessary to render it valid, legal and enforceable while preserving its intent or, if such modification is not possible, by substituting therefor another provision that is valid, legal and enforceable and that achieves the same objective.

10.12. **Counterparts; Facsimile.** This Agreement may be executed in any number of counterparts, each of which when executed and delivered shall constitute an original of this Agreement, but all the counterparts shall together constitute the same agreement. No counterpart shall be effective until each party has executed at least one counterpart. Facsimile or electronic signatures shall be binding to the same extent as original signatures.

Click here to accept the ServiceNow Developer Agreement.

Submit

3. Fill all mandatory fields on below form and click on **Submit**

A few questions so we can maximize your experience...

\* What best describes you?  
(choose the best answer)

I am a current/potential partner  
 I am a current/potential customer  
 I am an independent developer  
 Other

\* What do you want to do?  
(choose the best answer)

Learn about the platform  
 Build an application for my company  
 Sell an application on the Store  
 Become a certified developer  
 Other

\* Country

\* Company

\* Role

\* Zip/Postal code

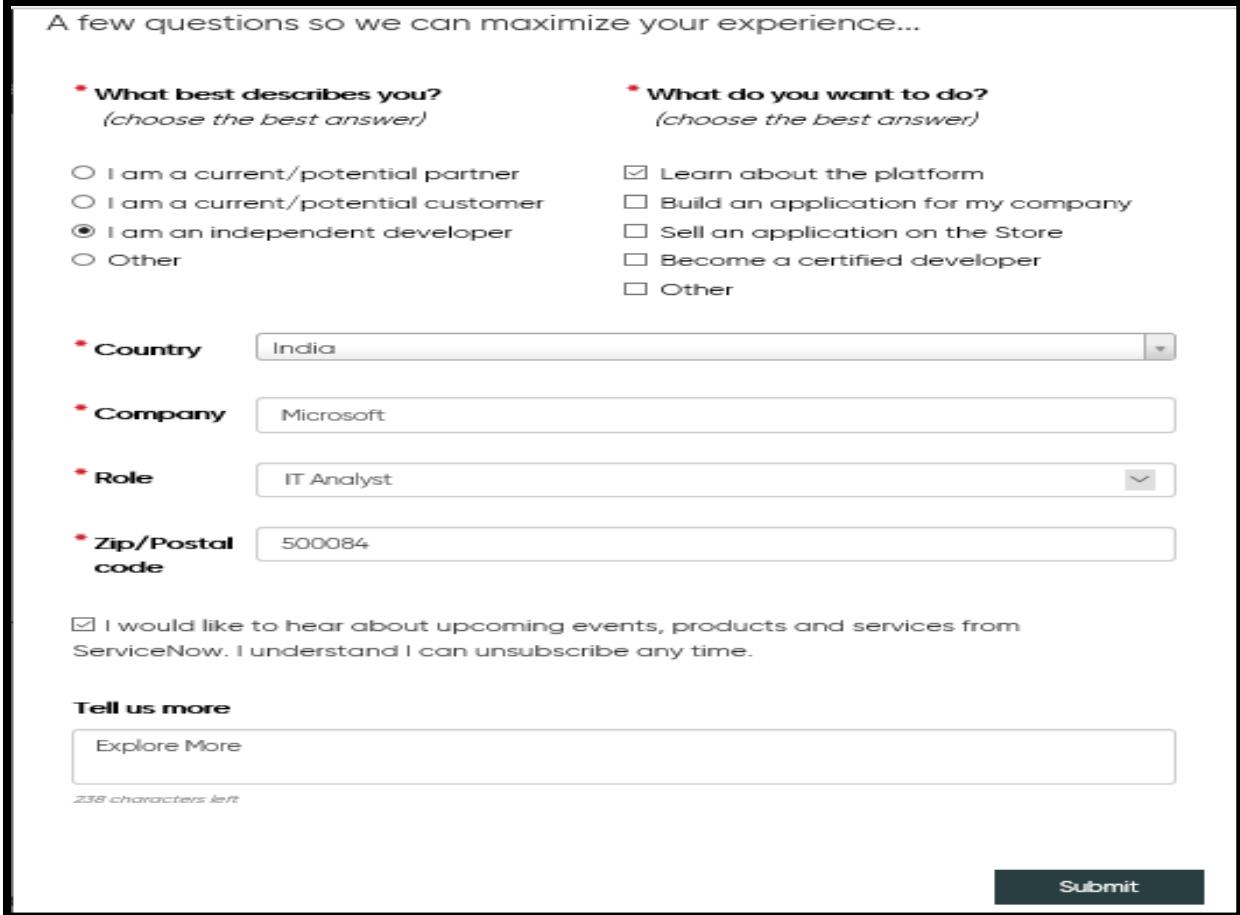
I would like to hear about upcoming events, products and services from ServiceNow. I understand I can unsubscribe any time.

Tell us more

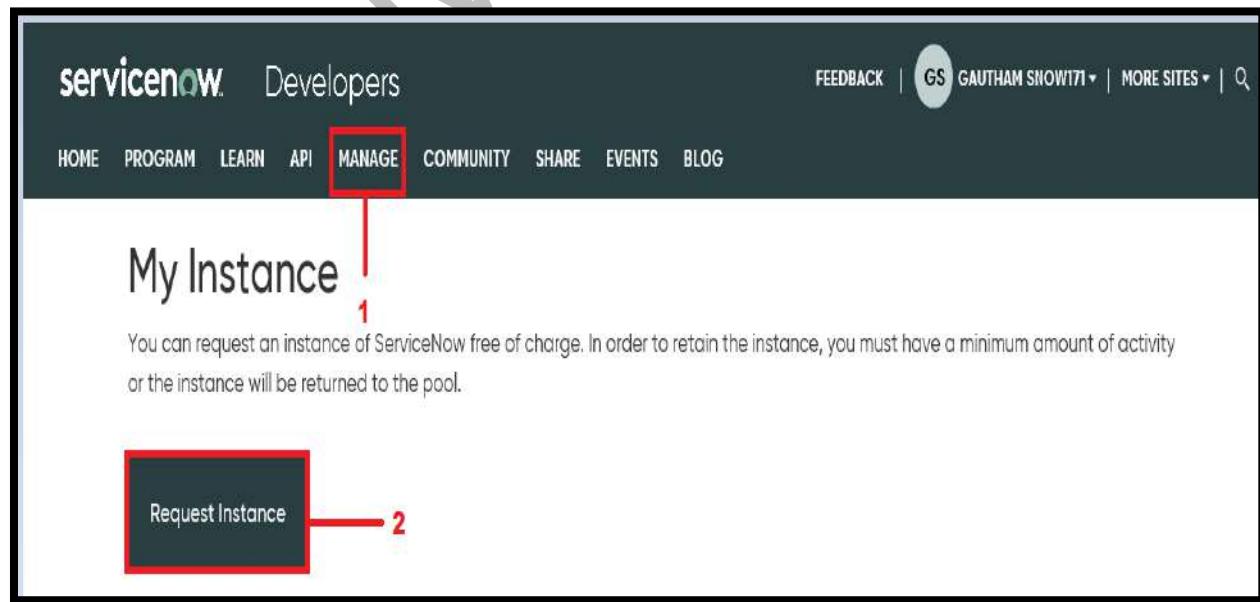
Explore More

238 characters left

Submit



4. Click on **Manage Menu** and click on **Request Instance** button



5. Fill note field and click on **I understand** button

## Please Note

Your personal developer instance will be reclaimed after 10 days of inactivity. To understand how we track activity and other important information on your personal developer instance, please see the [FAQ](#).

**Please tell us how you will use your ServiceNow personal developer instance? \***

Explore More|

7988 characters left

I understand

6. Select a Service Now Version for the instance.
7. Service Now developer instance offering **latest 3 versions**, in this case I have selected Madrid

Which version of ServiceNow would you like?



Kingston Release Notes

**Kingston**



London Release Notes

**London**



Madrid Release Notes

**Madrid**

If you aren't sure which version to choose, start with Madrid.  
It's our latest available release and we have an instance ready for you to get started.

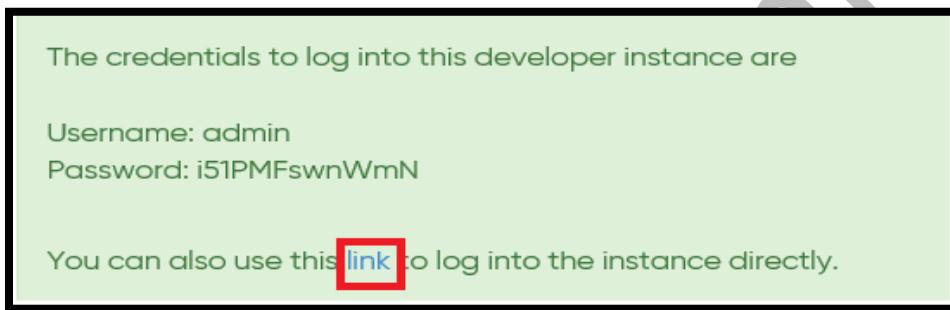
**Request Instance**

Cancel

8. Click on Request Instance button
9. Once created an account it will assign one domain id for each individual personal developer instance and provide credential details



**10.** Remember **username** and **copy password** then click on link



**11.** Past our password into **current password** field and set **new password** and **confirm new password**

The screenshot shows a 'Change Password' form with the following fields:

- User name: admin
- Current Password: [Redacted]
- New password: [Redacted]
- Confirm New Password: [Redacted]

A 'Submit' button is located at the bottom right of the form.

**12.** Click on **Submit** button



**Note:** If you navigate away from the My Instance page before copying the admin credentials, you will need to reset the admin password. Click the **Action Button** and select the **Reset admin password menu** item. Follow the prompts to get a new admin password.

A screenshot of the ServiceNow home page. The left sidebar includes links for Self-Service, Homepage, Business Applications, Dashboards, Service Catalog, Knowledge, Help the Help Desk, Visual Task Boards, Connect Chat, and a URL link. The main area shows a "System Administration" dashboard with a central message: "Make your life easier, create a dashboard!". It explains that dashboards are like homepages but easier to use, featuring a drag-and-drop canvas for adding, moving, and resizing widgets, and flexible sharing. Buttons for "Don't ask me again", "Remind me later", and "Create dashboard version" are present. Below this is a "System Administration" section with six cards: "Guided Setup" (gear icon), "System Security" (shield icon), "Business Logic" (play and checkmark icon), "Create and Deploy" (server icon), "Data Management" (grid icon), and "Diagnostics" (monitor icon).

**18. Service Now Home Page** Look like above screen shot

In order to keep the developer program free and provide **PDI**s to everyone who wants one, instances hibernate when they are idle. You can wake up a hibernating instance by navigating to **Manage > Instance** on the [Service Now developer site](#). It takes approximately three minutes to wake up a hibernating instance. Your work is saved on hibernating instances.

If there is no instance activity within **10 days**, the instance is reclaimed. Reclaimed instances and their data cannot be recovered. Log in to your instance and use it regularly to keep the instance active.

## Exercise 2: Login into Personal Developer Instance

In this exercise, we will learn how log in to a personal developer instance (PDI).

1. In a web browser, open [developer.servicenow.com](#).
2. Log in with your developer site **username** and **password**. If you are not currently a member of the Service Now developer site, create an account.
3. **Open Manage > Instance**.
4. Click the **Request Instance** button.
5. Select Madrid as the version. If Madrid is not available, select any available previous version. After the instance is spun up, use the Actions button to upgrade to the version of your choice.



It is not possible to downgrade versions. When your instance is available, you will see the Instance URL and credentials.

## How we come to know which version currently using

1. **Move to Filter Navigator > Open application Stats.do**
2. Click on **Enter**

The screenshot shows the ServiceNow stats.do page. At the top, it displays "servicenow. Srinivas Service Now ITSM". On the right, there is a user profile for "System Administrator" and a search icon. The main content area shows the following statistics:

Statistics for: Demo Server @ [dev85281.service-now.com:80](http://dev85281.service-now.com:80) at: Mon May 06 01:10:10 PDT 2019 ([Refresh](#))  
Connected to cluster node: app129033.ycg3.service-now.com:dev85281001  
Build name: Madrid  
Build date: 03-29-2019\_1650  
Build tag: glide-madrid-12-18-2018\_patch2-03-20-2019  
Instance name: dev85281  
Instance ID: 0daf1b20db55bb8092ce59705961901  
Node ID: 89fc600922167f5e7aa7900278e86e48  
IP address: 10.88.129.33  
MID buildstamp: madrid-12-18-2018\_patch2-03-20-2019\_03-29-2019\_1650  
Load-balancer status: Singleton:Online  
Database latency: 2  
Offering: enterprise  
[Open Source software](#)

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**Servlet Memory**  
Max memory: 1980.0  
Allocated: 545.0  
In use: 242.0  
Free percentage: 56.0

## Chapter-3

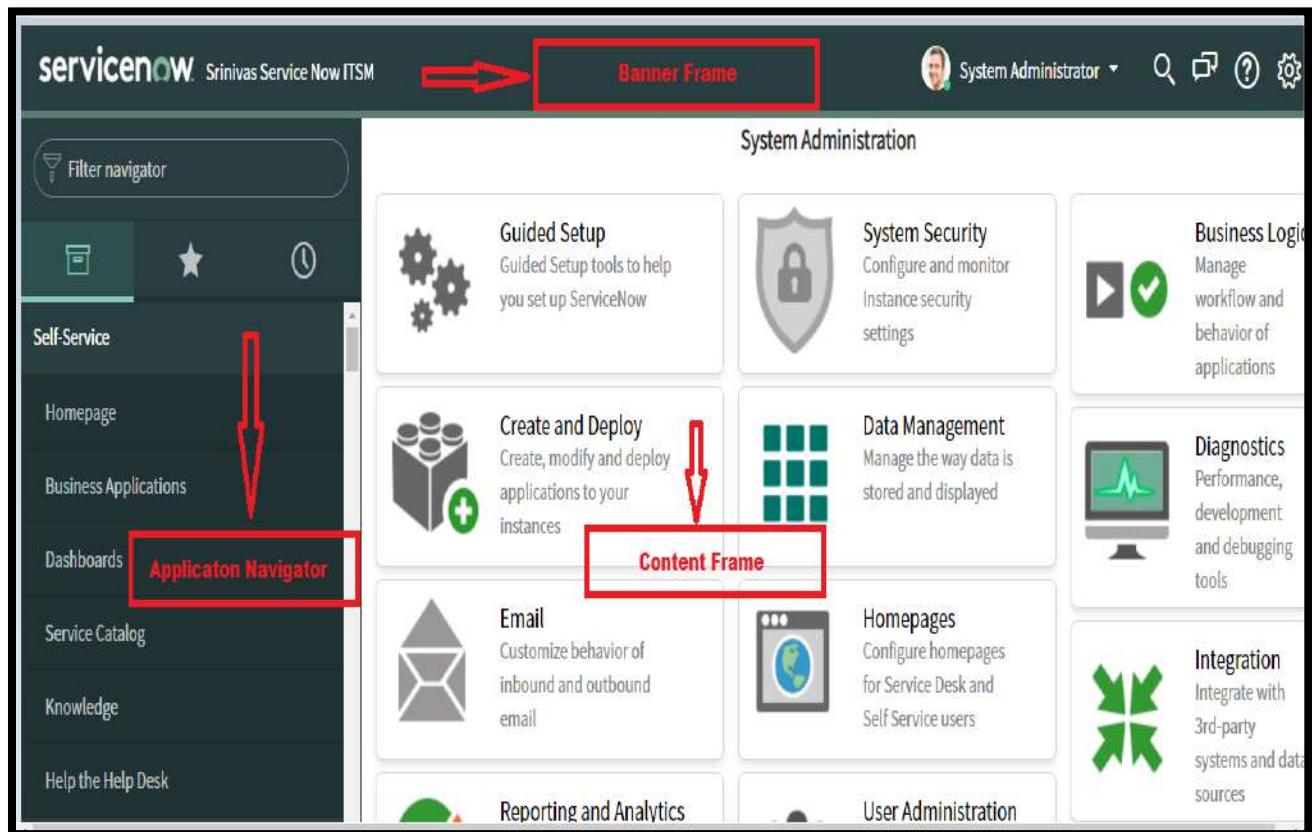
# Service Now User Interface

## Service Now User Interface

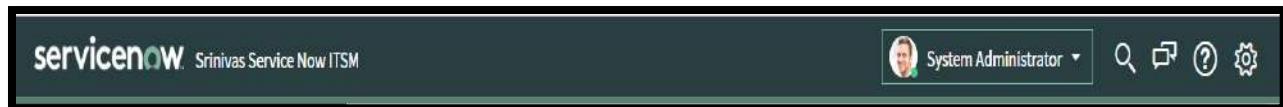
In this chapter we will obtain about service now user interface:

There are three components of the Service Now user interface **UI16**:

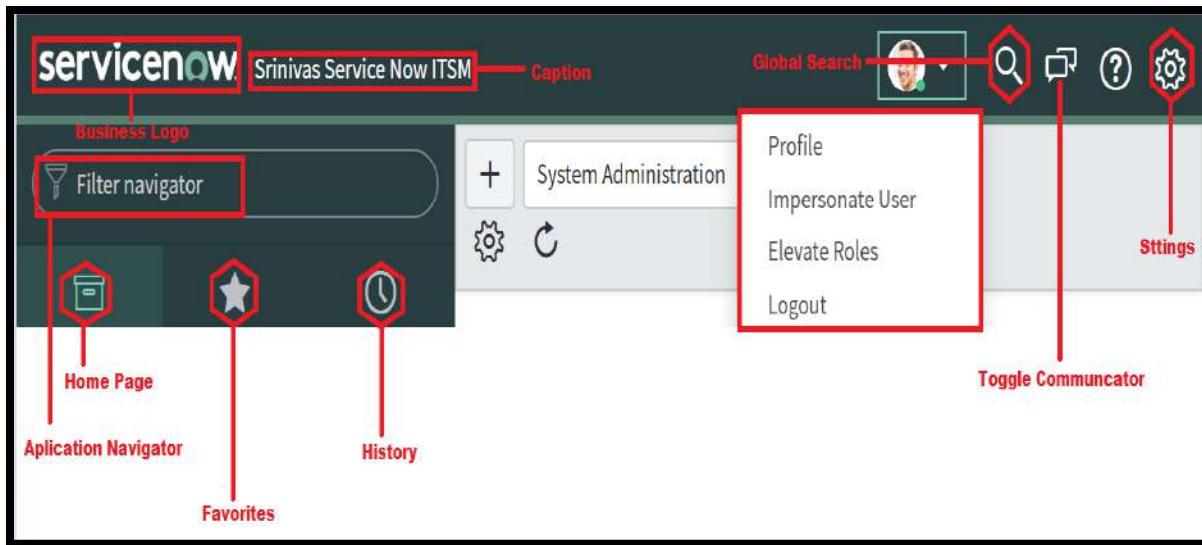
1. Banner Frame
2. Application Navigator or Left Navigator or Filter Navigator
3. Content Frame



## Working with Banner Frame



The banner frame shown at the top of every service now home page. It contains a **logo image and global navigation controls**. The controls are restricted based on user **role**. The admin user sees all of the controls. The *Settings* control ( ) contains a pane for setting developer options. The banner shows which user is logged in.



The Banner Frame of UI16 contains the following controls:

- User Menu:** This control allows the user to access and modify **his logged in user profile**.
- Impersonate User:** Administrators can impersonate other authenticated users for testing purposes or better understanding customer issue and view impersonation logs. The impersonation option is not visible in the mobile view of the platform. by default, it visible to **admins**

When impersonating another user, the administrator has access to exactly what that user can access in the system, including the same **menus and modules**. The instance records anything the administrator does while impersonating another user as having been done by that user.

**Note:** Impersonate roles is applicable to only particular session,

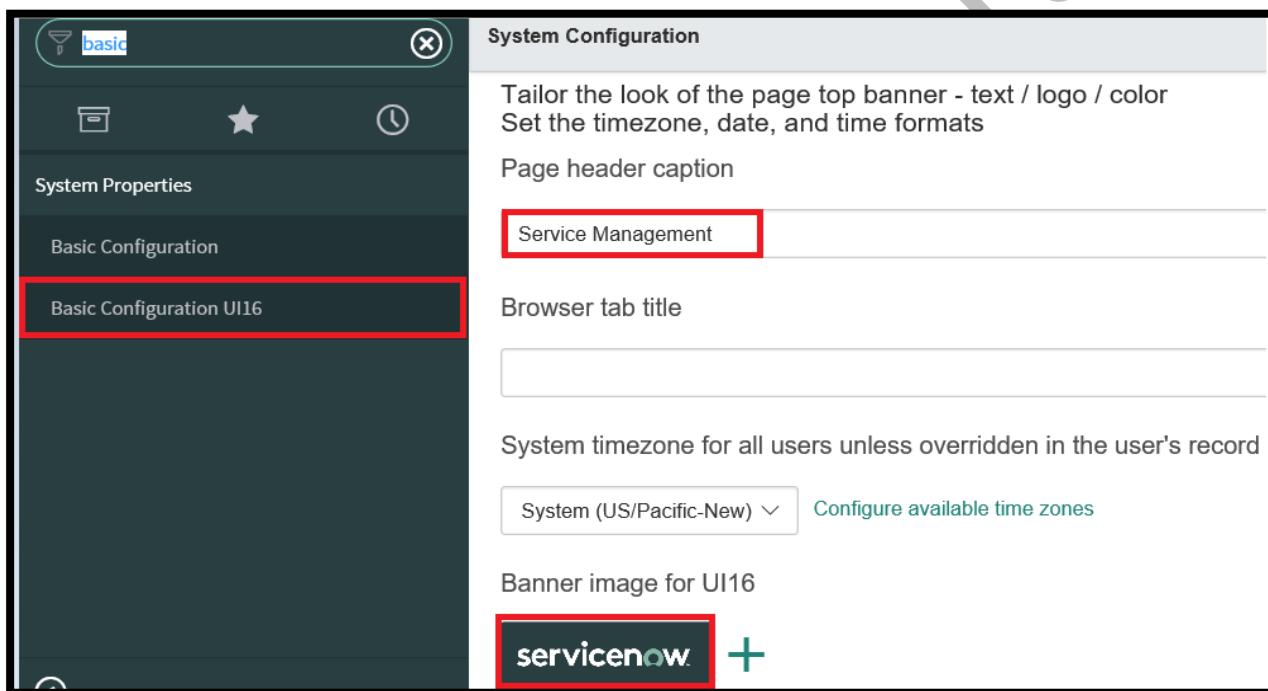
- Elevated Privilege Roles:** It require you to manually accept the responsibility of using the role before you can access the features of the role.
- Global Search:** This control helps to search for records from tables
- Connect sidebar icon:** Clicking this control opens a tab on the right side to connect with the co-workers and also find existing conversations. This icon is available if Connect (plugin for live feed) is enabled.
- Help icon:** Clicking this icon opens a tab on the right side with 3 links that would help the user with documents on service now
- Settings icon:** This control opens a popup window with various options for system settings. This window also has a button to switch the UI from UI16 to UI15 or vice versa.

## Exercise 1: Configure logo, colors, system defaults for UI16

We can use the **Basic Configuration UI16** module to change brand your instance with your **company logo** and **colors** and set **basic system defaults**. This is the best place to start if you are setting up your instance for the first time or if you have recently enabled UI16.

### Procedure

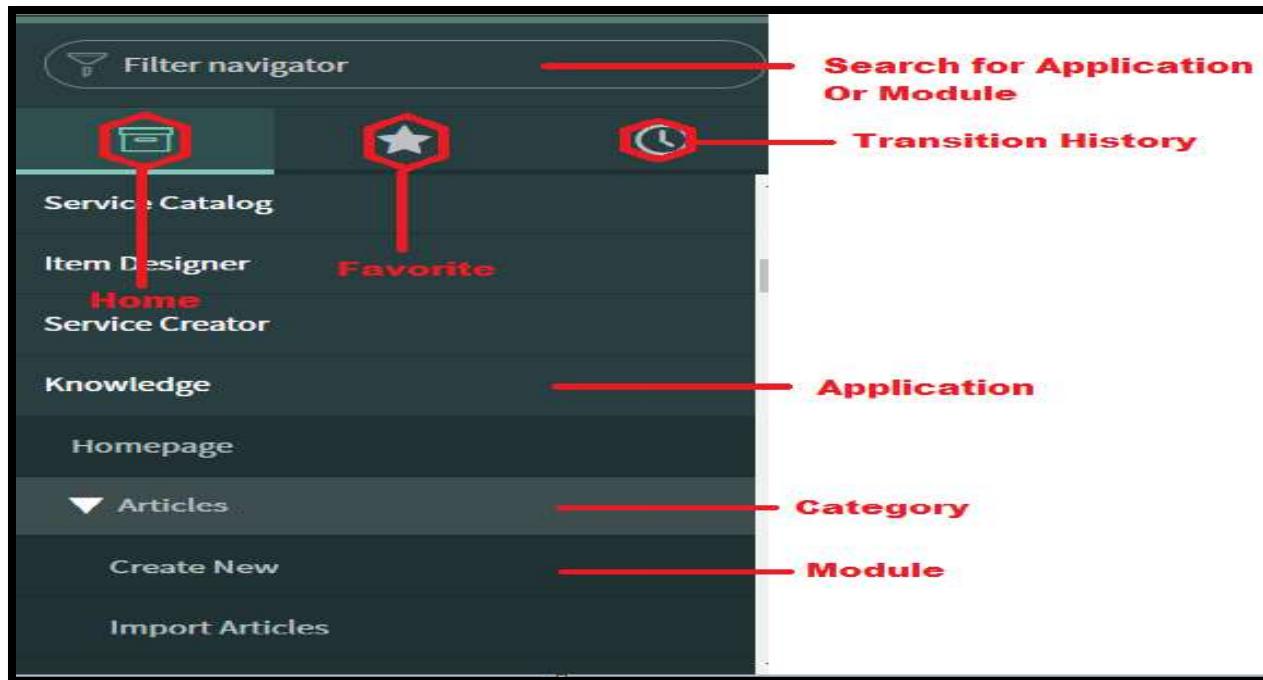
1. Navigate to **System Properties > Basic Configuration UI16**
2. Complete the configuration by changing any of the following settings.
3. Basic system configuration properties



### Working with Application Navigator

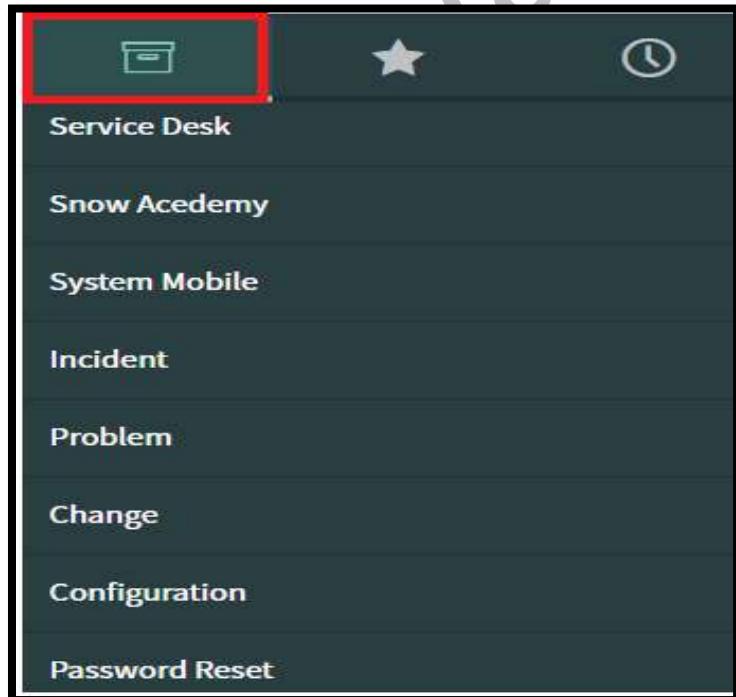
The **application navigator** provides access to all **applications** and the modules they contain, enabling users to quickly find information and services. An **application** a group of modules, or pages, that provide related information and functionality in an instance.

1. Also called **left-navigation** bar
2. Provides links to all applications and modules to quickly find information and services.
3. Each application appears as a section in the application navigator denoted by an application label.
4. Modules are listed by name Under each application label.
5. **UI16 has 3 tabs** in the application navigator



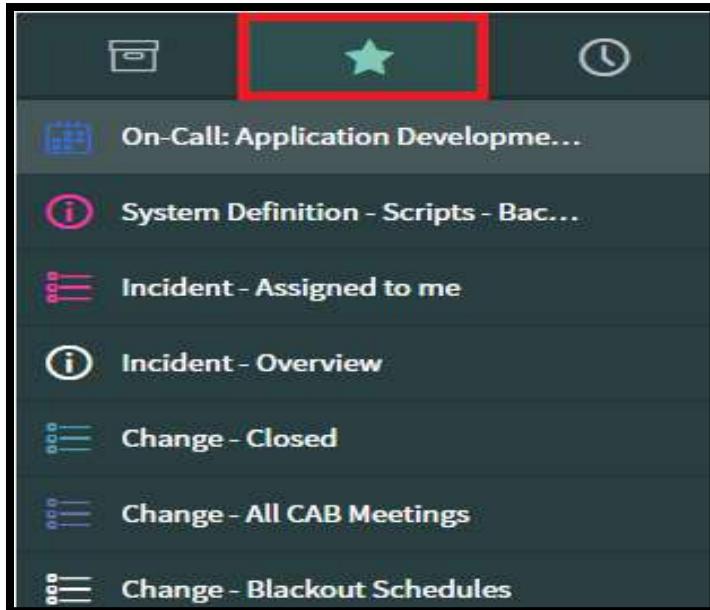
## 1. All Applications

Displays all application menus and modules. Each application appears as a section in the application navigator denoted by an application label. Modules are listed by name under each application label.



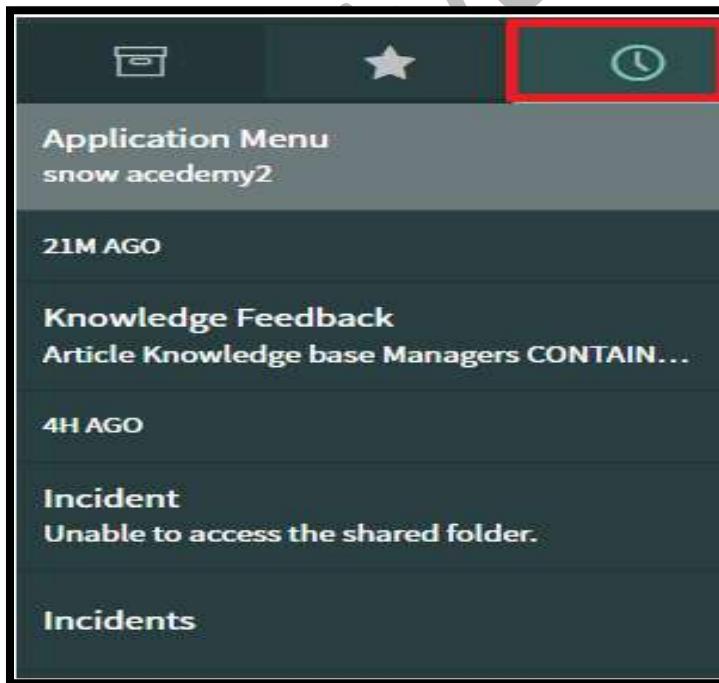
## 2. Favorites

Displays items you have added as favorites. If you upgrade to UI16 from a previous interface, any bookmarks you created are automatically converted to favorites.



## 3. History

Displays transitions' you have recently accessed



## Working with Content Frame

The content frame displays content pages when users select modules in the Application Navigator. The pages in the content frame render data in many ways. The most basic page types are lists and forms.

The screenshot shows the ServiceNow interface for the 'Incident' module. On the left, the Application Navigator lists various categories: 'System Mobile', 'Incident' (which is selected and highlighted with a red box), 'Create New', 'Assigned to me', 'Open', 'Open - Unassigned', 'Resolved', 'All' (which is also highlighted with a red box), 'Overview', and 'Critical Incidents Map'. The main content area displays a list of incidents with columns for Number, Opened, Short description, Caller, and Priority. One incident entry has the text 'Content Frame' overlaid in red. The data for the incidents is as follows:

	Number	Opened	Short description	Caller	Priority
	SNA010006	2019-05-06 20:43:41	(empty)	5 - Planning	
	INCIDENT0010008	2019-05-06 20:41:33	fsdfzsfssfff	Abraham Lincoln	5 - Planning
	INC0010011	2019-05-06 22:55:43	Facing network problem with VPN	Abraham Lincoln	2 - High
	INC0009009	2018-08-30 01:06:16	Unable to access shared folder.	David Miller	4 - Low
	INC0009005	2018-08-31 21:35:21	Email server is down.	David Miller	1 - Critical
	INC0009004	2018-09-01 06:13:30	Defect tracking tool is down.	David Miller	3 - Moderate
	INC0009003	2018-08-30 02:17:32	Cannot sign into the company portal app	David Miller	3 - Moderate
		2018-09-16	My computer is not		

## Chapter-4

# ds Sunkara

## Forms

## What is Form (Service Now)

1. A form **displays information** from one record in a data table.
2. The specific information on a form depends on the **type of record** displayed.
3. Users can **view and edit** records in forms.
4. **Administrators** can configure what appears on forms.
5. A form is a content page displaying fields and values for a single record from a database table.
6. Forms have a **1-column layout**, a **2-column layout**, or a mix of both.
7. Forms are opened from modules in the Application Navigator or by clicking a record's number in a list.

The screenshot shows a ServiceNow incident form titled 'Incident' with record ID 'INC0009009'. The form is divided into two columns. The left column contains fields: Number (INC0009009), Caller (David Miller), Category (Hardware), Subcategory (CPU), Business service (empty), Configuration item (\*CAROL2-IBM), Short description (CPU is Crashed), and Description (Unable to access the shared folder. Please provide access.). The right column contains fields: Contact type (None), State (New), Impact (3 - Low), Urgency (2 - Medium), Priority (4 - Low), Assignment group (Hardware), Assigned to (David Loo), and a small note icon. The top right of the form includes standard buttons: Follow, Update, Resolve, and Delete.

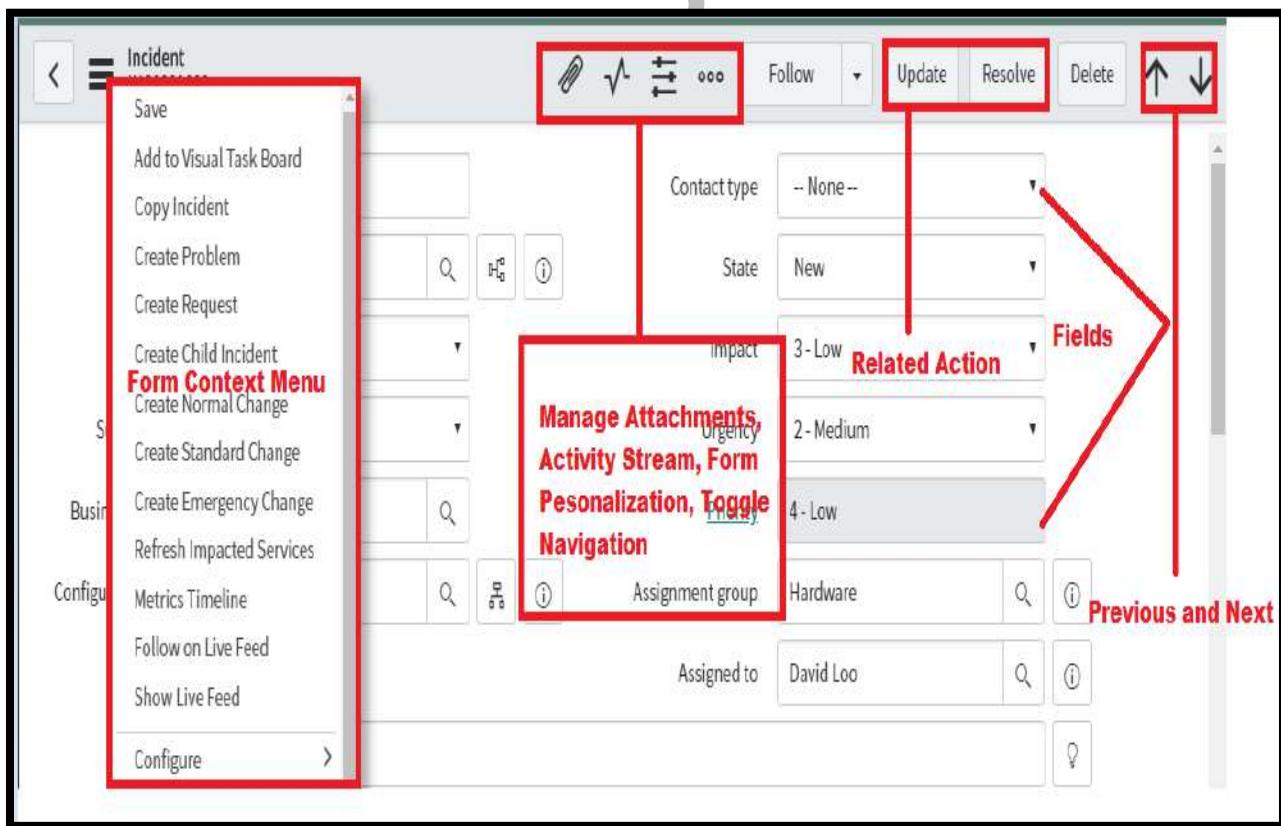
## What is Record

1. A single entity
2. Each record has a unique key



## Forms and Form Headers

1. Single Record
2. Many attributes
3. Customize form
4. The form header displays the title of the form (table) and provides several controls
5. The UI16 form header includes the following control



## Forms Fields

1. A field represents an **individual item** of data on a record
2. Users can view and modify field data on a form. For more detailed information,
3. The individual pieces of data in a record are called fields.
4. Users enter data in fields on the form or by using the list editor.
5. Administrators can create new or modify existing fields
6. Users can enter data in fields by using the list editor or by using a form.
7. In form view, fields appear as fields in the form, and in list view they appear as columns of data in the table.

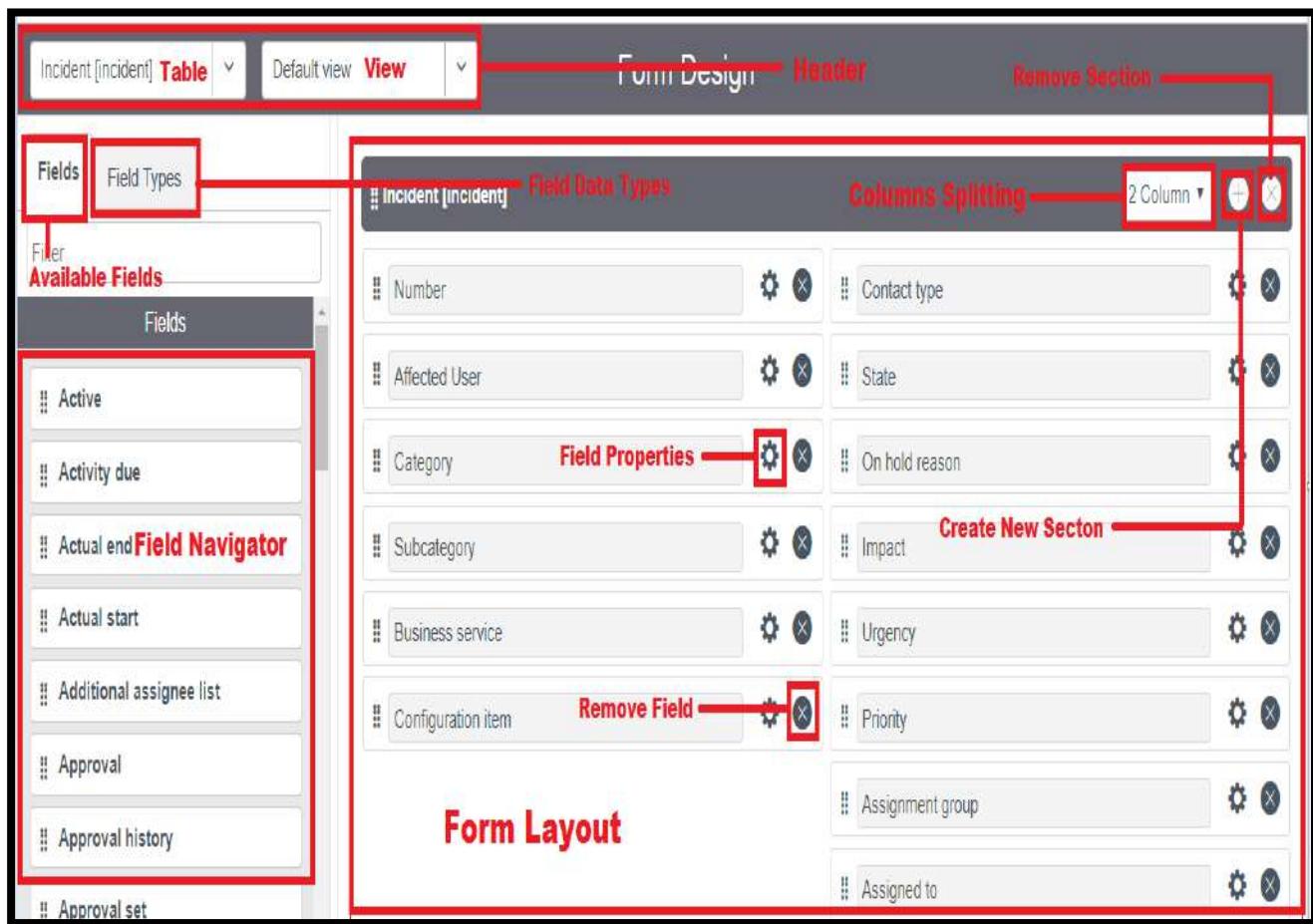
Number	INC0009005
* Affected User	David Miller
* Category	Software
Subcategory	Email
Business service	
Configuration item	

## Configure Form Using the form designer

Administrators or users with the personalize form role can use the form design feature to quickly create new or change existing form views.

Form design is an alternative to configuring forms that combines several configuration options into one tool. It is available by default for new instances and requires **UI16** or **UI15**. Administrators who upgrade from a previous version must activate the Form Designer (com.glide.ui.ng.fd) plugin to use the feature

## Parts of the UI form design interface



### The field navigator

The field navigator allows you to manage fields on the form. It contains the following elements:

- Filter:** Allows text search on the currently selected tab.
- Fields:** Displays a list of existing fields you can add to the current form.
- Field Data Types:** Displays a list of field types you can add to the current form. Adding a field type to the form layout creates fields in the selected table when the form layout is saved.

The screenshot shows two side-by-side views of the ServiceNow Field Types interface. Both views have a top navigation bar with 'Incident [incident]' dropdowns and 'Default vi' buttons. Below this, there are two tabs: 'Fields' (highlighted with a red box) and 'Field Types' (highlighted with a red box). A red box also highlights the 'Filters' section below the tabs. The left view shows a 'Fields' section with a 'Filter' input field and a list of available fields: Active, Activity due, Actual end (Available Fields), Actual start, Additional assignee list, and Approval. The right view shows a 'Field Types' section with a message 'New fields will modify the database structure' and a list of field data types: Audio, Choice (highlighted with a red box), Currency, Data Structure, Date, and Date/Time.

## Field Properties

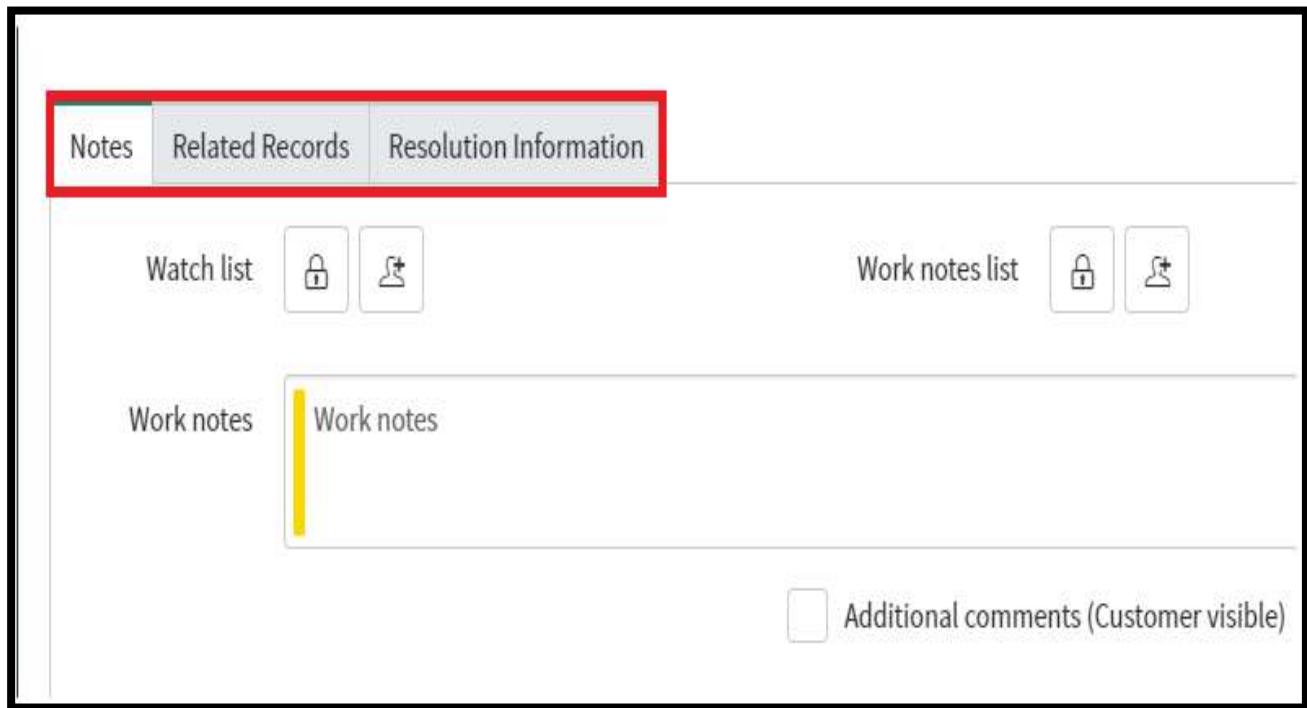
The screenshot shows the 'Properties' dialog for the 'State' field. At the top, there are three fields: 'Contact type', 'State' (highlighted with a red box and has a gear icon), and 'On hold reason'. Below this is a 'Properties' section with the following details:

Label	State
Name	state
Type	Integer
Default	New
Mandatory	<input checked="" type="checkbox"/>
Read Only	<input type="checkbox"/>

Below these settings is a 'Choices' section with the 'Choice type' set to 'Dropdown without none'.

## Working with Sections

Forms may contain one or more Sections. Sections are logical groupings of fields. In the baseline case, sections are rendered as tabs at the bottom of a form. The use of sections prevents users from having to scroll through long forms. Using a script, sections can be hidden when they are not needed.



## Show or hide fields with the form designer

We can move fields to and from the form workspace to display the fields on the form.

### Procedure

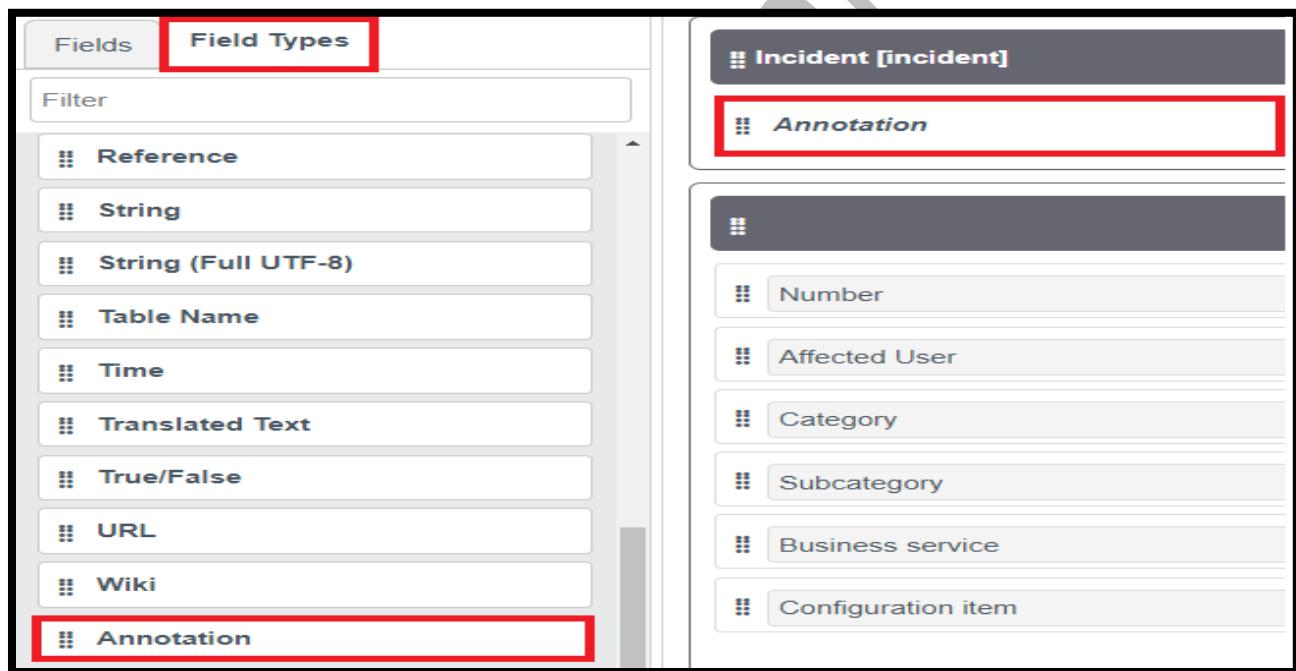
1. Navigate to the **form designer**.
2. From the list of fields in the Field Navigator, select the **Field** you want to display from the list of available fields.
3. Drag the field to the **form layout**.
4. Drag the field to the location you want it to be on the form.
5. To remove a field from the form layout, select the field and click the Remove this field (X) button beside the field label.
6. Click **Save**.

## Exercise: 1 Add a form Annotation with the form designer

Annotations are form elements to add to display some data in visualization manner

### Procedure

1. Navigate to the **Form Designer**.
2. Click the **Field Types** tab.
3. Select the **Annotations** field type.
4. Drag the annotation to the appropriate location on the form.
5. Point to the **Annotations** field and click the gear icon to open Properties dialog box.
6. In the Properties dialog box, enter a value for Annotation Text. You can use HTML tags to format the **Annotation text**.
7. Click **Save**.



## Exercise :2 Working with New Section from form designer

Move sections to and from the form layout to display or remove the sections on the form.

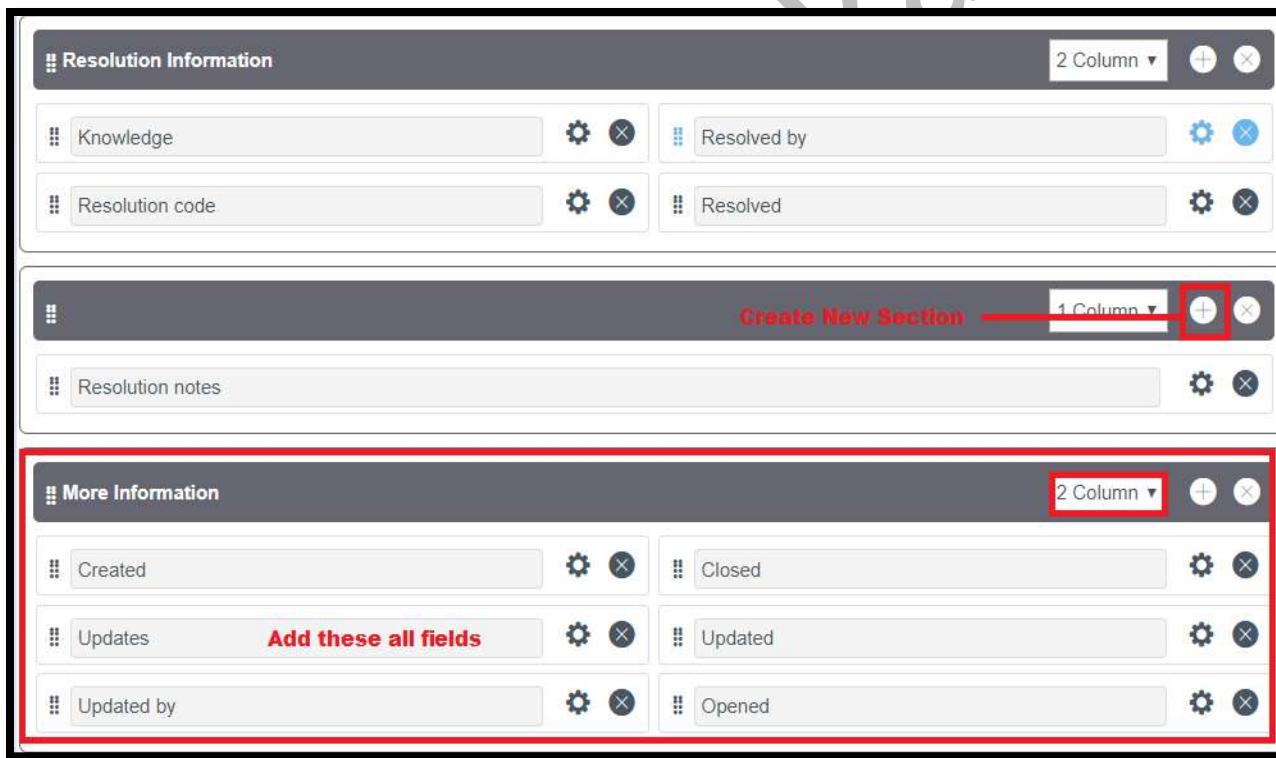
**Note:** Sections can have a **one- or two-column** layout.

By default, the first section on a form is always a read-only section displaying the label of the table. You cannot remove this section

## Procedure

1. Navigate to the **form designer**.
2. Select an existing section.
3. Click the **(+)** button beside the section label to add a section.
4. Enter a label for the section.
5. **Drag sections** to reorder them. The label for the first section on the form designer is displayed as the form title.
6. To delete a section, click the **(x)** button beside the section label.
7. Click **Save**.

The following screen shot shows how you would use form designer to add and then delete a form section.



## Working with formatters

Use formatters to add information from macros or previously scripted UI elements

### What is Formatter

A formatter is a form element used to display information that is not a field in the record. Add formatters to a form by configuring the form.

## Types of Formatters in Base Platform

Service now offering various type of formatters we can use for different requirement

1. Activity Formatter
2. Process Flow Formatter
3. Parent breadcrumbs formatter
4. Approval summarizer formatter
5. CI relations formatter
6. More.....

### Exercise: 3 Configure Activity formatter

Displays the list of activities, or history, on a task form.

#### Procedure

1. Navigate to the **form designer**.
2. Click the **Fields** tab.
3. In the filter, enter the string **Format (Activity Formatter)**
4. Select the formatter you want to add to the form.
5. Add Activity Formatter in **Incident Table**
6. Drag the formatter to the location you want it to be on the form.
7. Click **Save**.

**Form Design**

Incident [incident] Default view

Fields Field Types

format

Fields

Formatters

Checklist

Incident Variable Editor

Parent Breadcrumbs

Process Flow

Ratings

ResolutionShaper

Contextual Search Results (Formatter)

Notes

Watch list

Activities (filtered) (Formatter)

Notes Related Records Resolution Information

Watch list Work notes list

Work notes

Additional comments (Customer visible) Post

Activities: 2

System Administrator Work notes • 2018-09-11 20:57:01  
Changed the priority of the Incident

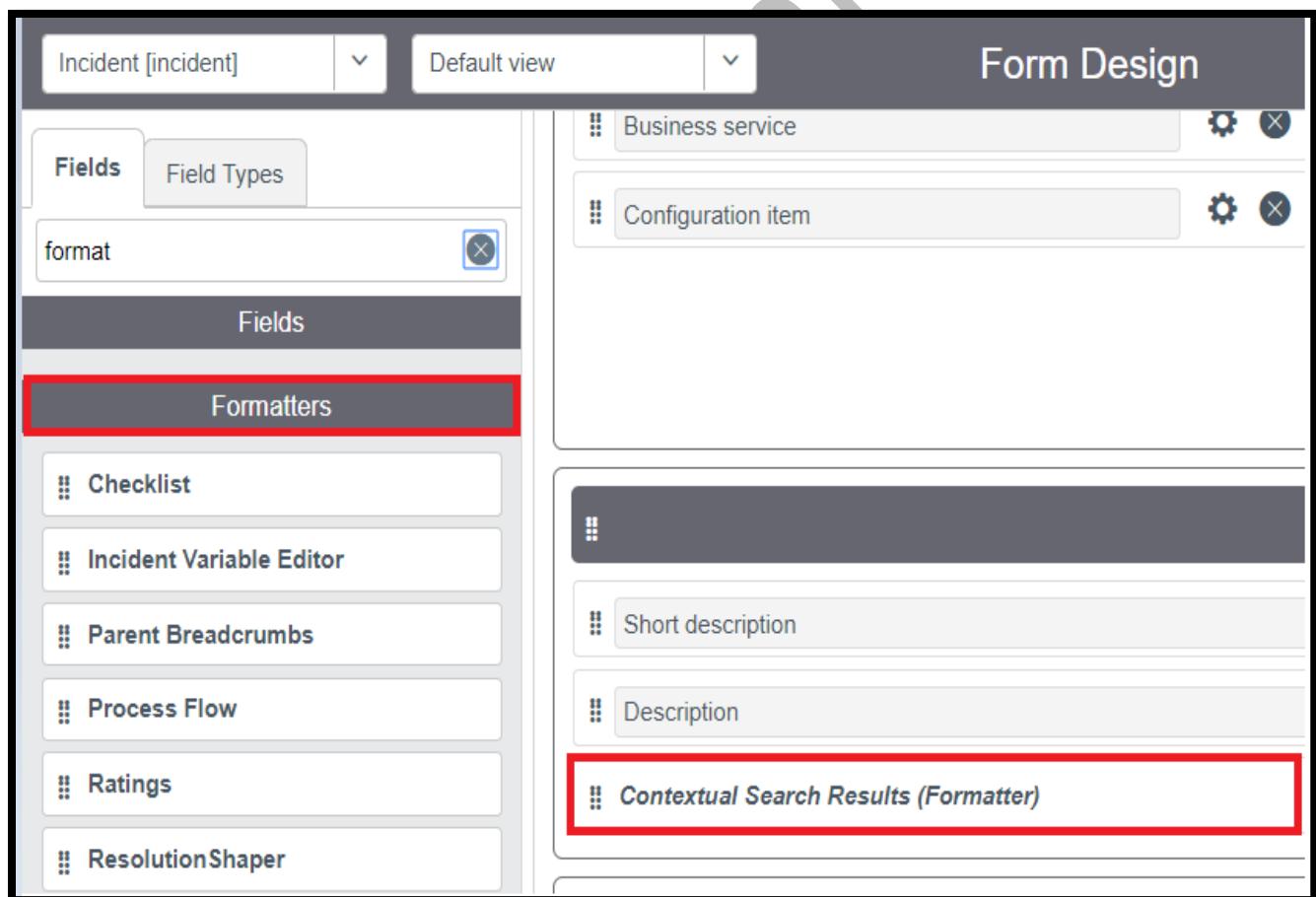
System Administrator Field changes • 2018-09-11 20:57:01  
Impact 2 - Medium  
Incident state New

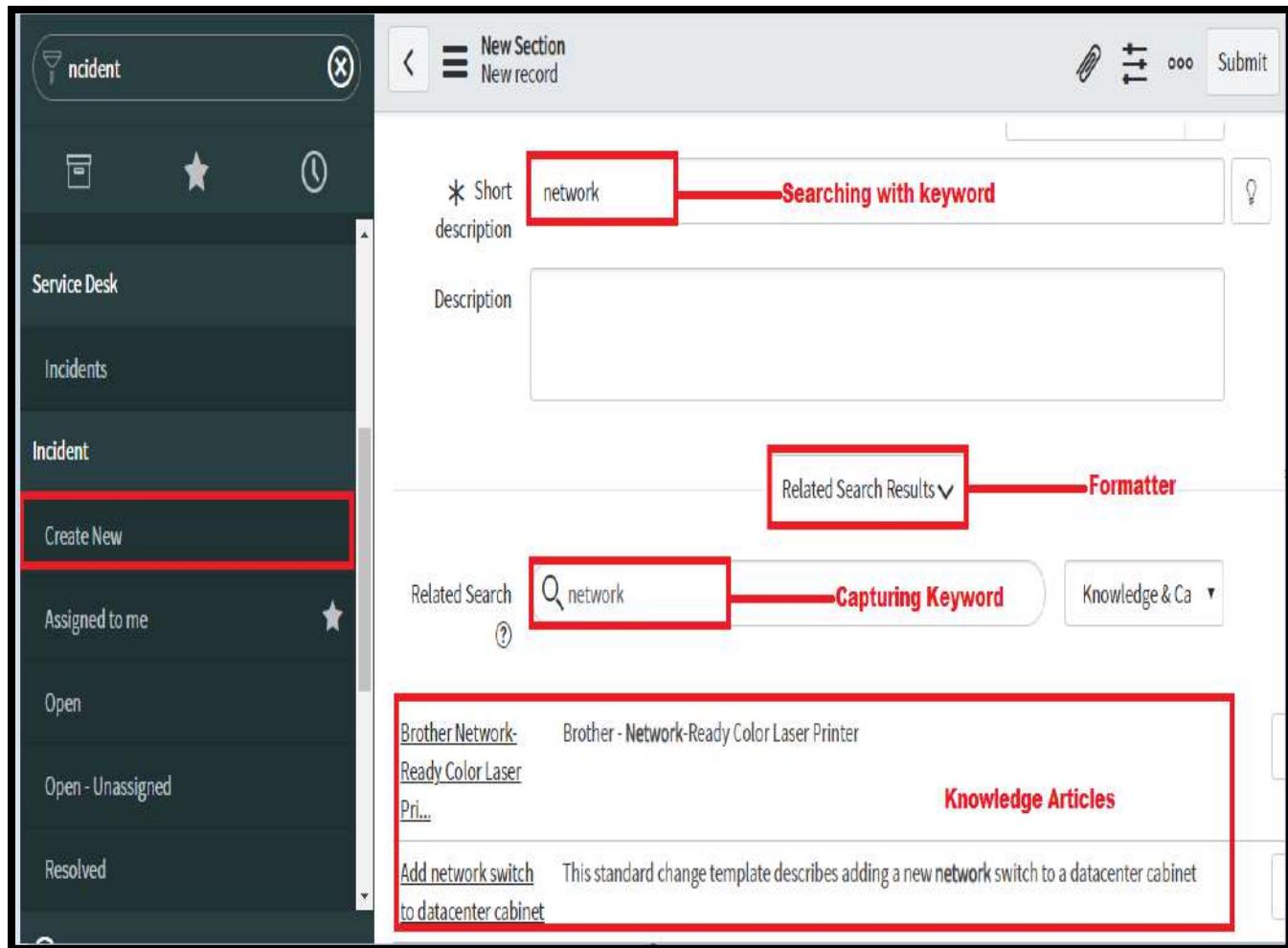
## Exercise: 4 Contextual Search Result(Formatter)

The contextual search results formatter can apply for search criteria and **knowledge articles** and **service catalog items**

### Procedure

1. Navigate to the **form designer**.
2. Click the **Fields** tab.
3. In the filter, enter the string **Format (Contextual Search Result)**
4. Select the formatter you want to add to the form.
5. Add Activity Formatter in **Incident Table**
6. Drag the formatter to the location you want it to be on the form.
7. Click **Save**.

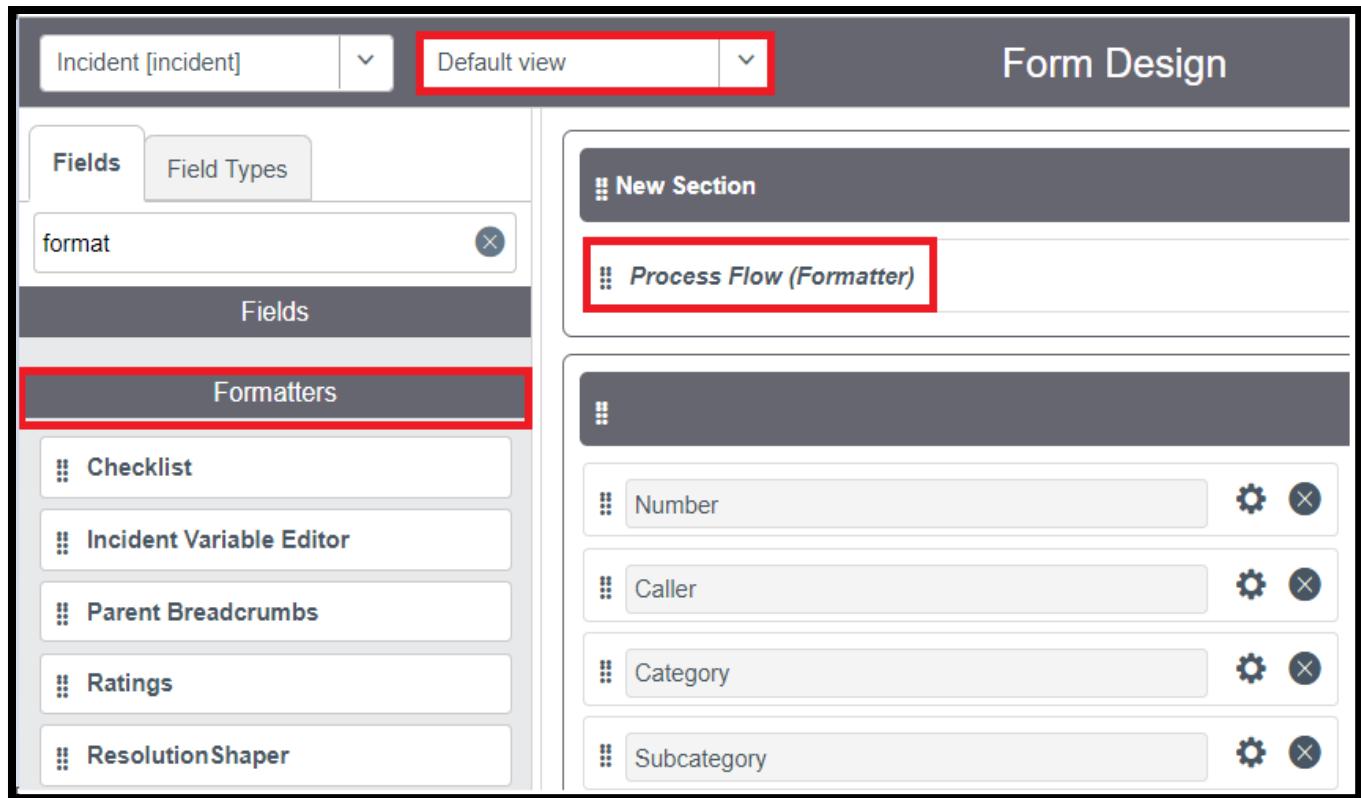




## Exercise: 5 Process Flow (Formatter)

### Procedure

1. Navigate to the **form designer**.
2. Click the **Fields** tab.
3. In the filter, enter the string **Format (Process Flow)**
4. Select the **formatter** you want to add to the form.
5. Add Activity Formatter in **Incident Table**
6. Drag the formatter to the location you want it to be on the form.
7. Click **Save**.

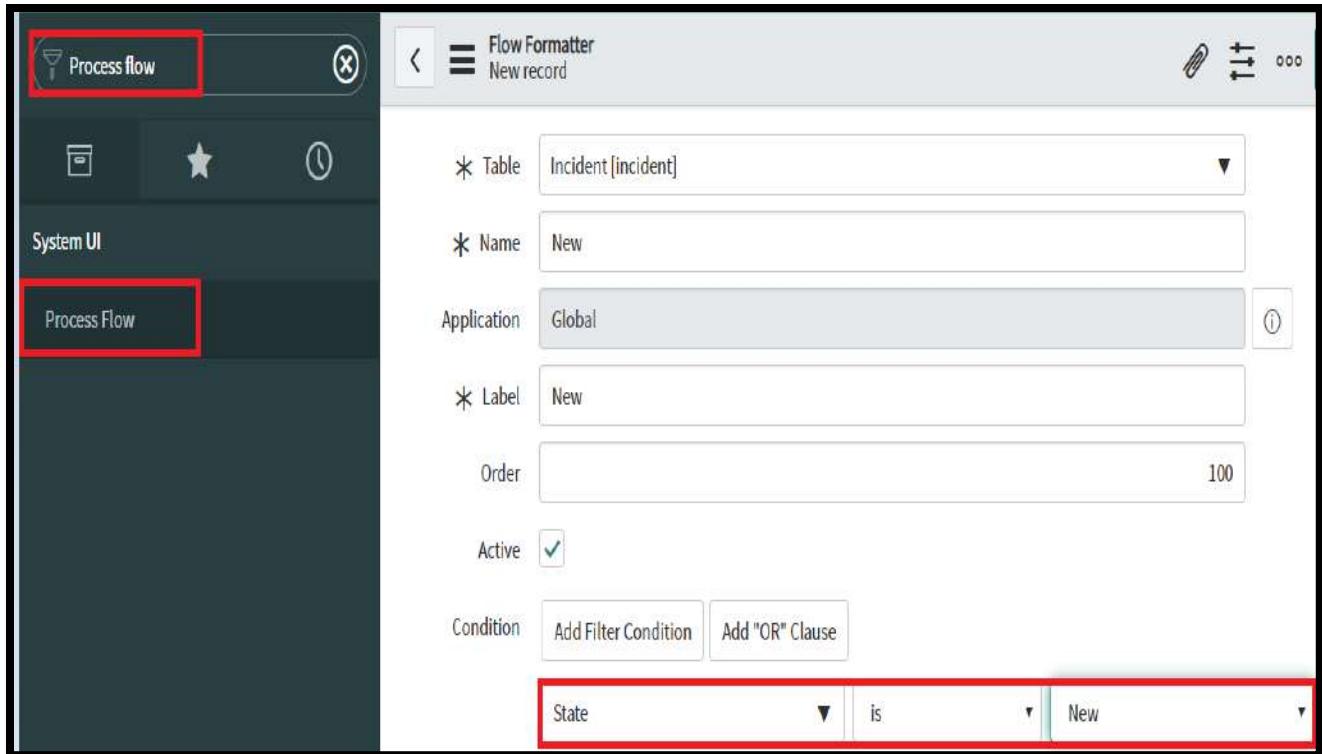


**Note:** In case if **Process Flow formatter** is not available in base instance then we need to Create here

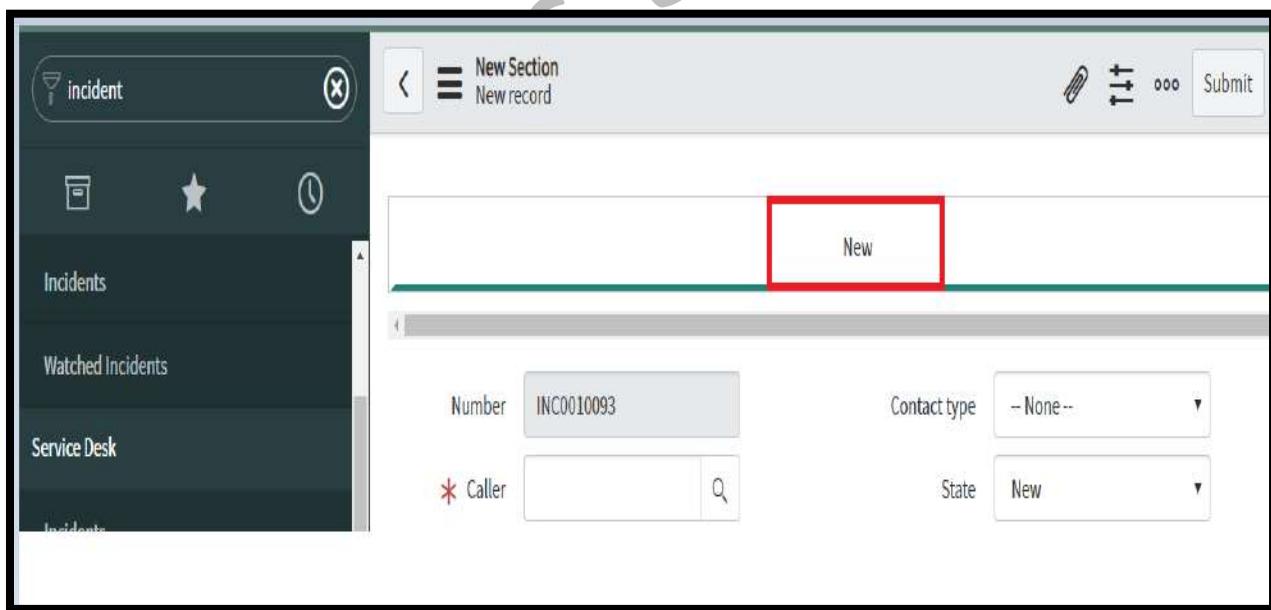
## Exercise: 6 Process flow Formatter Configure in Incident Table

### Procedure

1. Navigate to the **SystemUI** → **Process Flow**
2. Fill the form table name (**Incident**)
3. Name: **New**
4. Label Name: **New**
5. Order Number: **100**
6. Condition: **[State] [ is] [New]**
7. Drag the formatter to the location you want it to be on the form.
8. Click **Submit**



Navigate to **Incident** view check that added formatter



Similar to add reaming status

1. [State] [Is] [In-Progress]

The screenshot shows the ServiceNow Flow Formatter interface for creating a new record. The 'Table' is set to 'Incident [incident]'. The 'Name' field is highlighted with a red box and contains the value 'In-Progress'. The 'Label' field also contains 'In-Progress' and is highlighted with a red box. The 'Condition' section shows a filter: 'State' is 'is' 'In Progress'. Other fields include 'Application' (Global), 'Order' (200), and 'Active' (checked). A large watermark 'SUNNY' is visible across the form.

## 2. [State] [Is] [On-Hold]

The screenshot shows the ServiceNow Flow Formatter interface for creating a new record. The 'Table' is set to 'Incident [incident]'. The 'Name' field is highlighted with a red box and contains the value 'On - Hold'. The 'Label' field also contains 'On - Hold' and is highlighted with a red box. The 'Condition' section shows a filter: 'State' is 'is' 'On Hold'. Other fields include 'Application' (Global), 'Order' (300), and 'Active' (checked). A large watermark 'SUNNY' is visible across the form.

## 3. [State] [Is] [Resolved]

Flow Formatter  
New record

\* Table Incident [incident]

\* Name Resolved

Application Global

\* Label Resolved

Order 400

Active

Condition Add Filter Condition Add "OR" Clause

State is Resolved

Submit

This screenshot shows the ServiceNow Flow Formatter interface for creating a new record. The 'Table' is set to 'Incident [incident]'. The 'Name' field is filled with 'Resolved' and highlighted by a red box. The 'Label' field also contains 'Resolved' and is highlighted by a red box. The 'Order' field is set to 400. The 'Active' checkbox is checked. Under the 'Condition' section, there is a 'Filter Condition' button and an 'OR' clause button. Below these is a condition row with 'State' selected, 'is' as the operator, and 'Resolved' as the value, all of which are highlighted by a red box.

#### 4. [State] [Is] [Closed]

Flow Formatter  
New record

\* Table Incident [incident]

\* Name Closed

Application Global

\* Label Closed

Order 500

Active

Condition Add Filter Condition Add "OR" Clause

State is Closed

Submit

This screenshot shows the ServiceNow Flow Formatter interface for creating a new record. The 'Table' is set to 'Incident [incident]'. The 'Name' field is filled with 'Closed' and highlighted by a red box. The 'Label' field also contains 'Closed' and is highlighted by a red box. The 'Order' field is set to 500. The 'Active' checkbox is checked. Under the 'Condition' section, there is a 'Filter Condition' button and an 'OR' clause button. Below these is a condition row with 'State' selected, 'is' as the operator, and 'Closed' as the value, all of which are highlighted by a red box.

#### 5. [State] [Is] [Cancelled]

The screenshot shows the 'Flow Formatter' interface for creating a new record. The form has the following fields:

- \* Table: Incident [incident]
- \* Name: Cancelled (highlighted with a red box)
- Application: Global
- \* Label: Cancelled (highlighted with a red box)
- Order: 600
- Active:
- Condition: Add Filter Condition | Add "OR" Clause
- State dropdown: State is Canceled (highlighted with a red box)

The 'Submit' button is visible in the top right corner.

The screenshot shows the 'NewSection' form for a new record. The top navigation bar includes 'Submit' and 'Resolve' buttons. Below the navigation, there is a horizontal workflow step indicator with arrows between the states: New, In-Progress, On-Hold, Resolved, Closed, and Cancelled. This entire row is highlighted with a red box.

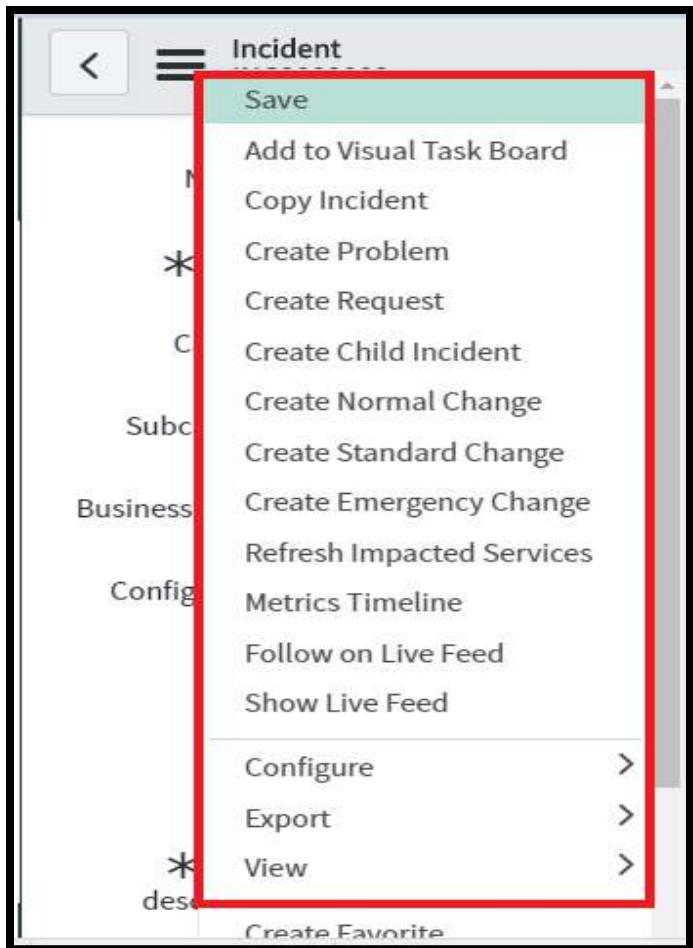
The form contains the following fields:

- Number: INC0010095
- Contact type: -- None --
- \* Caller: (input field with a search icon)
- State: New

## Form Context Menu

The form context menu provides controls based on the table and user access rights. Administrators can customize some of the options available on a context menu using UI actions.

Access the form context menu by clicking an icon beside the form title or by right-clicking the form header



## Field status indicators

Indicators are used on some fields to denote a special field type.

A field status indicator is a colored asterisk that may appear to the left of mandatory fields. Field status indicators change colors to represent different states of mandatory fields.

The screenshot shows an 'Incident' record with the number INC0009009. It highlights two mandatory fields: 'Caller' and 'Category'. The 'Caller' field is filled with 'David Miller' and has a red border. The 'Category' field is set to 'None' and also has a red border. A large watermark 'Srinivas Sunkara' is diagonally across the image.

Field	Type	Value
Number	Text	INC0009009
Caller	User	David Miller
Category	Text	None
Subcategory	Text	-- None --
Business service	Text	
Configuration item	Text	

## Working with Dot-walking in List

We can access fields on a related table from a **form**, **list**, or **script** by dot-walking.

We can dot-walk to related fields in a list, such as the field list in a filter. This example can define how to filter the Incident [incident] table by the company of the caller who registered the incident.

### List fields Dot. Walking

We can dot-walk to related fields in a **list**, such as the field list in a filter. This example can explain how to filter the Incident [incident] table by the company of the caller who registered the incident.

When we open the list of fields that we want to filter, we see the list of available Incident table fields. The reference fields are followed by the related fields.



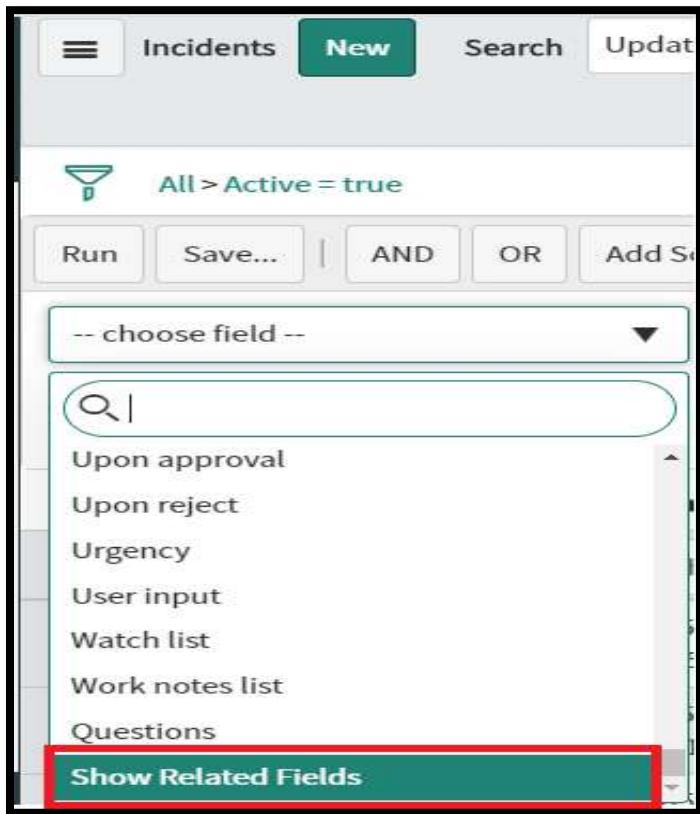
For example, **Caller** is followed by **Caller > User fields**, which means that **Caller** is a **reference field**, and the related fields are user fields on the **Caller record**. If the related fields are not present in the list, you would select **Show Related Fields** at the bottom of the list.

## Exercise: 7 Configure Dot-walking in Lists

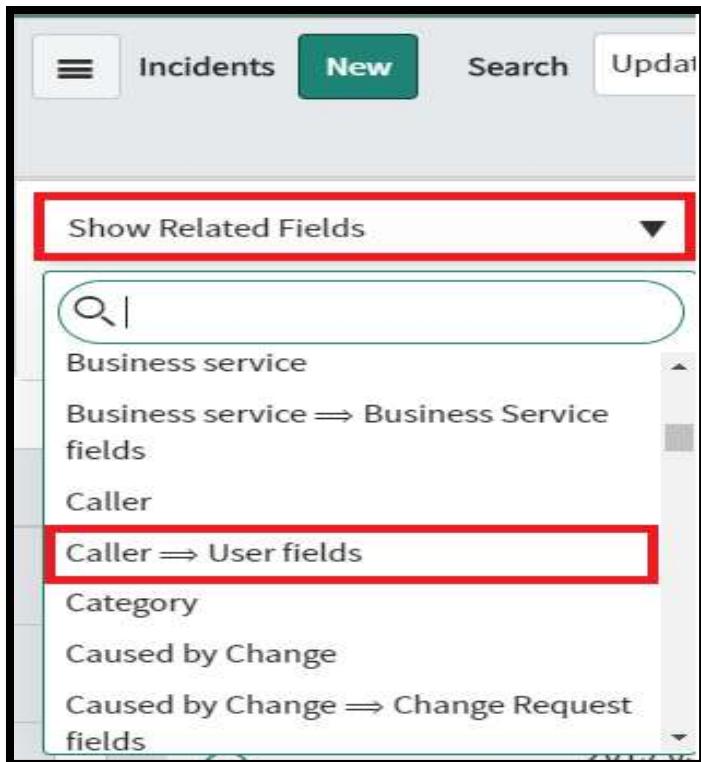
We can configure **dot. walking** for List apply to apply filter condition for referenced fields

### Procedure

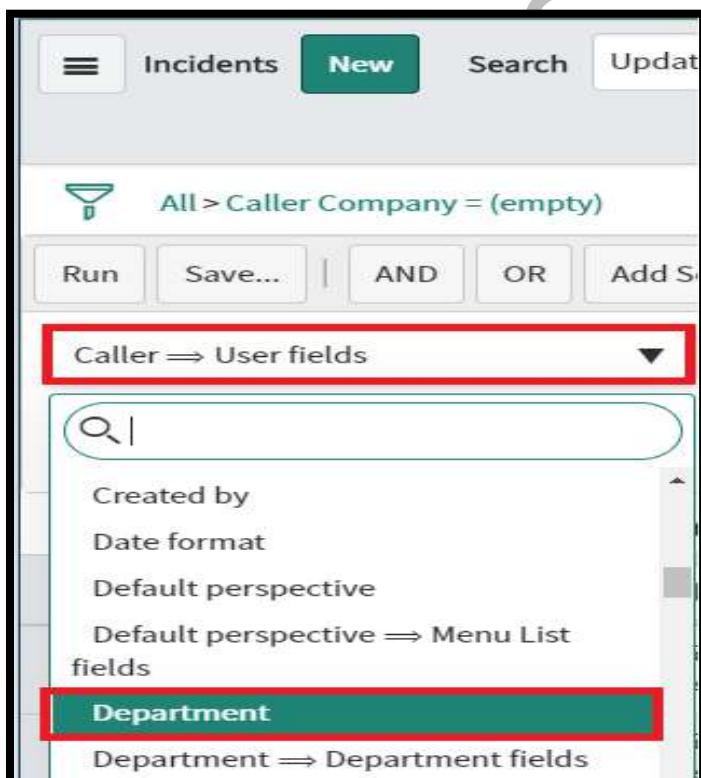
1. Navigate to Incident list > Open Condition Builder
2. Select Show Related Fields



3. When we select **Show Related Fields**, the menu can reload the list to display related fields.

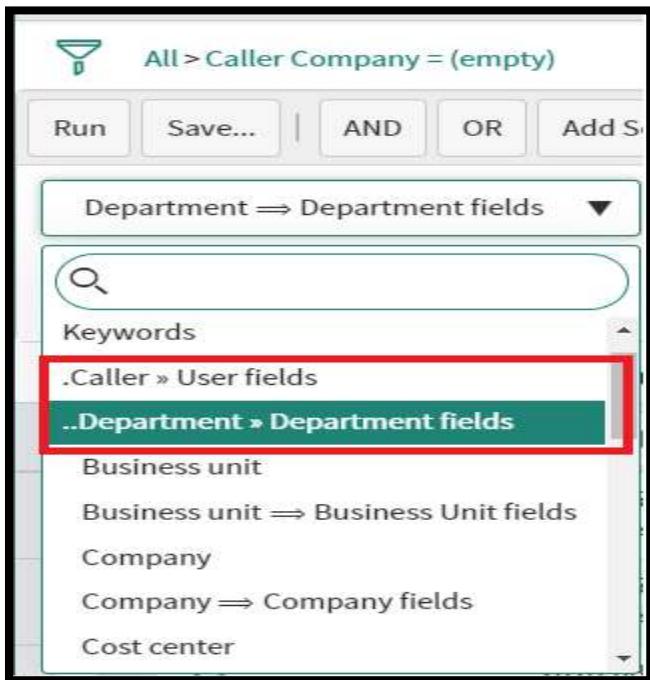


#### 4. Select Caller ==> User fields



5. When we selected **Department** under **Caller → User fields**, the field then becomes **Caller.Department**.

The following example shows where you are in the **dot-walk**. Each selected reference is stored at the top of the fields menu, and the number of dots preceding the field label indicate how many dots from the initial record the user has reached.



This example can show that the user is at **Incident. Caller. Department**. We can return to higher levels in the hierarchy by selecting fields located at the top of the menu. For instance, selecting **Incident fields** returns to the list of incident fields.

The related fields can be removed by selecting **Remove Related Fields** at the bottom of the list.

## Exercise: 8 Configure Dot-walking in Forms

The tree picker interface presents an expandable, hierarchical view that may be used when selecting fields. **Dot-walking** help to access to fields on **Related Tables** from a form, list, or script.

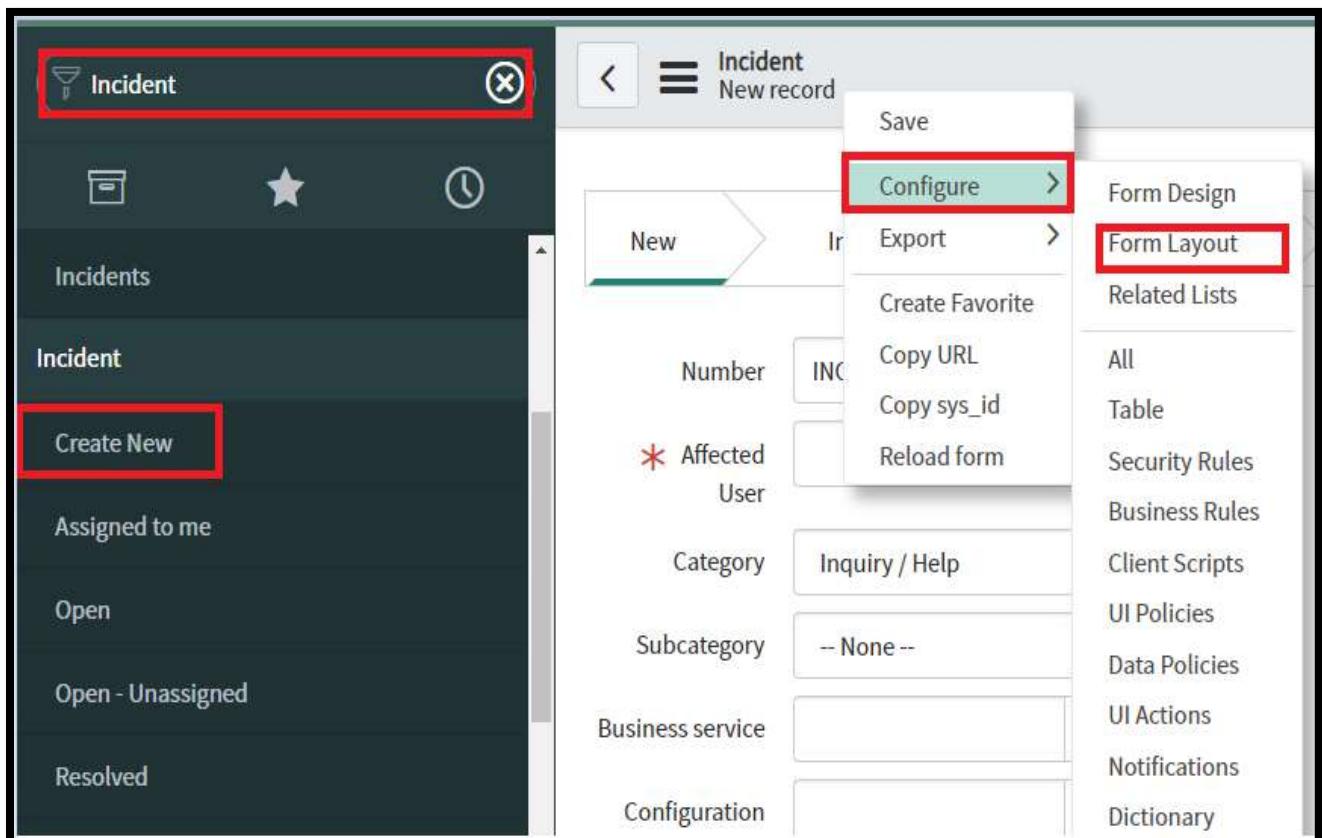
If the current table contains any reference to another table, any field on the referenced table can be accessed using **dot-walking**.

**Dot-walking** can reference a field by building a chain model of field names separated by **dots** (periods). For instance, **incident.caller.department**. references the company of the user caller to an incident.

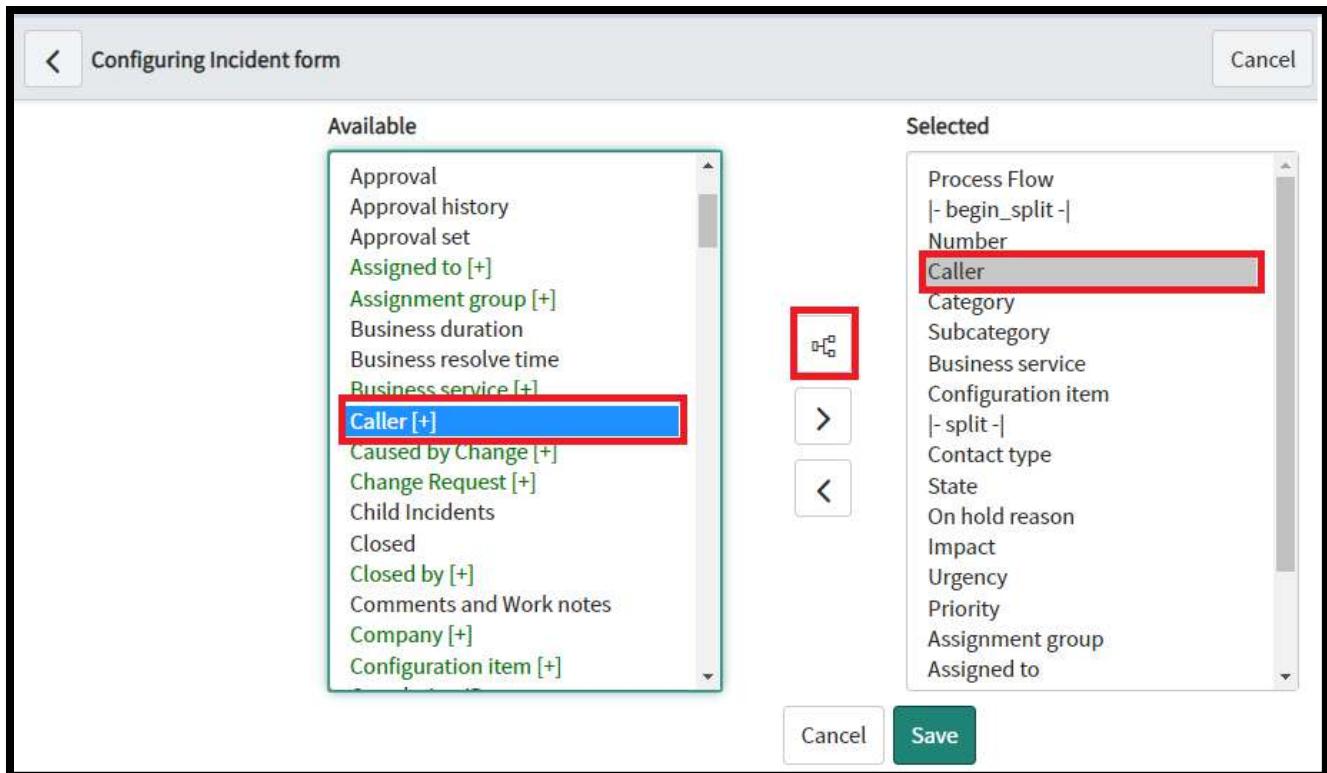
**Note:** The recommended limit for chain length is **Three Levels**.

## Procedure

1. Navigate to **Incident Record**
2. Click on **Create New**
3. Right click on **Form Header**
4. Configure > **Form Layout**

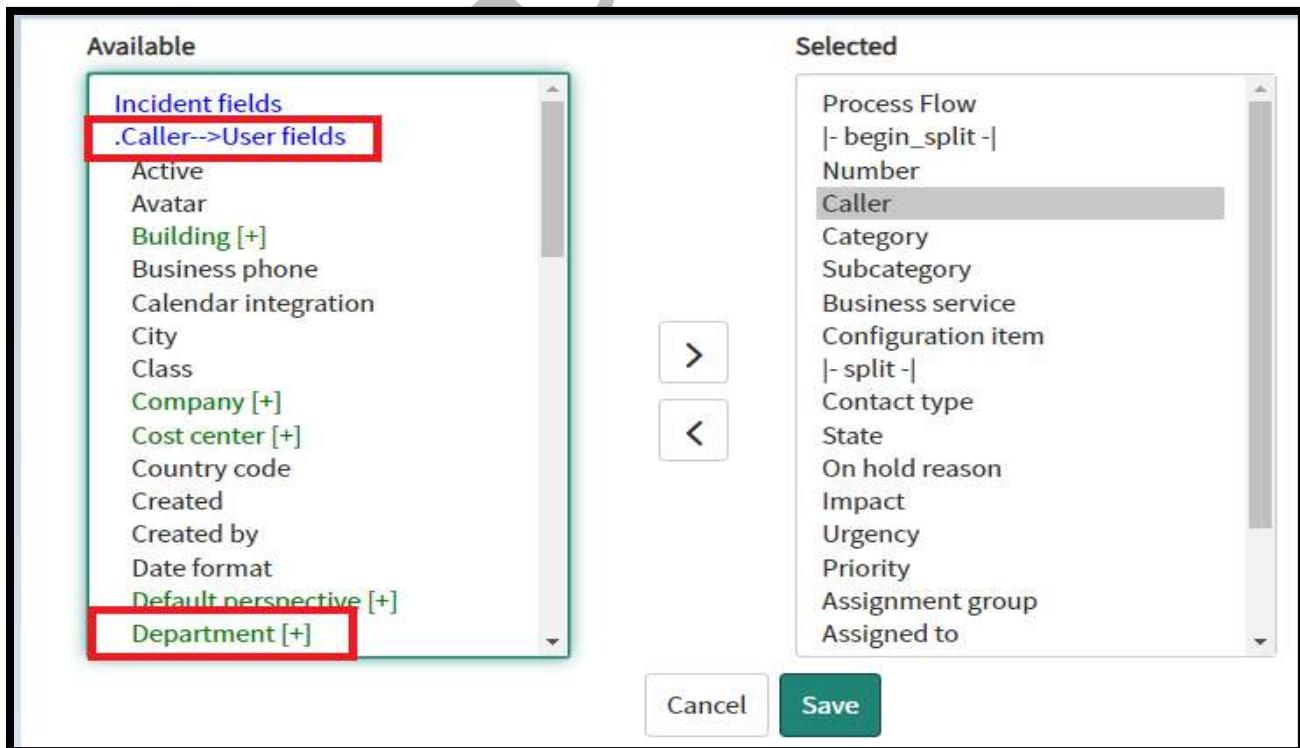


5. Select **Caller** field
6. Click on **Expand Reference** field



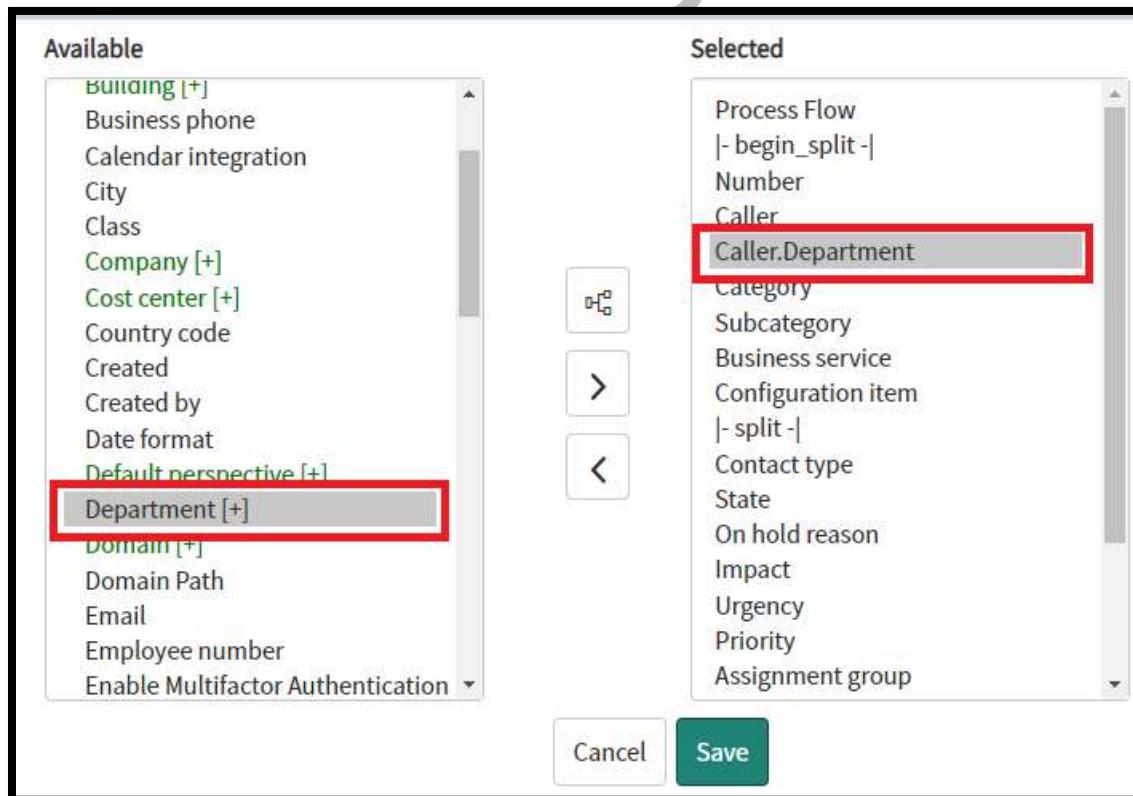
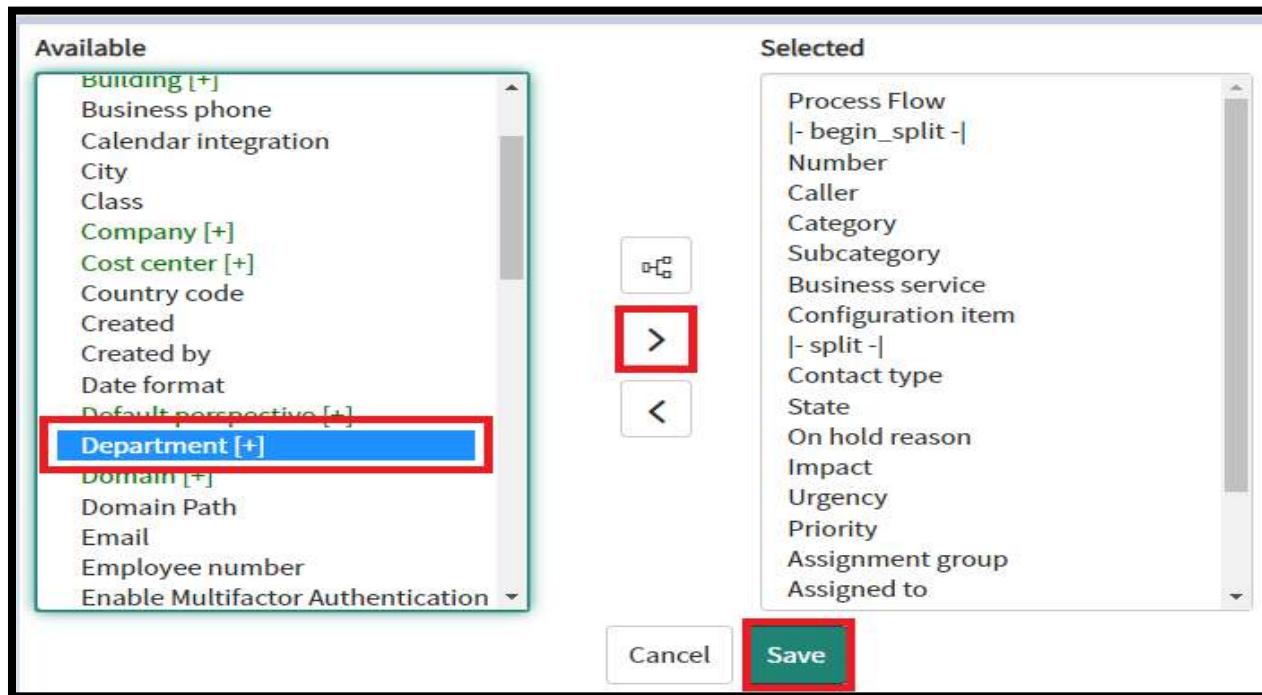
7. Open .Caller→User fields

8. Select Department field



9. Click on Add

10. Save



- 11. Navigate to Incident Form**
- 12. Select any Caller Value from caller field**
- 13. Automatically populated Department Value**

The screenshot shows the ServiceNow Incident form. At the top, there's a navigation bar with a back arrow, a menu icon, and the text "Incident New record". Below the navigation bar, there are three status arrows: "New" (underlined), "In - Progress", and "On - Hold". The main form area contains several input fields:

- "Number": INC0010026
- "Caller": Allyson Gillispie (highlighted with a red box)
- "Department": Development (highlighted with a red box)
- "Category": Inquiry / Help
- "Subcategory": -- None --
- "Business service": (empty)

Each input field has a search icon and other small icons to its right.



## Chapter – 5

## **Lists**

## What is List ?

A list is a content page displaying zero or more records from the same table. Rows and columns organize the list. Each row is a record and each column is a field from the record. Lists are:

1. **Searchable:** Enter a value in the Search field
2. **Sortable:** Click the column label
3. **Editable** (if permissions allow): Double-click a field value

The screenshot shows a ServiceNow list interface for 'Incidents'. At the top, there are 'Sort' and 'Search' buttons. Below them is a search bar with the placeholder '\*phone'. A yellow arrow points down to the search bar. To the right of the search bar is a dropdown menu for 'Category' with options like 'None', '1 - Critical', '2 - High', '3 - Moderate', '4 - Low', and '5 - Planning'. The '5 - Planning' option is selected and highlighted with a blue background. Another yellow arrow points up to this selection. The main list area displays two incident records:

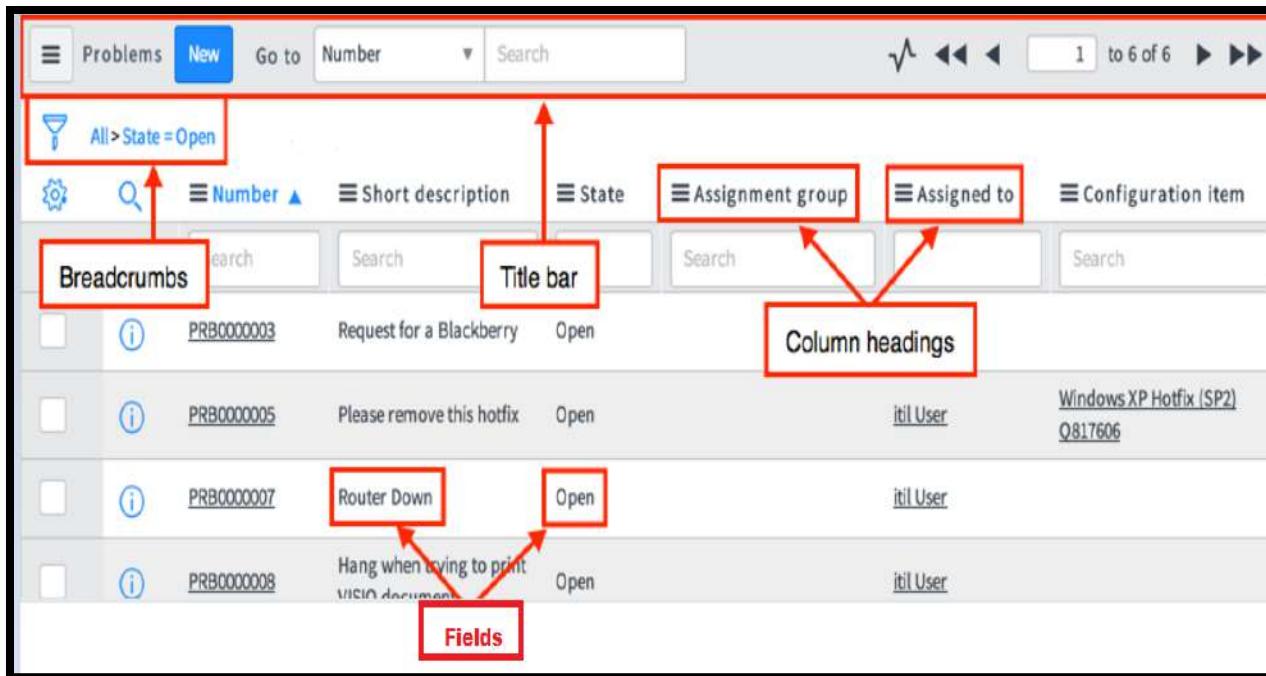
	Number	Date	Description	Assignee	Priority	State	Category	As
<input type="checkbox"/>	INC0000020	2018-08-09 16:51:35	I need a replacement iPhone, please	Fred Luddy	✓ 5 - Planning	In Progress	(empty)	(empty)
<input type="checkbox"/>	INC0000041	2018-08-12 17:44:53	My desk phone does not work	Bow Ruggeri	3 - Moderate	In Progress	Hardware	(empty)

At the bottom right of the list area, there is an 'Edit' button.

A list displays a set of records from a table.

Users **can search, sort, filter, and edit data in lists**. Lists may be embedded in forms and may be hierarchical (have sub lists).

The list interface consists of a title bar, filters and breadcrumbs, columns of data, and a footer. Each column in a list corresponds to a field on the table.



## List properties and actions

The list interface consists of a title bar, filters and breadcrumbs, and columns of data. Each of these components provides features and lets you act on the list and the displayed records. There are two list

The screenshot shows a list view for 'Incidents'. At the top left is the 'Incidents' menu item. Next to it are buttons for 'New', 'Search', 'Number', and a search bar. To the right are navigation icons and a page number '1 to 20 of 64'. Below the header is a toolbar with filters like 'All', a gear icon, a magnifying glass icon, and dropdowns for 'Number' (with a downward arrow), 'Opened', 'Short description', 'Caller', 'Priority', 'State', and 'Category'. The main area contains a table with five rows of data. Each row has a checkbox, an info icon, a record ID, a date and time, a short description, a caller name, a priority level, a state, and a category. Red boxes highlight several elements: 'Incidents' points to the menu item; 'New' points to the button; 'Number' points to the dropdown in the toolbar; 'Opened' points to the column header; 'Short description' points to the column header; 'Caller' points to the column header; 'Priority' points to the column header; 'State' points to the column header; 'Category' points to the column header; and a large red box covers the search bar and toolbar area.

## Hierarchical lists

Hierarchical lists allow users to view records from related lists directly from a v2 list without navigating to a form.

The screenshot shows a ServiceNow list view for 'Problems'. The top section displays two problem records:

Number	Short description	State	Assigned to	Configuration item	Related Incidents
PRB0000008	Hang when trying to print VISIO document	Open	ITIL User		
PRB0000007	Router Down	Open	ITIL User		

A red circle highlights the downward arrow icon next to the second record (PRB0000007). Below this, a secondary list for 'Incidents' is shown, also with a red box around it:

Number	Description	Type	Status	Priority	Owner
INC0000002	Unable to get to network file shares	Network	Awaiting Problem	1-Critical	Howard Johnson
INC0000001	Can't read email	Network	Closed	1-Critical	Charlie Whitherspoon

## Filters & Search

Filters can determine which table records are displayed in a list. When a developer creates a list module, the filter conditions are set. In the example, only records with the *Active* field value of *true* appear in the list. The syntax **All > Active = true** is known as a breadcrumb.

1. Many search bars
2. Similar search functions
3. Search wildcards

The screenshot shows a ServiceNow interface for the 'Incidents' module. At the top, there's a navigation bar with 'Incidents', a green 'New' button, 'Search', and a search bar. Below the bar, there are icons for filter, settings, and search. A red box highlights the filter icon with the text 'All > Active = true'. The main area is a table of incidents. A red box highlights the 'Active' column header. The table has columns for Number, Opened, Active, Short description, and Caller. Data rows include:

	Number	Opened	Active	Short description	Caller
<input type="checkbox"/>	INC0010030	2019-05-13 19:57:34	true	ddgdfgdf	Abraham Lincoln
<input type="checkbox"/>	INC0009009	2018-08-30 01:06:16	true	Unable to access the shared folder.	David Miller
<input type="checkbox"/>	INC0009005	2018-08-31 21:35:21	true	Updating record	David Miller
<input type="checkbox"/>	INC0009001	2018-09-11 20:56:26	true	Unable to post content on a Wiki page	David Miller

**Note:** Users can create or modify filters.

1. Click the Filter icon ( ) in a list. (**Condition Builder**)
2. Set the **[Field]**, **[operator]**, and **[Value]**.
3. Use the **AND** button or the **OR** button to add additional conditions to the filter as required.
4. Click the Run button to apply the filter to the list. Only records meeting the filter condition appear in the list and the breadcrumbs are updated.

The screenshot shows the ServiceNow search interface. At the top, there's a navigation bar with 'Incidents' and a 'New' button. Below it is a search bar with 'Number' and a dropdown. On the right, there are navigation icons and a page number '1 to 1 of 1'. A red box highlights the breadcrumb path 'All > Active = true > Category = Software > Assigned to = Fred Luddy'. Another red box highlights the 'Run' button. Below the search bar, it says 'All of these conditions must be met' followed by three filter conditions: 'Active is true', 'Category is Software', and 'Assigned to is Fred Luddy'. At the bottom, there's a toolbar with various icons and a table showing a single incident record. The incident details are: Number: INC0000052, Created: 2019-03-08 12:48:40, Active: true, Short description: SAP Financial Accounting application appears to be down, Caller: Bud Richman, Priority: 1 - Critical, State: In Progress.

## Breadcrumbs & Remove Condition

To remove a condition from the breadcrumbs, click **Remove next condition (>)** to the left of the condition to be removed. For example, to remove the *Active = true* condition, click the **>** between *All* and *Active = true*.

1. Dynamic
2. Remove a filter by clicking on “>”
3. Copy query or URL

This screenshot shows the same search interface as above, but with a focus on the breadcrumb path 'All > Active = true > Short description contains phone'. A large black arrow points to the 'Remove next condition' button, which is highlighted with a black background and white text. The rest of the interface is visible below the toolbar.

The first screenshot shows a search bar with a dropdown menu containing the condition: All > Active = true > Priority in (1 - Critical, 2 - High, 3 - Moderate) .or. Priority is not empty.

The second screenshot shows a more complex filter condition: All > Active = true > Caller = System Administrator > Priority in (1 - Critical, 2 - High, 3 - Moderate).

The third screenshot shows a context menu with options: Open new window, Copy URL, and Copy query. The 'Copy query' option is highlighted with a red box.

Apply Filter conditions in multiple ways

The first screenshot shows a search bar with the value 'System Administrator' and a dropdown menu with an arrow pointing to it.

The second screenshot shows a search bar with the value 'system administrator' and a dropdown menu with an arrow pointing to it.

The third screenshot shows a detailed view of the filter configuration with the condition: All > Caller Name contains system. It includes a breakdown of the condition: Caller.Name AND contains system.

## Condition Builder

1. Very powerful
2. Replaces SQL statements
3. Access related fields
4. Save condition
5. Copy condition
6. Field, Operator, Value

The screenshot shows the ServiceNow Condition Builder interface. At the top, there is a search bar with the query: "All > Active = true > Category in (Hardware, Network) > Priority = 1 - Critical". Below the search bar are buttons for "Run" (highlighted with a red box), "Save...", "AND", "OR", "Add Sort", and a clear icon. A message says "All of these conditions must be met". Below this, there are three condition rows: 1. "Active" is true. 2. "Category" is one of Inquiry / Help, Software, Hardware, Network. 3. "Priority" is 1 - Critical. To the right of each condition row are "AND", "OR", and "X" buttons. A dropdown menu is open for the second condition's category field, showing options: Inquiry / Help, Software, Hardware, Network.

## List Context Menus

The screenshot shows a ServiceNow list view with a context menu open. On the left, a context menu for the list header "Number" is shown, with options: View, Filters, Group By, Show, Refresh List, and Create Favorite. On the right, a context menu for a selected row is shown, with options: Active, Short description, Sort (a to z), Sort (z to a), Show Visual Task Board, Ungroup, Group By Active, Bar Chart, Pie Chart, Configure, Import, Export, Update Selected, and Update All. The "Number" column header has a red box around it, and the entire context menu on the right is also highlighted with a red box.

Active	Short description	Caller
true	Updating record	David Miller
false	Defect tracking tool is down	Miller
	Show Matching	
false	Can't connect to server	Miller
	Filter Out	
	Copy URL to Clipboard	
false	My defects header	Miller
	Copy sys_id	
	Assign Tag	>
	Archive Record	
true	Unknown record	Miller
	Assign to me	
false	New contact	Miller
	Follow on Live Feed	
	Show Live Feed	
	Add to Visual Task Board	

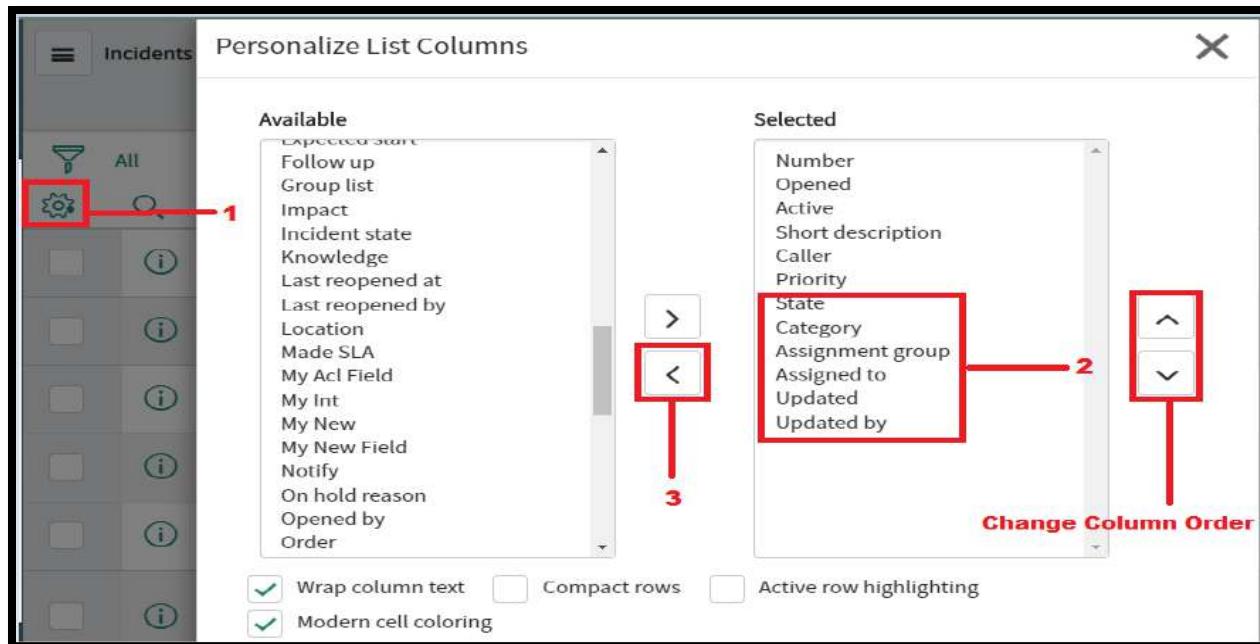
## Personalize Versus Configure

Personalizing Stephen List View

1. User specific
2. Add/remove any field on table
3. Reorder fields

**Customer Stefen**





	All	Number	Opened	Active	Short description	Caller	Priority
<input type="checkbox"/>	(i) INC0010030	2019-05-13 19:57:34	true	ddgdfgdf	Abraham Lincoln	5 - Planning	
<input type="checkbox"/>	(i) INC0009009	2018-08-30 01:06:16	true	Unable to access the shared folder.	David Miller	4 - Low	
<input type="checkbox"/>	(i) INC0009005	2018-08-31 21:35:21	true	Updating record	David Miller	● 1 - Critical	

## Configuring List Layout

1. Different than gear icon
2. System wide
3. Permissions



The screenshot shows the ServiceNow Incidents list view. A context menu is open over the first item in the list, which has the number INC0010030. The menu items are:

- Sort (a to z)
- Sort (z to a)
- Show Visual Task Board
- Ungroup
- Group By Opened
- Bar Chart
- Pie Chart
- Configure >** (highlighted with a red box)
- Import

A tooltip on the right side of the menu says: "Effect tracking tool is down. Cannot sign into the company".

The screenshot shows the ServiceNow Incidents list view. The header row of the table is highlighted with a red box. The columns are labeled:

- Number
- Opened
- Short description
- Caller
- Priority
- State
- Category
- Assignment group

The table displays three incident records:

	Number	Opened	Short description	Caller	Priority	State	Category	Assignment group
<input type="checkbox"/>	INC0010030	2019-05-13 19:57:34	ddgdfgdf	Abraham Lincoln	5 - Planning	In Progress	Inquiry / Help	(empty)
<input type="checkbox"/>	INC0009009	2018-08-30 01:06:16	Unable to access the shared folder.	David Miller	4 - Low	New	Inquiry / Help	(empty)
<input type="checkbox"/>	INC0009005	2018-08-31 21:35:21	Updating record	David Miller	1 - Critical	Resolved	Software	(empty)

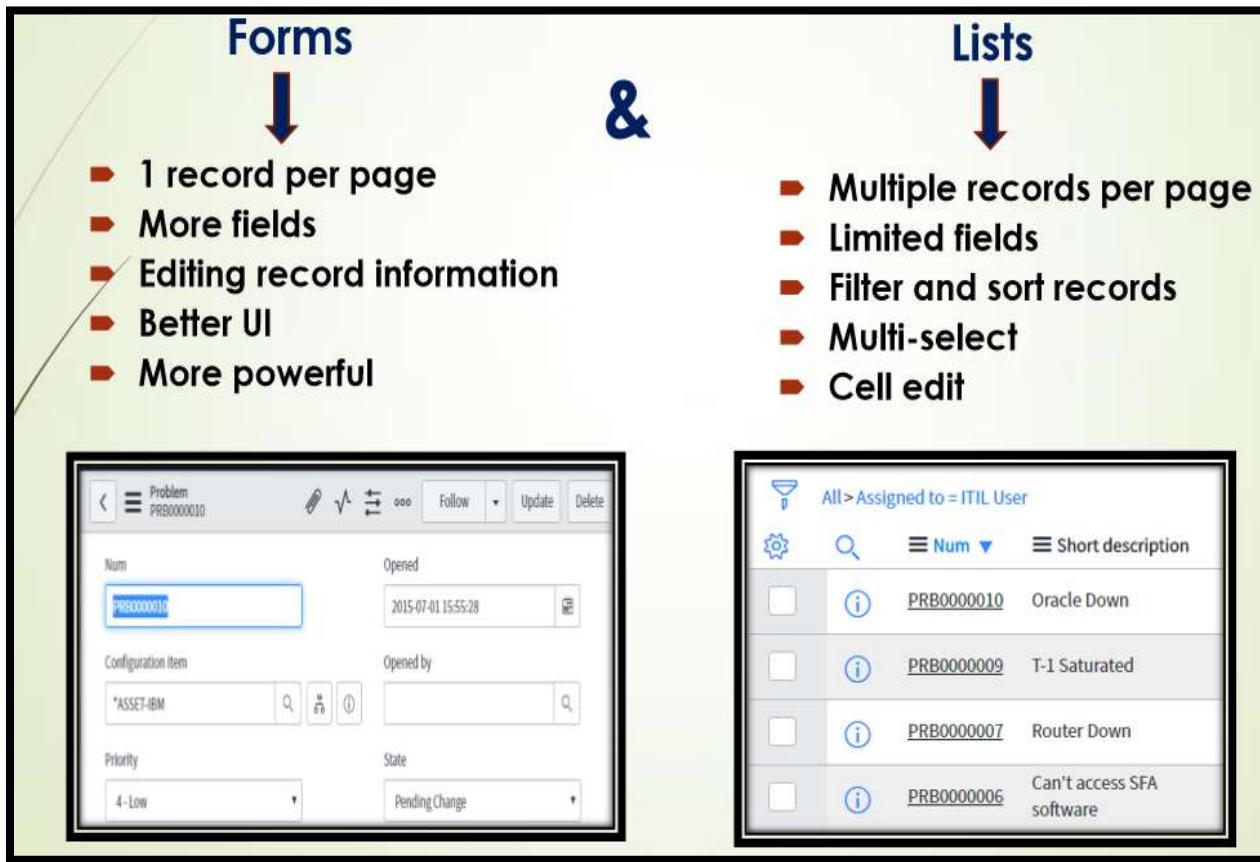
## Search Conditions with wild card Entries

Wildcard Syntax	Search Criteria	Example
*[term]	contains	*Mark
![term]	does not contain	!*Mark
= [term]	equals	=Miller
!= [term]	does not equal	!=Miller
[term]%	starts with	Hello%
% [term]	ends with	%goodbye

The screenshot shows the ServiceNow interface for searching incidents. The search bar at the top contains the query "Short description contains network". Below the search bar, the results are displayed in a table. The first result is highlighted with a red box around the filter condition "All > Short description contains network". The search results table has columns for Number, Short description, Created Date, Description, and Caller.

Number	Short description	Created Date	Description	Caller
INC0000036	Issue with networking	2019-01-03 16:33:49	16:33:49	Carol Coughlin
INC0000030	Lost connection to the wireless network	2019-01-04 16:01:12	16:01:12	Rick Berzle
INC0000002	Network file shares access issue	2018-12-21 15:07:12	15:07:12	Fred Luddy
INC0000049	Network storage unavailable	2019-03-08 13:56:37	13:56:37	Beth Anglin

## Difference between Lists & Forms



## Configure List Calculation

You can configure list calculations for columns, which calculate column **totals**, **minimums**, **maximums**, and **averages**.

1. Select **Configure > List Calculations**.
2. The list calculation window appears.

The screenshot shows a list view for 'Opened' items. A context menu is open over the first item, listing options like 'Sort (a to z)', 'Sort (z to a)', 'Show Visual Task Board', 'Ungroup', 'Group By Short description', 'Bar Chart', 'Pie Chart', and 'Configure'. The 'Configure' option is highlighted with a red box.

The right side of the screen shows a sidebar titled 'List Layout' with a list of configuration options. The 'List Calculations' option is highlighted with a red box.

Date	Time	Category	Priority	State	Assignee	Due Date
2019-03-08	13:58:24	C	1 - Critical	In Progress	Se	2019-03-09
2019-03-08	14:04:15	C	1 - Critical	In Progress	Se	2019-03-09
2018-12-16	15:44:39	C	1 - Critical	In Progress	W	2019-01-17
2018-12-29	16:47:08	C	1 - Critical	In Progress	m	2019-01-30

The screenshot shows a configuration dialog for 'Priority (calculations)'. It lists four options: 'Total value', 'Minimum value', 'Maximum value', and 'Average value', each with a checkbox. The 'Total value' checkbox is checked. The dialog has 'Cancel' and 'OK' buttons at the bottom.

Red boxes highlight the 'Priority' column header in the main list and the 'Priority (calculations)' dialog title.

Caller	Priority	State	Category						
Luke Wilson	4 - Low	On Hold							
Joe Employee	● 1 - Critical	On Hold	Inquiry / Help						
Charlie Whitherspoon	5 - Planning	In Progress	Inquiry / Help						
<table border="1"><tr><td>Avg</td><td>2.67</td></tr><tr><td>Max</td><td>5 - Planning</td></tr><tr><td>Sum</td><td>171</td></tr></table>				Avg	2.67	Max	5 - Planning	Sum	171
Avg	2.67								
Max	5 - Planning								
Sum	171								

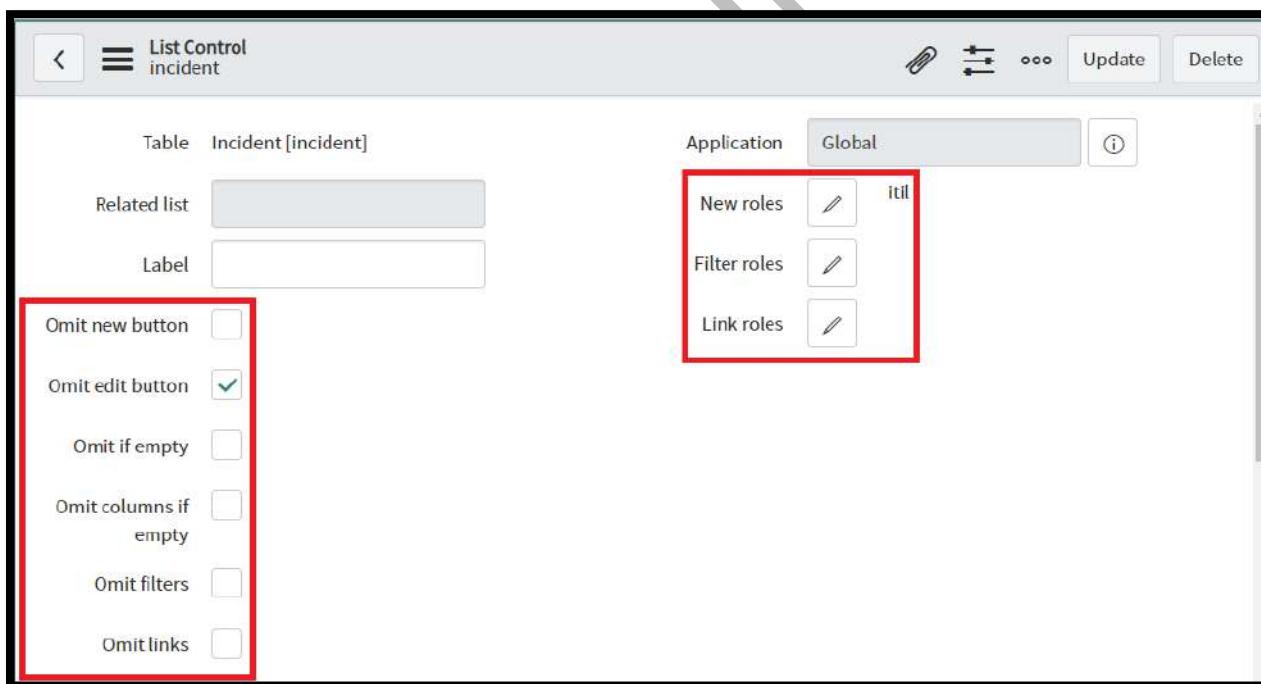
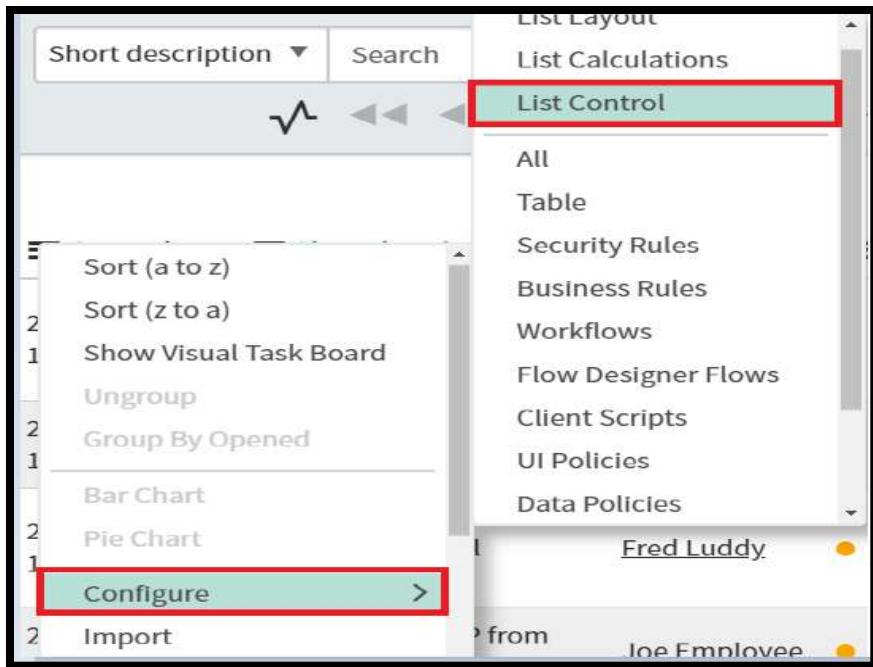
**Note:** List calculations are available in list reports.

## Configure list controls

We can configure list controls, such as buttons and filters.

### Procedure

1. Open **Incident** list.
2. Open the list configuration page by performing the appropriate action for the list version



## Chapter - 6

Nivas Sunkara

# Plugins

## What is Plug-ins

1. Service-Now provides functionalities or features in the form of system modules. Usually,
2. Modules are activated by default, but if you want to add additional functionality,
3. Then you can consider system plugins. Plugins are like small software components that Provide features and functionality as an option. Let's better understand this.



## Example of Plugins

1. **Example:** Data Archive is a plugin that is not activated by default.
2. The size of the data Increases in Service-Now according to the time that has passed
3. For example, an incident **More than a year old** is less significant as compared to a current incident, and old data may
4. Affect the performance of **queries and reports**.



## How plugins are activated

Plugins may be added to the base platform in one of the following ways.

1. Activated by default in the base Service Now platform
2. Plugins are activated by an administrator (not by default)
3. Requested from Service Now before activating. This may be the case when a plugin is new, is appropriate for only certain deployments, and/or can only be activated by Service Now personnel.
4. Plugins that are associated with a for-fee subscription to an application or suite can be activated only after your organization has purchased the subscription.
5. Plugins may contain demo data for better understanding about specific application
6. **1000** of plugins are available in service now



After a plugin is active, you cannot disable or deactivate it. You can hide the functionality, if needed

## Importance in plugins relationship

### Some plugins depend on other plugins being activated.

In some cases, a plugin cannot work at all unless one or more other plugins are installed. When you ask to activate a plugin in this category, the system notifies you of the dependencies before it completes the activation. If you ask to continue, the system automatically activates all the plugins required.

In some cases, the plugin works, but certain features that do not apply to your system are not installed. When you ask to activate a plugin in this category, the system notifies you of the dependencies before it completes the activation. If you ask to continue, the system activates the requested plugin but does not include the features that depend on other plugins.

## How to request a plugin?



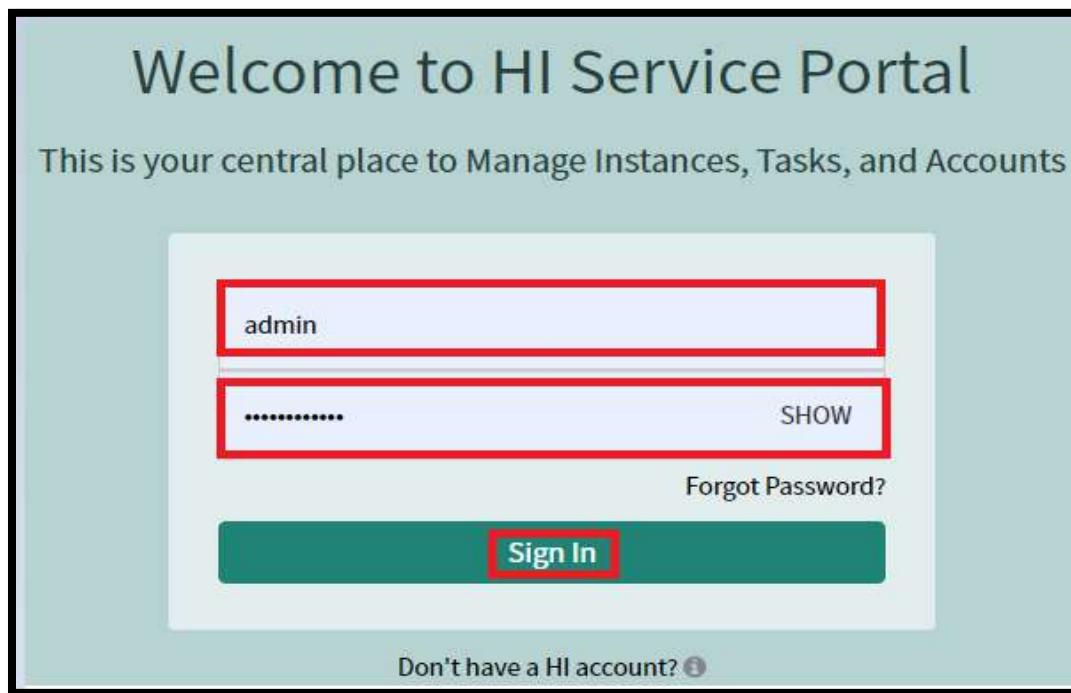
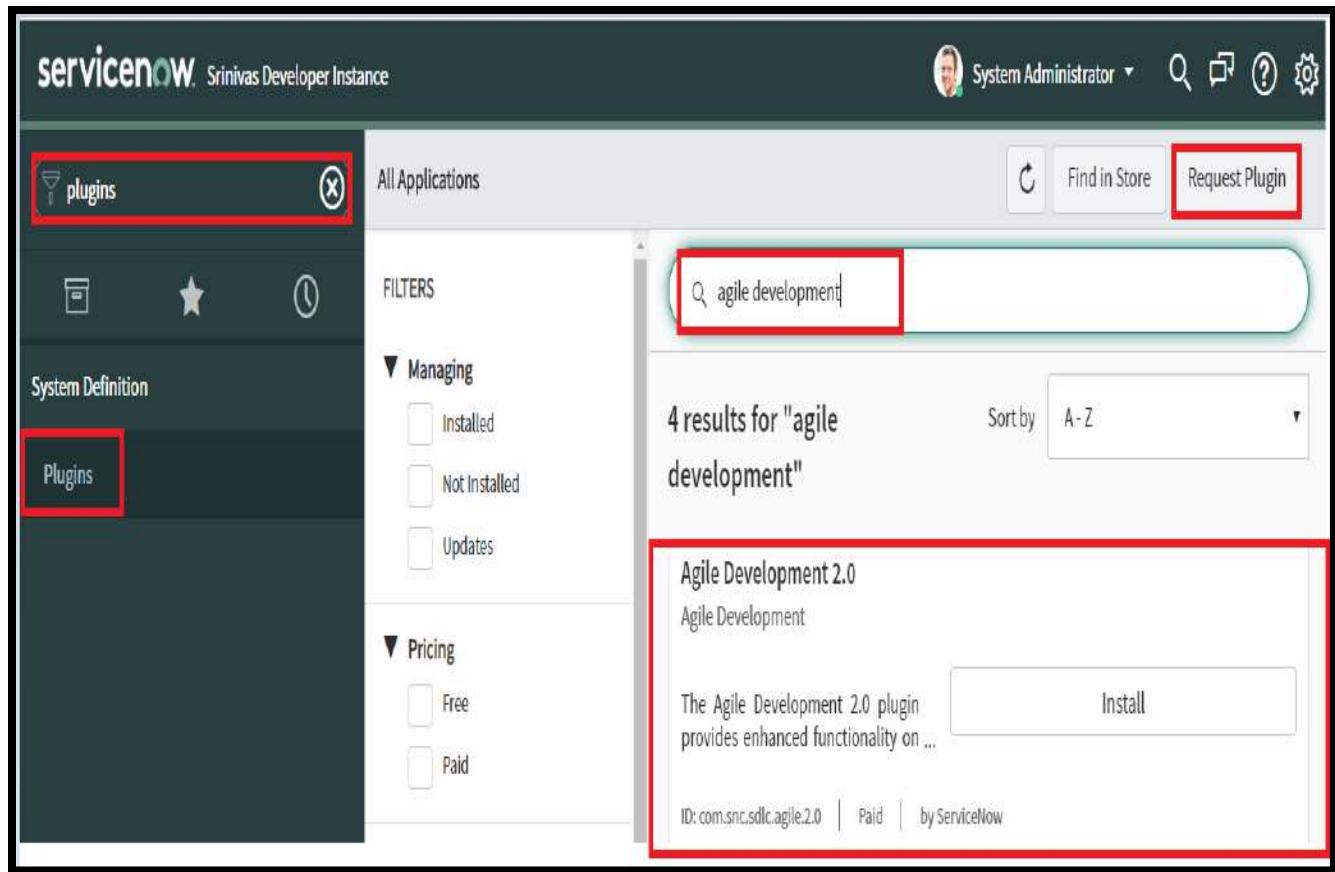
Some plugins should be activated by default from Service Now personnel. These plugins do not appear in the **System Definition > Plugins** list.



## Procedure

1. In the **HI Service Portal**, click **Service Requests > Activate Plugin**.
2. Fill out the form.





3. After subscribe the plugin, we can activate in our instance

The screenshot shows the ServiceNow plugin activation interface. At the top left is a small icon of three orange cylinders. To its right, the title "Agile Development 2.0" is displayed. Below the title is a detailed description of the plugin's purpose and how to handle existing customizations. A note in red text states: "This plugin is associated with a for-fee subscription. [More info](#)". Another note in red text says: "You can view the list of your subscriptions on your production instance. [Click here](#)". Below these notes, there are two buttons: "Plugin dependency status" and "Project Portfolio Suite (will be activated)". A red box highlights the "Project Portfolio Suite" button. Further down, a message indicates that some files will not be loaded because the plugin is inactive, specifically mentioning "Agile - Scaled Agile Framework - Essential SAFe". A blue link "Learn more" is provided. At the bottom of the interface are two buttons: "Cancel" and a large green "Activate" button.

4. Before activating the plugin enable check box of **Load demo data**
5. Click on **Activate** button
6. Take few minutes of time to activating plugin (Track the status like below)

The screenshot shows a progress bar titled "Plugin Activation" at the top. Below it, the specific plugin being activated is "Agile Development 2.0". The progress bar indicates that "Activation is 46% complete". At the bottom of the screen, the URL "com.snc.sdlc.scrum.pp/update/sys\_script\_46288884ef242000a7450fa3f82256c0.xml" is visible.

**System Plugin**  
Incident Management - Major Incident Management

ID	com.snc.incident.mim	Provider	ServiceNow
Name	Incident Management - Major	Status	Active
Version	1.0.0	Has demo data	<input checked="" type="checkbox"/>
Help	<a href="/api/now/v1/context_doc_url/CSHelp:Major-Incident-Management">/api/now/v1/context_doc_url/CSHelp:Major-Incident-Management</a>		
Requires	Incident Communications Management, Task-Outage Relationship, Incident Updates, com.snc.major_workbench_components, WebKit HTML to PDF		
Description	Provides best practice process around identifying Major Incidents. Allows Incident Managers to create a plan of action when a Major Incident is identified. Provides a consolidated Workbench to collaborate on Major Incidents.		
<b>Related Links</b>			
<a href="#">Activate/Repair</a>			
<a href="#">Roll back</a>			
<a href="#">Load Demo Data Only</a>			

7. Here we can able see plugin details

Plugin Activation Logs (1,106)    Plugin Files (285)

Plugin Files	Display name	Class	Update name	App
<a href="#">Conditions</a>	Dictionary Entry	sys_dictionary_major_incident_trigger_ru...	Major I...	
<a href="#">pir_report_related_records</a>	Macro	sys_ui_macro_006c75cb5fd21300200aa184ff4...	Major I...	
<a href="#">Technical Resolution Communication</a>	Communication Task Definition	comm_task_definition_01f03c533b481300ad3...	Major I...	

## Purchase a plugin

Some features require a separate subscription from the rest of the Service Now platform.

To purchase a subscription, we need to contact your Service Now account manager. In most cases, the account manager will arrange to have the plugin activated on your organization's production and non-production instances, generally within a few days. In some cases, you can activate the plugin within the instance.

If you do not have an account manager, decide to delay activation after purchase, or want to evaluate the feature on a non-production instance before purchase, follow the steps to **activate a plugin**. If the plugin is not listed in the **System Definition > Plugins** module, make a **request through HI Service Portal**.

## Chapter – 7

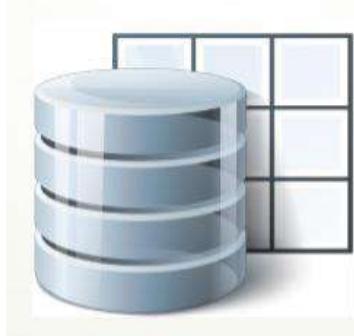
# Tables

SS Sunkara

## What is Table

A table is a collection of records in the database. Each record corresponds to a **row in a table**, and each field on a record corresponds to a **column on that table**.

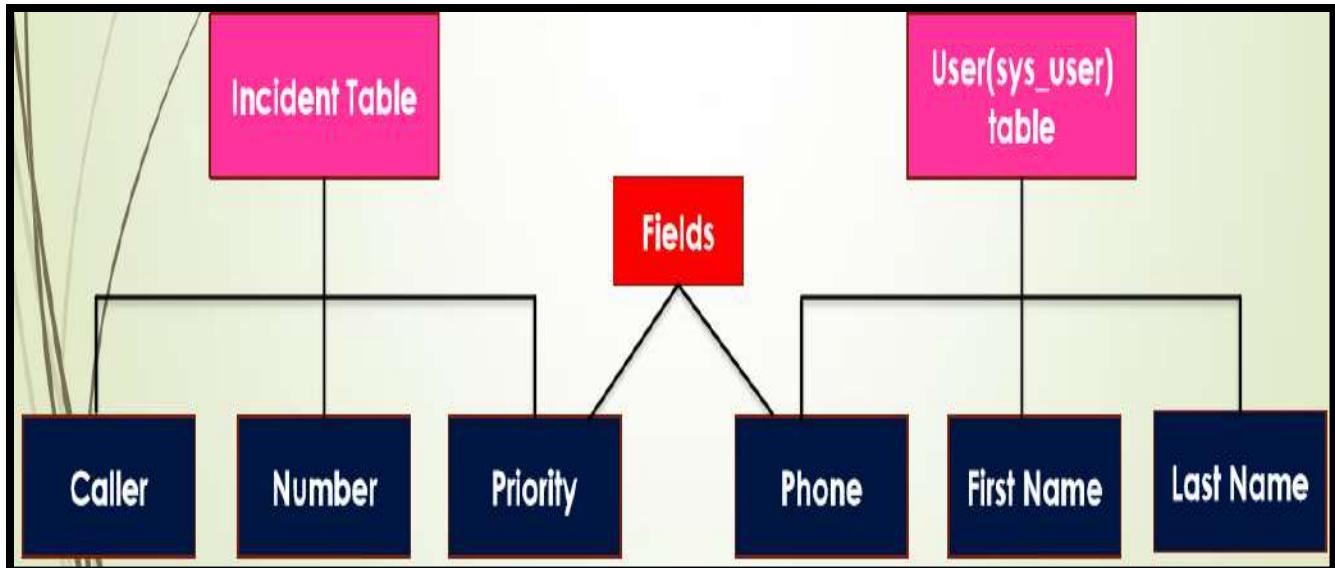
Applications use tables and records to manage data and processes, such as **Incident, Problem, Change\_request** and **CMDB**. Tables can extend other tables, creating parent tables and child tables.



1. **Tables module:** Provides a list of all tables in the database.
2. **Tables & Columns module:** Provides a list of all existing tables, with columns, column attributes, and indexes.
3. **Schema map:** Provides a graphical representation of the relationships between multiple tables.
4. **Data dictionary tables:** Contains additional information that defines database elements.

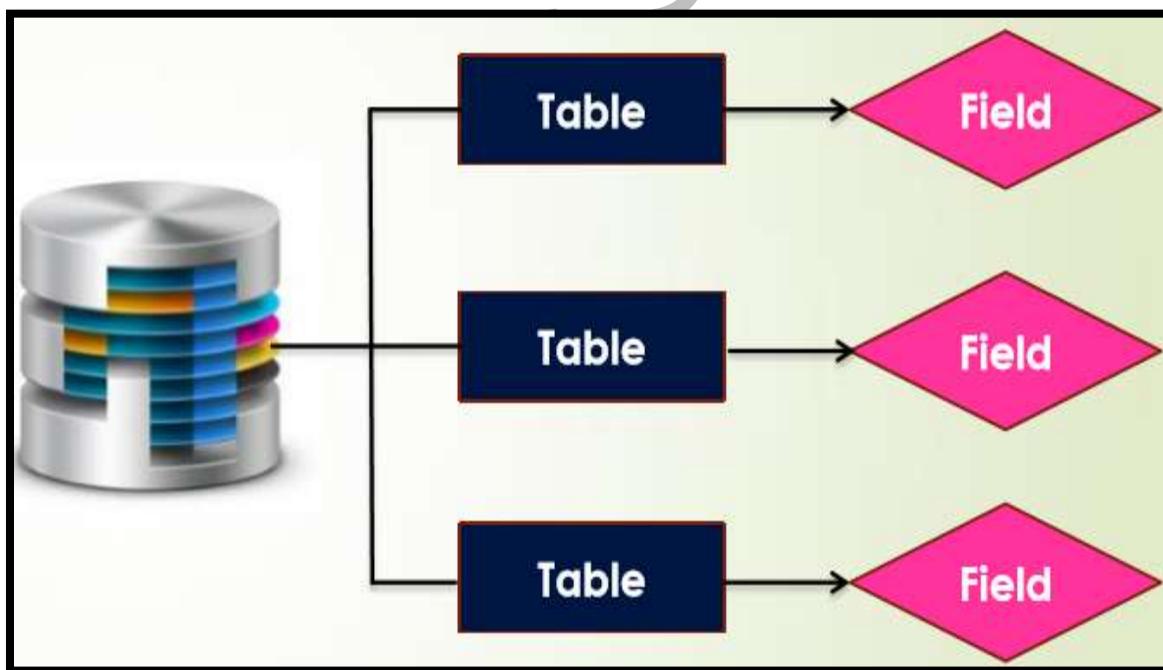
## Database Table Overview

1. Over **2,000** tables in base instance
2. Each table has many **Fields or Attributes**
3. One Table can **extend** to other tables
4. Naming convention
5. Admin can **Create/Modify** tables
6. Each application has **1 or many** tables

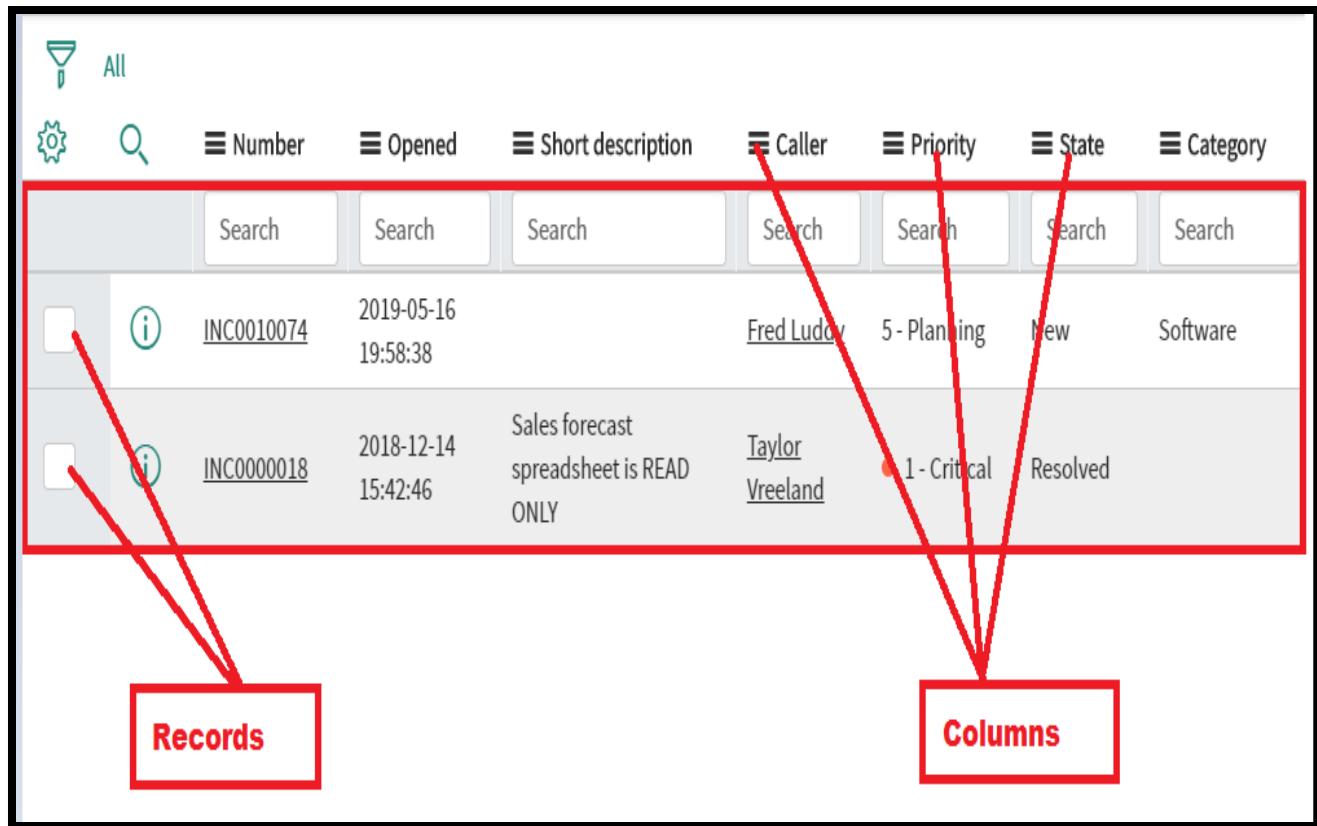


## Database, Tables, & Fields

1. A database contains many **tables**
2. A table contains many **fields**
3. Records are stored in **tables**



4. Each **Row** can be representing a one **Record** in the table
5. Each **Field** can be representing a one **Column** in the table



## Service Now Table Relations and Classes

We can enable one or more child tables to share fields and records with a parent table.  
Administrators and Service now developers can **only extend tables during the table creation**.

Parent Table	Child Tables
Task	Incident
	Problem
	Change_Request
[cmdb_ci]	cmdb_ci_computer
	cmdb_ci_database
	cmdb_ci_appl

## Types of tables

### Base table:

Base tables are the tables already available in Service Now and which do not extend any table

We are calling with following names

1. Extended Table
2. Base Table
3. Parent Table
4. Out of the box Table

### Custom table:

A table is custom if it was created by an administrator and is not part of a **system upgrade or plugin activation.**

## Major Tables in Service Now

Major Tables	
✓ Task	✓ kb_knowlege
✓ incident	✓ kb_category
✓ problem	✓ kb_knowledgebase
✓ change_request	✓ sc_catalog
✓ sys_user	✓ sc_cat_item
✓ sys_user_group	✓ sc_req_item
✓ sys_user_role	✓ cmdb_ci
✓ cmn_location	✓ cmdb_computer

## Exercise: 1 How to create a custom table

Service Now Administrators and service Now application developers can create custom tables to store application data.

### Procedure

1. Navigate to **System Definition > Tables**.
2. Click on **New**

The screenshot shows the ServiceNow Tables screen. At the top, there is a search bar with the placeholder "system de" and a red "X" button. To the right of the search bar are buttons for "Tables", "New", "Search", and a dropdown menu. Below the search bar is a navigation bar with icons for trash, star, and clock, followed by "Ranking Definitions", "Menu Categories", "Dictionary", "Tables" (which is highlighted with a red box), and "Choice Lists". On the right side, there is a list of tables with columns for icon, label, and name. The first three entries are: "Agile Filter Definition" (agile\_filter\_definition), "Agile Group Vtb Board" (agile\_group\_vtb\_board), and "Allocation Units" (allocation\_unit). Each entry has an info icon and a link to the table definition.

3. Fill the required details in form
4. Click on **Submit**

The screenshot shows the "Tables" form for creating a new table record. The title bar says "Table New record". The left sidebar lists categories: "Ranking Definitions", "Menu Categories", "Dictionary", "Tables" (selected), "Choice Lists", and "Language File". The main form area contains fields for "Label" (set to "snow academy"), "Name" (set to "u\_snow\_academy"), and "Extends table" (empty). There are also checkboxes for "Create module" (checked), "Create mobile module" (checked), "Add module to menu" (dropdown set to "-- Create new --"), and "New menu name" (set to "snow academy"). A note at the top of the form area states: "A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes." with a "More Info" link.

## Global default fields

When we create a new custom table in service now platform, several system fields are appearing in the Table Columns embedded list. For all tables, required system fields are added automatically. **We cannot delete or modify these fields.**

For tables that extend another table, fields on the parent table also appear on the Table Columns embedded list for the current table. If you modify these fields, remember that all changes to fields on the parent table also affect all child tables, not just the current table.

These required system fields are added to all tables:

## Default system fields

1. Class [sys\_class\_name]
2. Created [sys\_created\_on]
3. Created by [sys\_created\_by]
4. Sys\_id [sys\_id]
5. [sys\_mod\_count]
6. Updated by [sys\_updated\_by]
7. Updated [sys\_updated]

## Exercise: 2 Delete a table

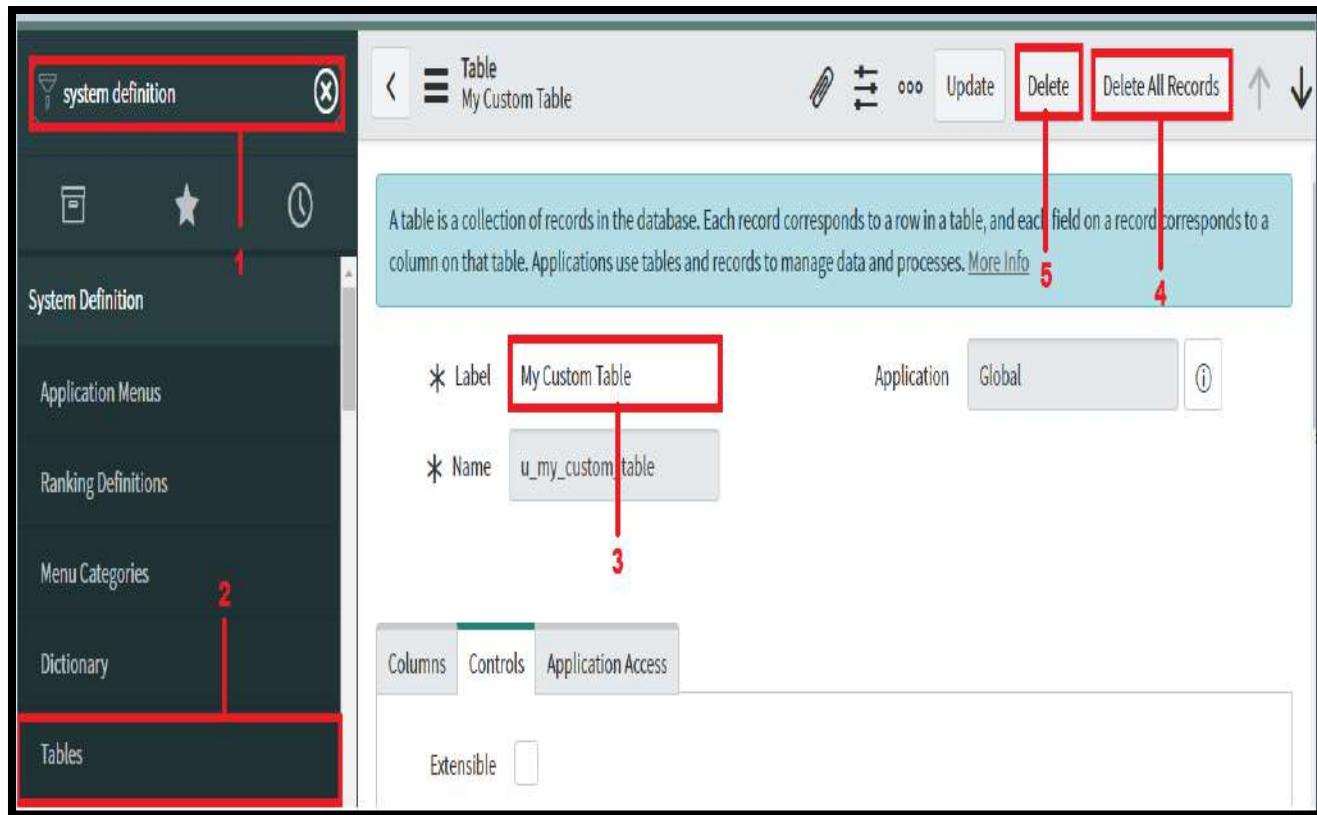
Only administrators can be able to delete a custom tables that are no longer required. For example, delete a table from an application that is under development because the business requirements change.

A table is custom if an administrator created it and it is not part of a system upgrade or plugin activation. Custom table names always begins with **u\_**, **or x\_** for scoped tables.

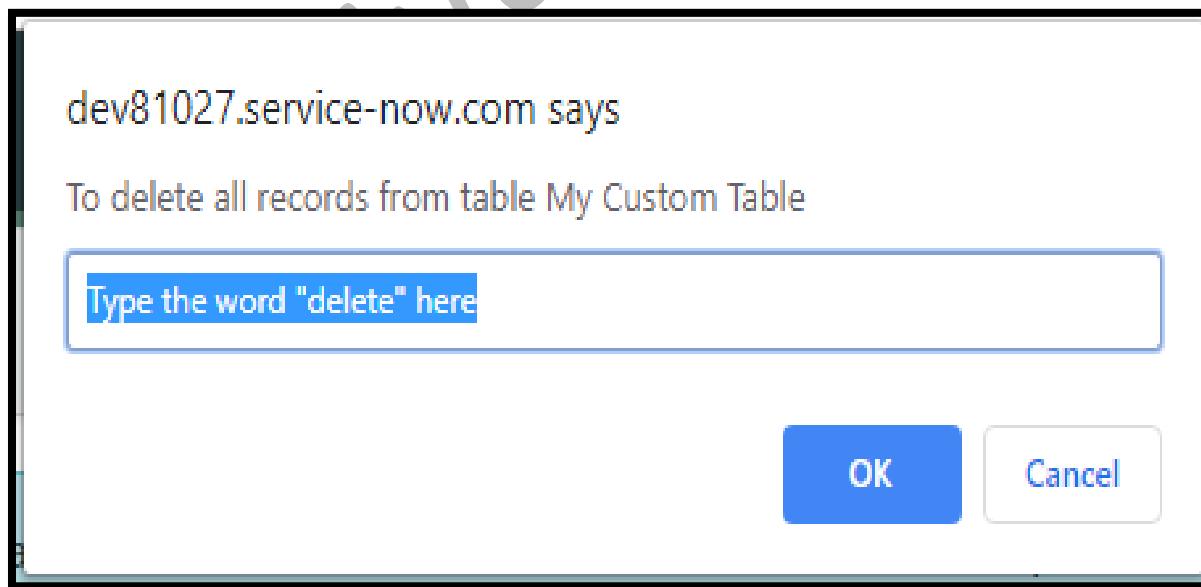
**Warning:** We can delete the records in the table before we delete the table. If you do not delete the records first, errors can result on the parent table if it references the records. Deleting the records removes any references from the parent table.

## Procedure

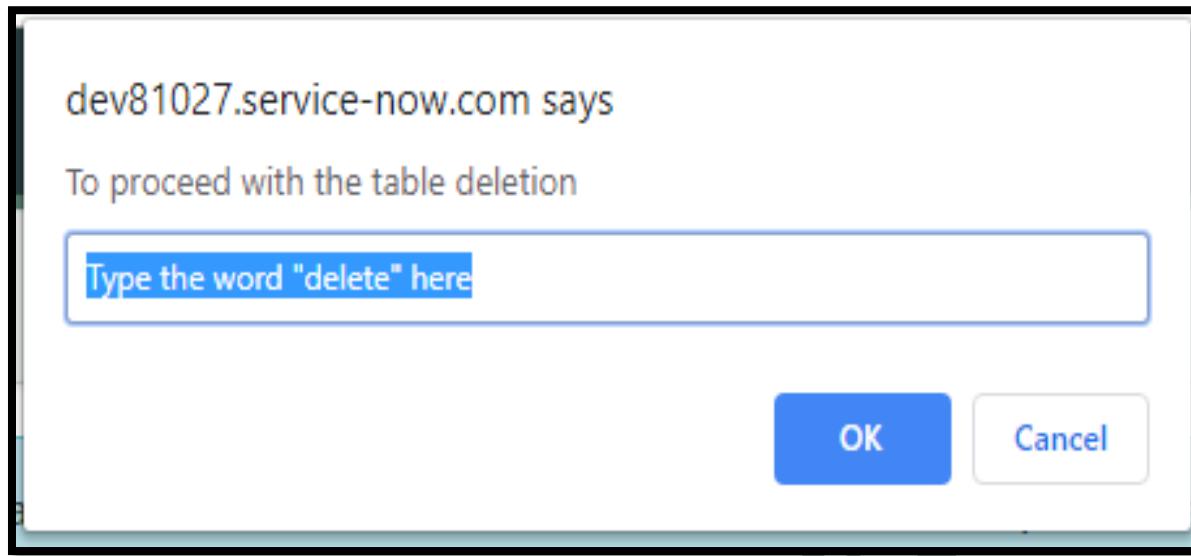
1. Navigate to System Definition > Tables.
2. Open any custom table to delete.
3. Click **Delete All Records**.



4. In the confirmation dialog box, enter **Delete**
5. And click **OK**.



6. In the confirmation dialog box, enter **Delete**
7. And click **OK**.



## Exercise:3 Delete all records from a table

We may decide to delete all the records on a table without deleting the table itself. For example, the administrator may want to delete all incidents on a test instance without deleting the incident table itself.

### Procedure

1. Navigate to **System Definition > Tables and Columns**.
2. Select the table for which to delete records.

The screenshot shows the ServiceNow System Definition interface. On the left, there is a sidebar with the following items:

- system definition (highlighted with a red box)
- Dictionary
- Tables
- Choice Lists
- Language File
- Bookmarks
- Tables & Columns (highlighted with a red box)
- Search Groups
- Database Views

On the right, the main area is titled "Tables & Columns" and contains the following text:  
Click a button to create a new table or application, or browse all applications.  
Create Table | Create Application | Browse Applications

Or, select a table to browse its columns and indices.

Table Names

IMAP Endpoint [cmab\_ci\_endpoint\_imap]  
Impacted Cls [task\_cmdb\_ci\_service]  
Import Export Map [sys\_impex\_map]  
Import Log [import\_log]  
Import Set [sys\_import\_set]  
Import Set Row [sys\_import\_set\_row]  
Import Set Row Error [sys\_import\_set\_row\_error]  
Import Table [sys\_report\_import\_table]  
Import Table Base [sys\_report\_import\_table\_parent]  
Import Table Users and Groups and Roles [sys\_report\_import\_table\_users\_groups\_roles]  
Inactivity Monitor [sysrule\_escalate\_am]  
Inbound Email Actions [sysevent\_in\_email\_action]  
Incident [incident] (highlighted with a red box)

3. Click **Delete all records**.
4. In the confirmation dialog box, enter **delete** and click **OK**.

The screenshot shows the ServiceNow System Definition interface. On the left, there's a sidebar with various options: system definition (highlighted with a red box), Dictionary, Tables, Choice Lists, Language File, Bookmarks, Tables & Columns (highlighted with a red box), Search Groups, and Database Views. In the main area, under 'Tables & Columns', the 'Incident [incident]' table is selected (highlighted with a red box). Below the table name, there are several tabs: 'Edit Table', 'Schema map', and 'Delete all records' (the last one is highlighted with a red box). To the right of these tabs, there's a section titled 'Index creator'. It says 'Select the fields that should be included in the index. Only those fields from the table select' and 'Available'. A table lists fields: 'Table name' (incident), 'Unique Index' (checkbox), 'Business resolve time', 'Caller', 'Category', 'Caused by Change', and 'Change Request'. The 'Business resolve time' field is currently selected.

## Roll back and delete recovery

Recover deleted records and roll back some actions.

Recover individual records and all related changes, and roll back certain actions such as a patch upgrade, a plugin activation, and background script executions. The recovery and roll backs both use rollback contexts.

The roll back and delete recovery features are available on instances that use **MySQL and MariaDB databases**. Instances that use **Oracle databases only support roll back**. Instances that use **SQLServer do not support roll back or delete recovery**.

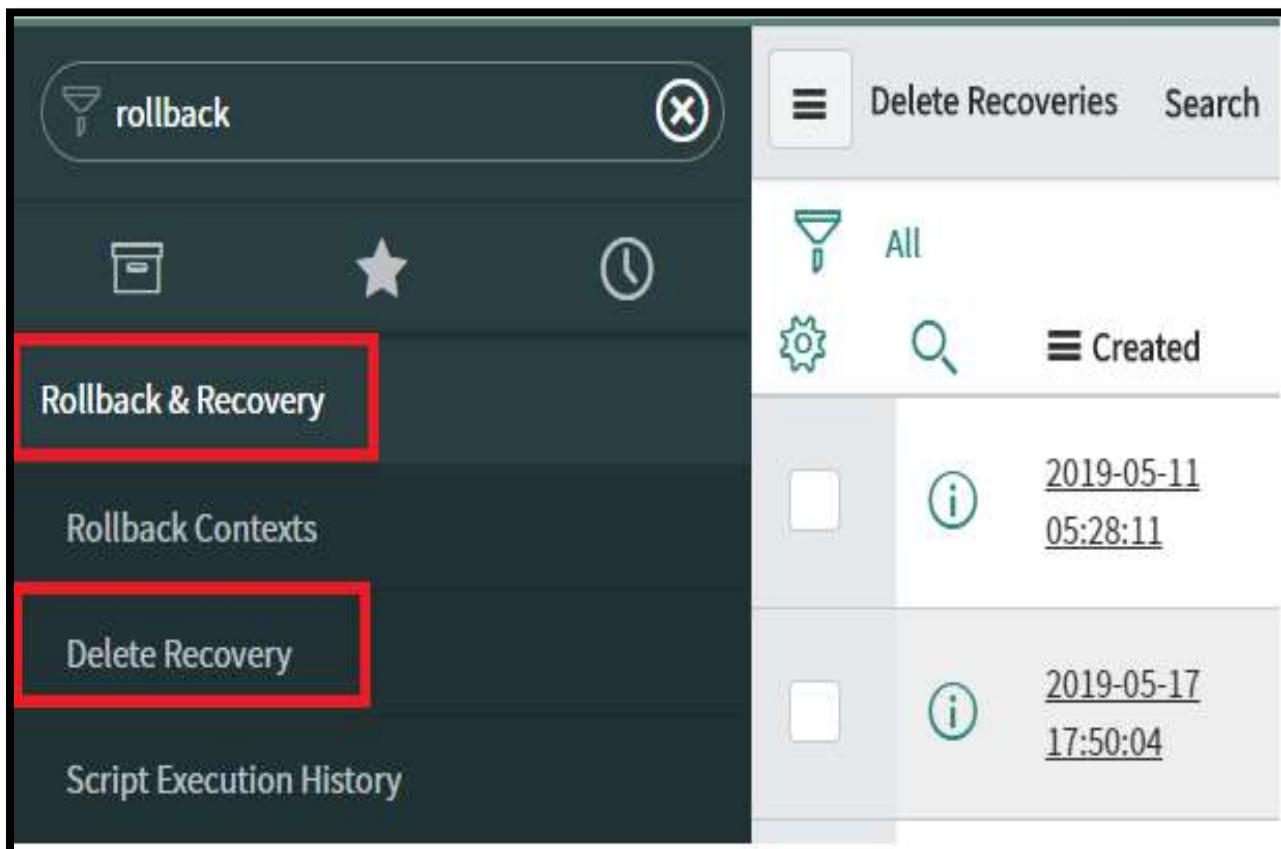
## Roll back and delete recovery database support

Database type	Roll back	Delete recovery
MySQL	yes	yes
MariaDB	yes	yes
Oracle	yes	no

## Delete Recovery module

This module works for any deleted record. This recovery must be done within **seven days** of the record deletion.

To find this module, navigate to **Rollback & Recovery > Delete Recovery**.



## Exercise: 4 restore a deleted record

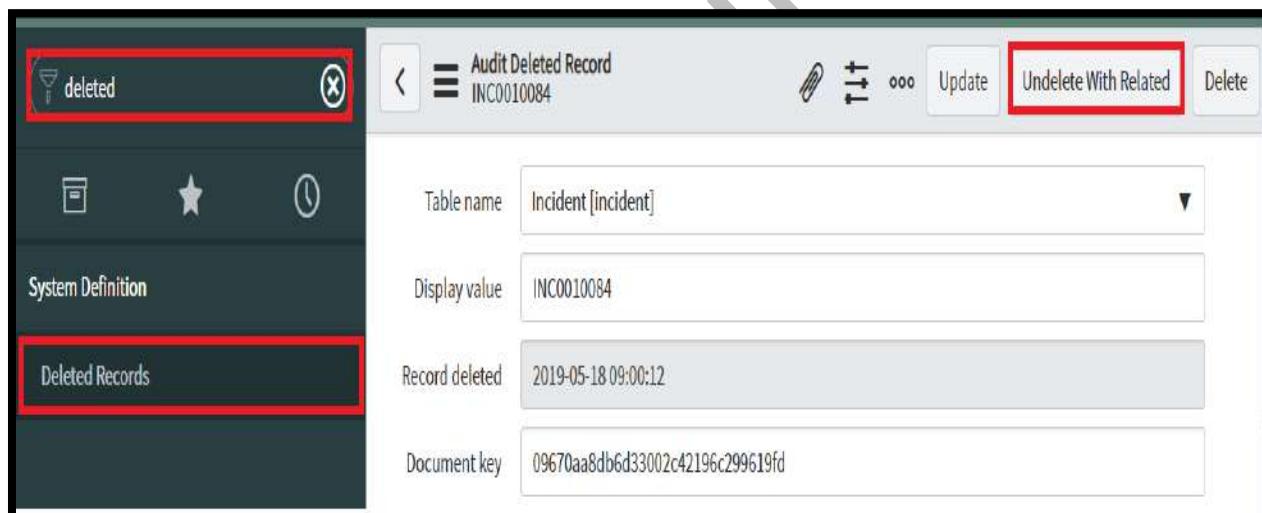
We can recover **deleted records** that are in **audited tables**.

The instance can track deletions on any table, and references on audited tables, with a few exceptions. **Record deletions are not tracked in these circumstances.**

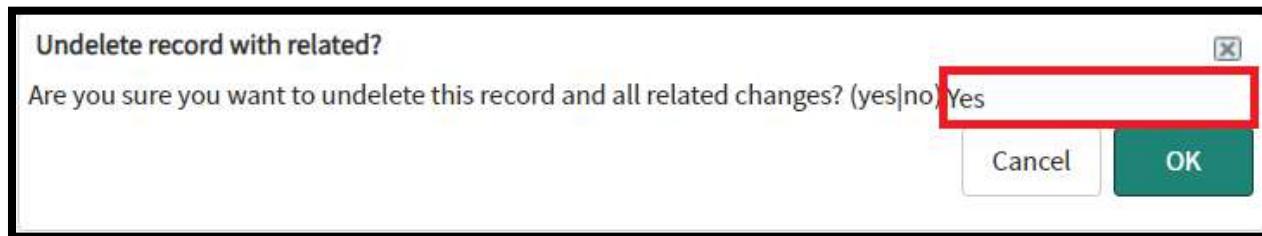
**Note :** Record deletions are not tracked on tables with the `no_audit_delete=true` dictionary attribute.

### Procedure

1. Navigate to **System Definition > Deleted Records**.
2. Open the **deleted record** that you want to restore.
3. **Note:** You can only restore one deleted record and its associated references at a time.
4. Do one of the following to restore the record.
5. Click on **Undelete with related** button



6. In the confirmation dialog box, enter Yes



## Overview of Task table

Task [task] is one of the core tables provided with the base system.

It provides a series of standard fields used on each of the tables that extend it, such as the Incident [incident] and Problem [problem] tables. In addition, any table which extends task can take advantage of task-specific functionality for driving tasks.

The Planned Task plugin provides the Planned Task [planned\_task] table, which extends the Task [task] Table to provide more fields for tasks to measure duration and effort.

## Working with Schema Map

The schema map can define the details of tables and their relationships in a visual manner, allowing administrators to view and easily access different parts of the database schema.

The schema map can also be printed directly from a browser.

Schema relationship types supported, and the colors used for them, are:

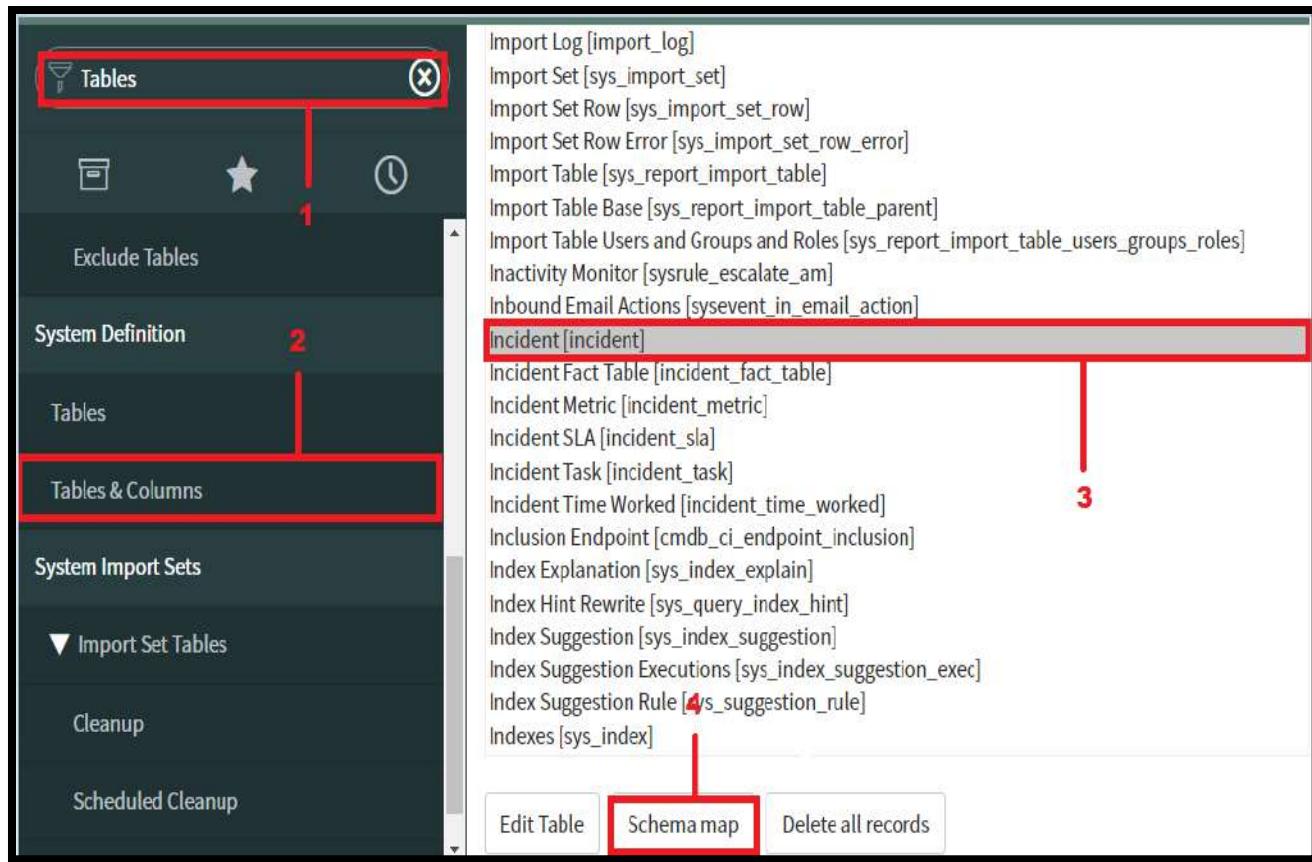
## Schema Map for Tables

Schema Map Color Codes	
Referenced by	Red
Referencing	Orange
Extended by	Green
Extending	Blue

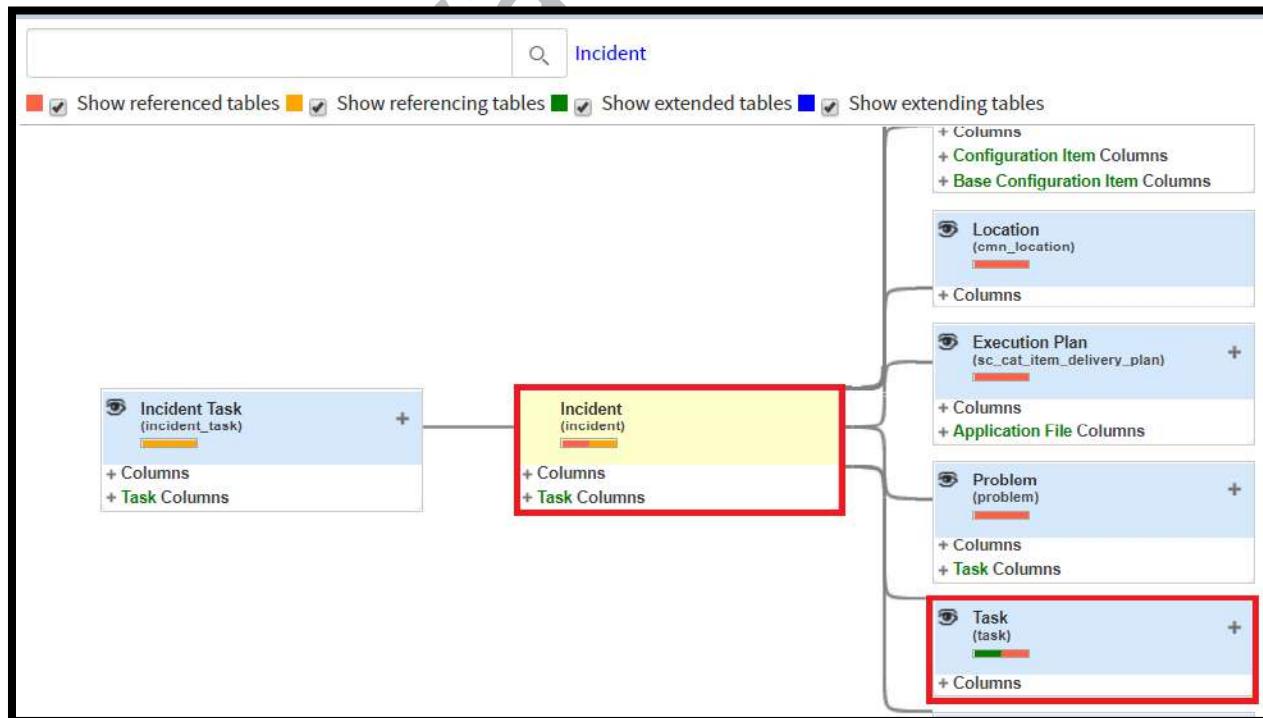
**Note:** By default, all these types of relationship are displayed, but you can view or hide each type.

## Procedure

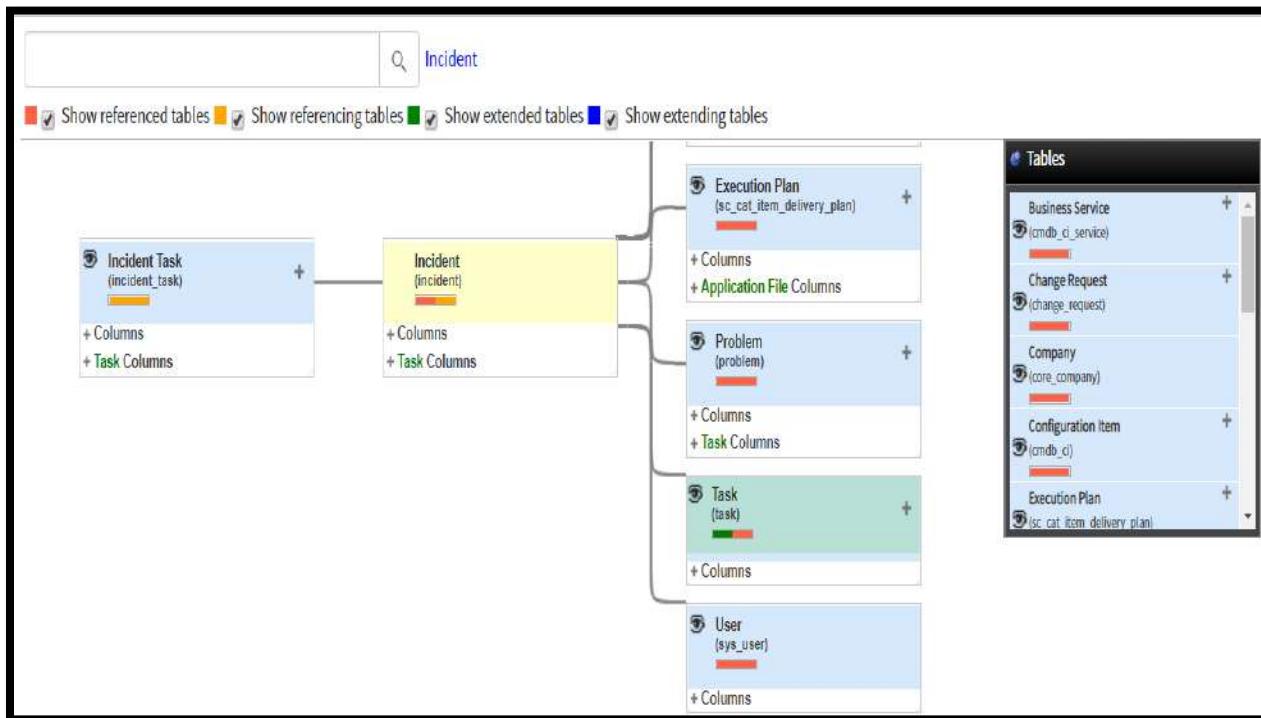
1. Navigate to System Definition > Tables & Columns
2. Select any Table like [Incident]
3. Click in Schema Map button



#### 4. Relation can open in Visualization manner



5. The schema map shows the selected table in yellow, typically centered, and all tables related to that table, typically shown at the sides.



6. Each table can display available columns in particular table
7. Click the expand button (+) beside **Columns** to expand the table fields.

Task (task)	
- Columns	
Active:	True/False
Activity due:	Due Date
Actual end:	Date/Time
Actual start:	Date/Time
Additional assignee list:	List
Additional comments:	Journal Input
Approval:	String
Approval history:	Journal
Approval set:	Date/Time
Assigned to:	reference to User
Assignment group:	reference to Group
Business duration:	Duration
Business service:	reference to Business Service
Close notes:	String

## Fields

8. Each field should be maintaining column attributes

Column Names	Column Attributes
Approval history	function_field
Approval set	groupable
Assigned to	hint
Assignment group	i18n_sortable
Business duration	internal_type
Business resolve time	label
Business service	language
Caller	mandatory
Category	matchable
Caused by Change	max_length
	multi_text
	name
	plural

## Data Dictionary Tables

The system defines data dictionary, data modeling, and entity relationship information in multiple tables.

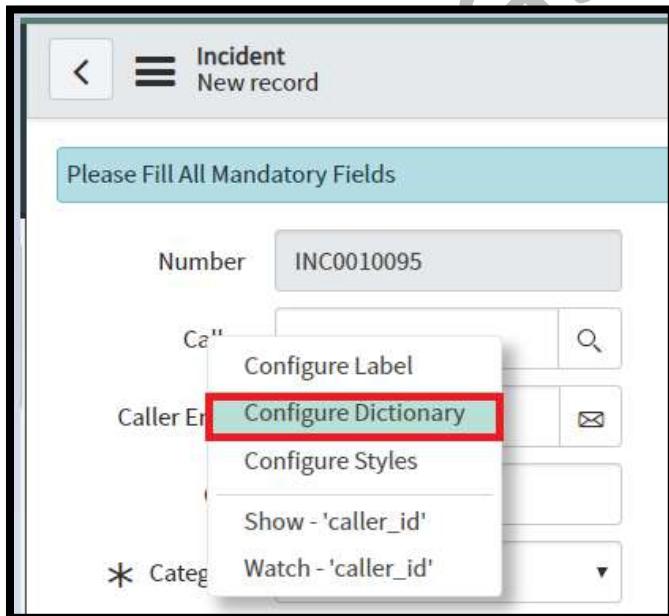
1. Tables [**sys\_db\_object**]: It will contain a record details for all table.
2. Dictionary Entries [**sys\_dictionary**]: It will Contain additional details for each table and the definition for every column on each table. Each row represents either a column on a table or a table.
3. Field Labels [**sys\_documentation**]: It will contain the labels and language information.

## Dictionary Entries

The Dictionary Entries [**sys\_dictionary**] table, also we called the System Dictionary, it will contain every table and field details in the system. It will contain information about fields **data type** and **character limit**, **setting a default value**, **dependency field setup**, and **other attributes of a field**.

We access the system dictionary tables in **multiple ways**.

1. Navigate to **System Definition > Dictionary**.
2. To view particular dictionary definition, right-click the list header, form header, or field label, and select **Configure Dictionary**.
3. Open **incident** form and right-click on **Caller Label** then see following screen shot below



The screenshot shows the 'Dictionary Entry - Caller [Advanced view]' screen in ServiceNow. At the top, there are five tabs: 'Reference Specification' (selected), 'Choice List Specification', 'Dependent Field', 'Calculated Value', and 'Default Value'. Below the tabs, a note states: 'The Reference field specifies what table this field displays values from.' Under the 'Reference Specification' tab, there are several configuration fields:

- 'Reference' dropdown set to 'User'.
- 'Use reference qualifier' dropdown set to 'Simple'.
- 'Reference qual condition' section with buttons for 'Add Filter Condition' and 'Add "OR" Clause'.
- '-- choose field --' dropdown.
- '-- oper --' dropdown.
- '-- value --' dropdown.

4. Second way Navigate to **System Definition > Dictionary**

The screenshot shows the ServiceNow Dictionary Entries interface. On the left, there's a sidebar with icons for System Definition, Dictionary, and a clock. The main area has tabs for Dictionary Entries, New, Search, and Table. A red box highlights the 'Dictionary' tab in the sidebar. The title 'Field Entry Details' is displayed above a table. The table has columns for 'Table' (with a dropdown arrow), 'Column name', and 'Label'. One row is selected with a red box, showing 'Table' as 'agile\_filter\_definition' and 'Column name' as 'filter'. Other rows show 'name' and 'sys\_created\_by'.

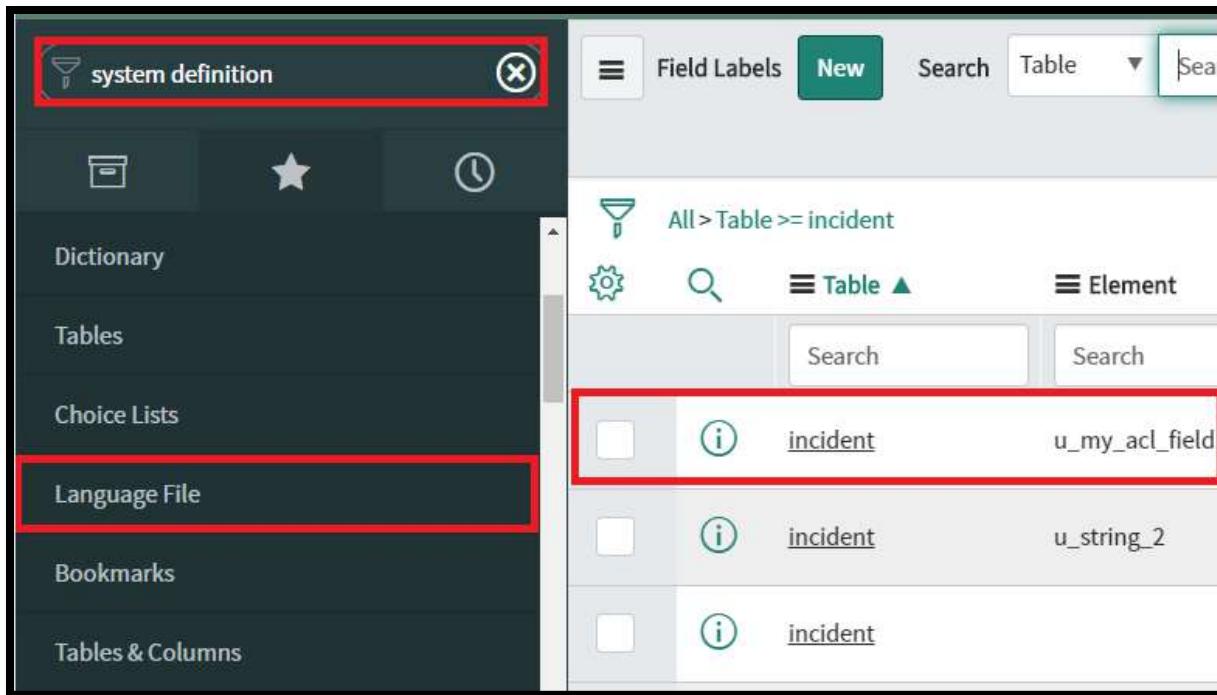
Table	Column name	Label
agile_filter_definition	filter	agile filter definition
agile_filter_definition	name	agile filter definition
agile_filter_definition	sys_created_by	agile filter definition

## Field Labels

The Field Labels [sys\_documentation] table, also called the Language File, contains information about each field labels and hints for each table and column in the system.

Access the language file in one of these ways:

1. Navigate to **System Definition > Language File**.
2. To see the field label for a particular field, right-click on the any field label on the form.
3. The following image shown the language file filtered on Incident table



## Dictionary overrides

Dictionary overrides can provide the details about field on an extended table differently from the field on the parent table.

For example, for a field on the Task [task] table, a dictionary override can change the default value on the Incident [incident] table without affecting the default value on Task [task] or on Change [change].

### Only administrators can override these aspects of a field:

- ✓ Reference qualifiers
- ✓ Dictionary attributes
- ✓ Default values
- ✓ Calculations
- ✓ Field dependencies
- ✓ Default column display values
- ✓ Mandatory and read-only status and display

Use a dictionary override to allow a field in a **child table** to have a different value or behavior than the same field in a **parent table**. For example, a dictionary override changes the default value of the priority field from 3 in the parent table to 5 in the Incident table. **child table**

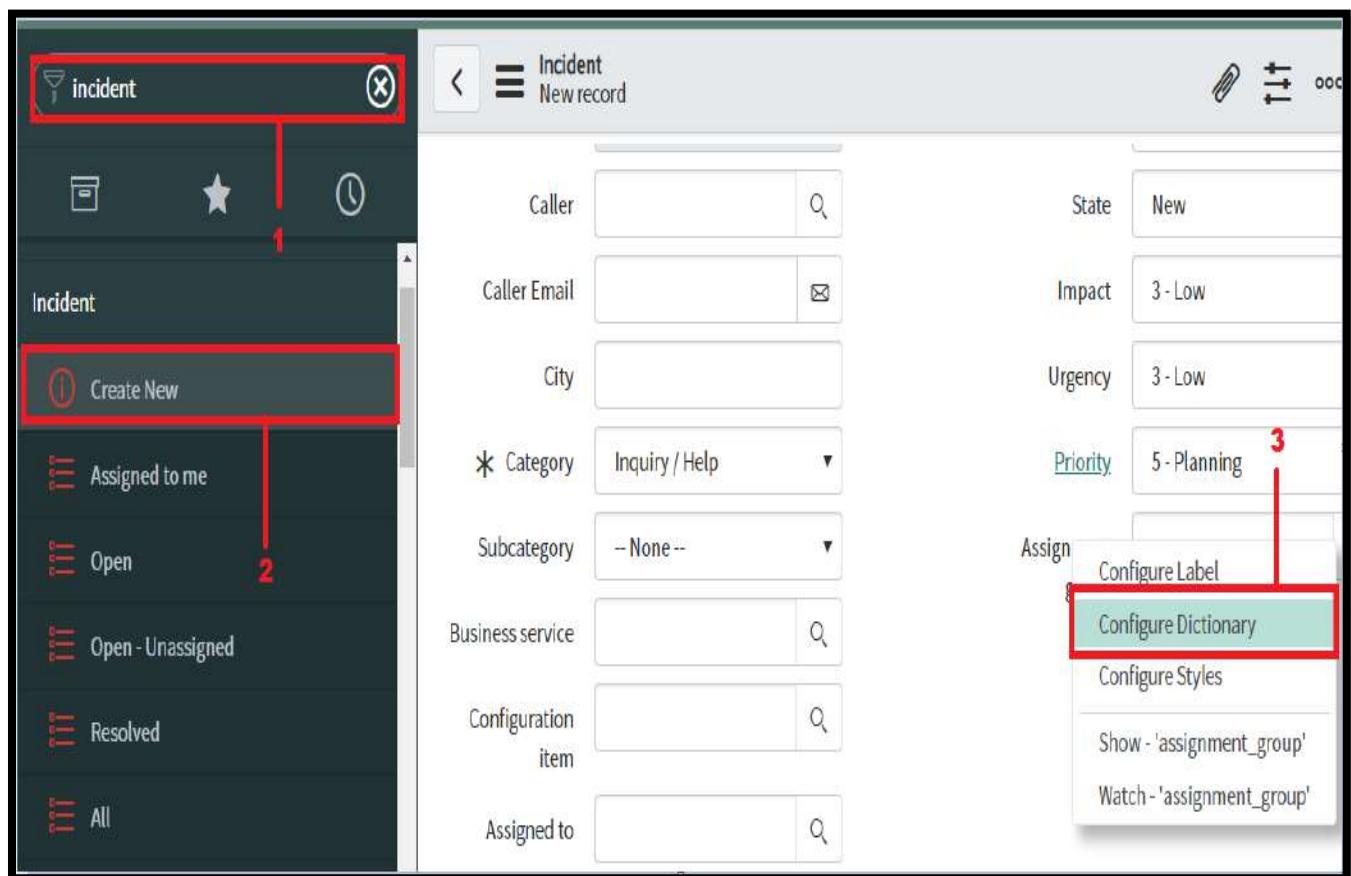
## Exercise: 5 Configure dictionary Override

Dictionary override used to override fields default behavior

### Procedure

**Task:** Assignment\_group field is read only for only incident table

1. Navigate to **Incident Table**
2. Click on **New** module
3. Right click on **assignment\_group** field
4. Click on **Configuration Dictionary**
5. In the **Dictionary Overrides** related list,
6. Click on **New**.
7. Fill in the details on the form



The screenshot shows the 'Dictionary Entry Assignment group' page in ServiceNow. The top navigation bar has tabs: Access Controls (2), Choices, **Dictionary Overrides (12)**, Attributes (1), and Labels (1). The 'Dictionary Overrides' tab is selected. Below the tabs is a toolbar with 'New' (highlighted in green), Search, Table, and various search filters. A message at the top says 'Dictionary Entry Overrides'. The main area displays a table of overrides:

	Override reference qualifer	Override read only	Read only	
<input type="checkbox"/> <i>incident</i>	false	true	true	false
<input type="checkbox"/> <i>kb_feedback_task</i>	true	true	true	false
<input type="checkbox"/> <i>nm_project_task</i>	true	false	false	false

8. Make **assignment\_group** field is read only for **Incident** table

9. Open the Record

The screenshot shows the 'Dictionary Entry Override assignment\_group' page for the 'Incident' table. The top navigation bar has tabs: Application (highlighted in grey) and Global. Below the tabs is a message: 'Override the dictionary settings for the 'Task Assignment group' field in extended tables'. It lists dictionary settings for the 'Task Assignment group' field:

- Dictionary settings for Task Assignment group are:
- Reference qualifier: type=null^ORtype=1cb8ab9bff500200158bfffffffff62^EQ
- Dependent:
- Attributes: tree\_picker=true
- Default value:
- Calculation:
- Mandatory: false
- Read only: false
- Display: false

Task display column: number

At the bottom, it shows the base table as 'Task [task]' and the table being modified as 'Incident [incident]'. A red box highlights the 'Incident [incident]' entry, with a red arrow pointing to the text 'Assignment Group Field Read only for only Incident table'.

The screenshot shows the 'Dictionary Entry Override' configuration page for the 'assignment\_group' column. The 'Column name' field is set to 'assignment\_group'. The 'Override attributes' checkbox is checked, and the 'Attributes' field contains the value 'tree\_picker=false'. The 'Override mandatory' checkbox is also checked. In the 'Read only' section, two checkboxes are checked and highlighted with a red box: 'Override read only' and 'Read only'.

Setting	Value
Column name	assignment_group
Override reference qualifier	<input type="checkbox"/>
Override dependent	<input type="checkbox"/>
Override attributes	<input checked="" type="checkbox"/>
Attributes	tree_picker=false
Override default value	<input type="checkbox"/>
Override calculation	<input type="checkbox"/>
Override mandatory	<input checked="" type="checkbox"/>
Mandatory	<input type="checkbox"/>
Override read only	<input checked="" type="checkbox"/>
Read only	<input checked="" type="checkbox"/>

10. Click on **Update**

## Chapter – 8

# User Administration

## User Administrator Overview

Manage the individuals who can access your instance by defining them as users in the system. Create user groups, and assign users to them. Use roles to specify what different users and user groups can see and do.

A group is a **set of users** who share a common purpose. Members of groups perform tasks such as approving change requests, resolving incidents, receiving email notifications, or performing change request tasks. Assign every user to at least one group.

## Best practice of assigning roles

A good practice is to assign roles to **groups rather than to users**. Administrators can assign roles quickly to multiple users by adding the users to the group. If a user moves to another group, the role assigned to the new group is applied automatically.

1. Users are a critical part of any organization, and application access should be smooth,
2. for streamlined access to applications, you can integrate Service-Now with your company's
3. LDAP server. Out of the box, Service-Now provides an LDAP server and user
4. Administration modules for configuration.



## Allow a user to view own profile

Current logged in Users are always able to view their own profile by clicking their name in the Welcome banner. In case if your users cannot do this, enable a system property.

## Exercise:1 How to add a new company

We can add new companies that represent **third-party vendors, manufacturers, or customers** with whom you do business. These companies provide a way to categorize **users, groups, and assets**.

## Procedure

1. Navigate to User Administration > Companies.
2. Click New.

The screenshot shows the ServiceNow User Administration interface. On the left, a sidebar lists 'Departments', 'Locations', 'Companies' (which is highlighted with a red box), 'Location Map', and 'Countries'. The main area is titled 'Companies [Customer view]' and shows a list of companies. A green gear icon is at the top left of the list. The columns are 'Name' (sorted ascending) and 'Street'. The list includes: '(empty)', 3Com, Acer (with address 333 W. San Carlo St., Ste. 1500), and ACME Africa. A red box highlights the 'New' button at the top right of the list area.

3. Fill and complete the form with details

The screenshot shows the 'Company New record [Customer view]' form. The fields and their values are:

Name	Service Now Academy	Street	Ameerpet, Prime Hospital Line,
Phone	(994) 942-9009	City	Hyderabad
Fax phone		State / Province	Telangana
Customer	<input checked="" type="checkbox"/>	Zip / Postal code	500018
Stock symbol		Notes	
Stock price	1200	Complete Service Now Training Centre	

Red boxes highlight the 'Name' field, the 'Street' field, the 'Notes' field, and the entire row for 'Stock price'.

4. Click on **Submit**
5. Check company record in Companies list View

The screenshot shows the 'Companies [Customer view]' list page. At the top, there are buttons for 'New', 'Search', and filters for 'Updated'. Below the header, there are search fields for 'Name', 'Street', 'City', and 'Zip / Postal code'. A red box highlights the first record in the list:

	Name	Street	City	Zip / Postal code
<input type="checkbox"/>	<a href="#">Service Now Academy</a>	Ameerpet, Prime Hospital Line,	Hyderabad	500018
<input type="checkbox"/>	<a href="#">Your name here</a>			

## Exercise: 2 How to add a new department

Departments provide another way to categorize **users, groups, and assets**. You can add departments and assign them to **users and groups**.

Department records are stored in **common\_department**(table)

### Procedure

1. Navigate to User Administration > Departments and
2. Click on New record.

The screenshot shows the 'User Administration' interface. On the left, a sidebar lists 'Active Transactions', 'All Active Transactions', 'Departments' (which is selected and highlighted with a red box), 'Locations', and 'Companies'. On the right, the 'Departments' list view is displayed. A red box highlights the 'New' button at the top right of the list view. The list shows two existing department records:

	Name
<input type="checkbox"/>	<a href="#">Customer Support</a>
<input type="checkbox"/>	<a href="#">Development</a>

3. Create or modify the **department name, ID, and description**.
4. (Optional) Select the company the department is associated with.
5. (Optional) Add a **department head, primary contact**, or both from your list of users.
6. (Optional) Add the parent department, if applicable.

The screenshot shows the ServiceNow User Administration interface. On the left, there is a sidebar with the following items:

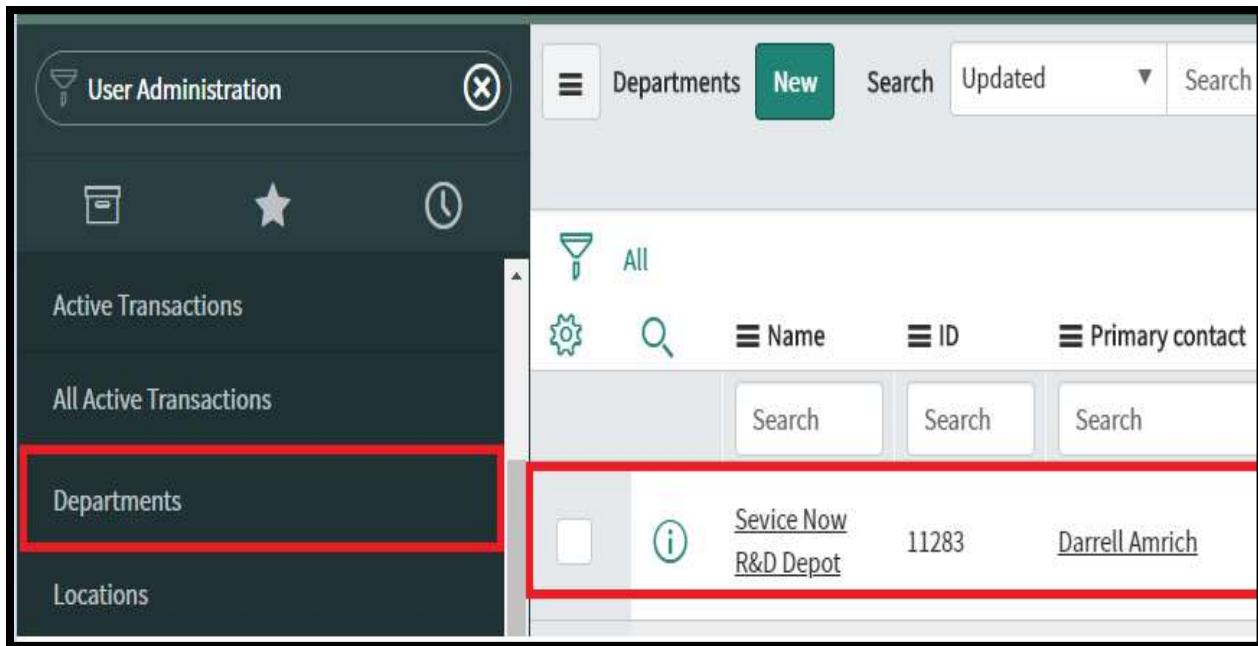
- User Administration (highlighted with a red box)
- Active Transactions
- All Active Transactions
- Departments (highlighted with a red box)
- Locations

On the right, a modal window titled "Department New record" is open. It contains the following fields:

Name	Department head
Sevice Now R&D Depot	Eldon Sutch
ID	Primary contact
11283	Darrell Amrich
Description	Service Now R&D Department contously building new application

At the bottom right of the modal is a "Submit" button, which is also highlighted with a red box.

7. Click **Submit**.
8. Check in **cmm\_department.list** in list view



## Working with Users

We can add a user to your instance to allow them to log in and use the service now application features.

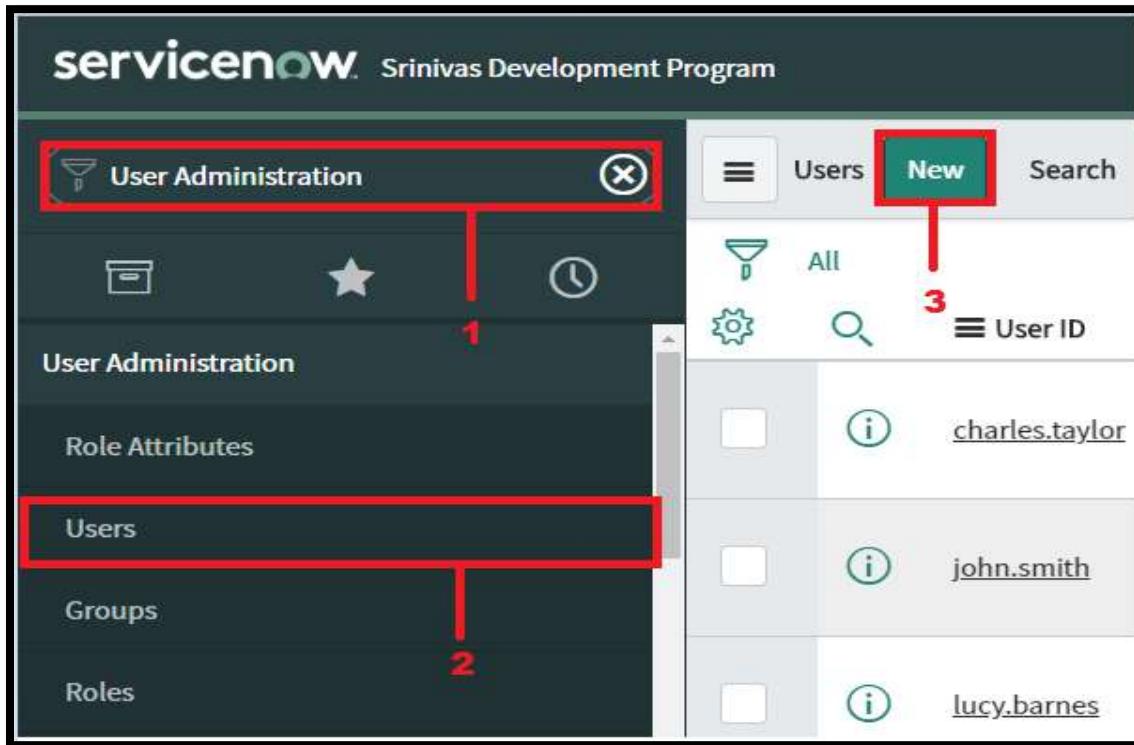
User records are stored in (`sys_user`) Table

## Exercise: 3 How to create a new User

Service now Administrator can create new users in service now instance to access objects and modules in system

### Procedure

1. Navigate to User Administration > Users.
2. Click New and enter the following information:



3. Fill the required details below
4. Submit

The screenshot shows the ServiceNow User record edit screen for a user named 'Abdul Kalam'. The record includes the following fields:

User ID	Abdul.Kalam	Email	abdul.kalam@example
First name	Abdul	Calendar integration	Outlook
Last name	Kalam	Time zone	System (America/Los_An
Title	Director	Business phone	
Department	IT	Mobile phone	(994) 942-9009
Password		Photo	[Update][Delete] 
Password needs reset	<input checked="" type="checkbox"/>		
Locked out	<input type="checkbox"/>		
Active	<input checked="" type="checkbox"/>		

**Password needs reset:** Enable the check box to require the user to change the password during the first login time.

**Locked out:** Enable the check box to lock the user out of the instance and terminate all their active sessions. The system prevents users with the admin role from locking themselves out.

**Active:** Enable the check box to make this user active.

**Note:** Only the administrator sees inactive user in:

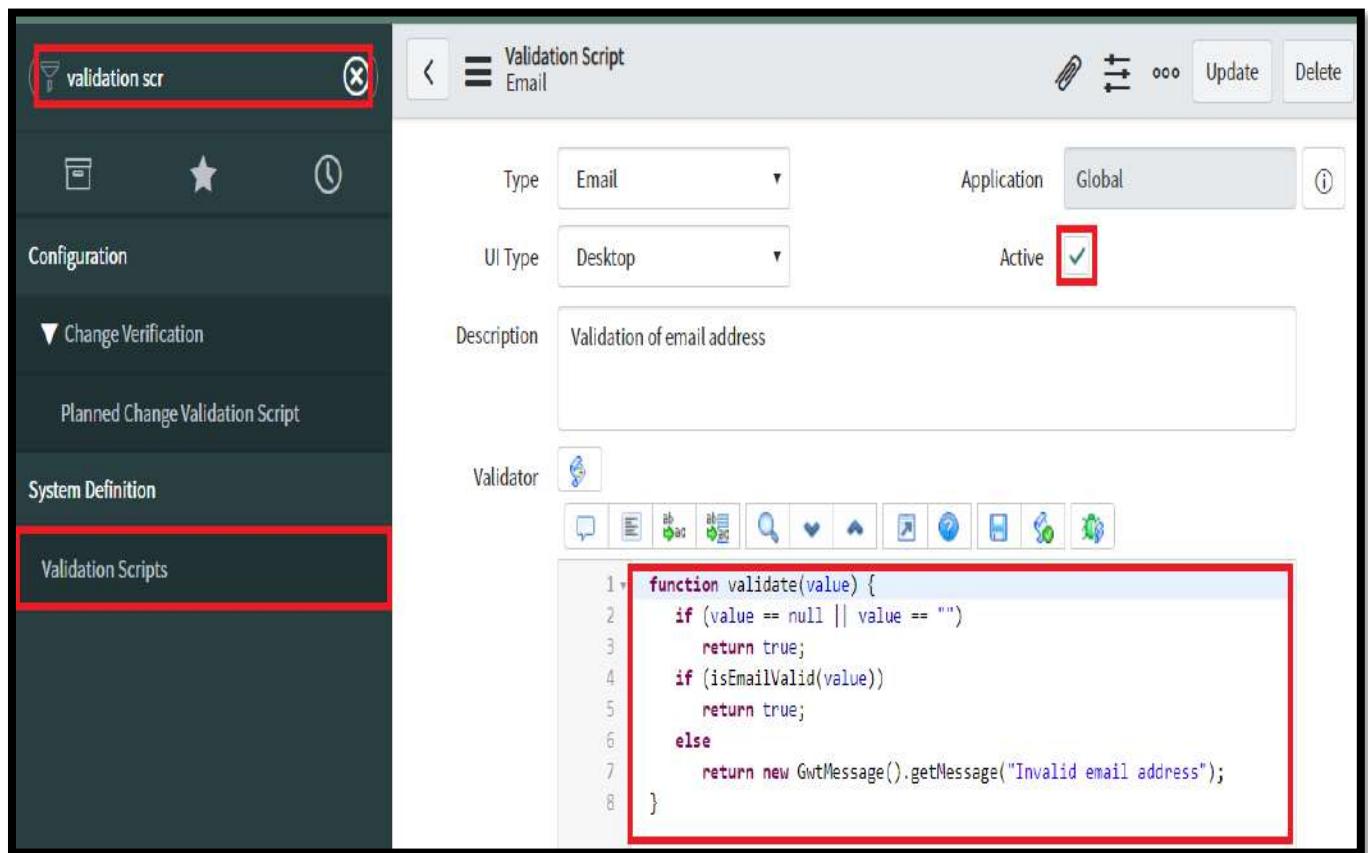
**Date Format:** Select the user's preferred format for dates.

## Exercise: 4 User Record Email Validation

Any user they want enter a non-standard email address in email field that does not pass field validation, you must deactivate the validation script first. then provide non-standard email id.

## Procedure

1. Navigate to System Definition > Validation Scripts.
2. Select the email record.
3. uncheck the Active check box and save the change.
4. Complete the user profile, including the email address, and update or submit the record.
5. Enable the email validation script check box.



6. Above screen shot will define how email validation working

## Impersonate a user

Only Service Now Administrators can impersonate other authenticated users for testing purposes and view impersonation logs. **The impersonation option is not visible in the mobile view of the platform.**

When we impersonating another user, the administrator has access to exactly what that user can access in the system, including the same **menus and modules**. The instance records anything the administrator does while impersonating another user as having been done by that user.

## Impersonation Specifications

If we want user account to be impersonated should have a **user ID**. We can find this ID in the User [**sys\_user**] table record for the account.

**Note:** If The use record is missing or not available, then given message to the user you selected could not be impersonated appears.

## We need several different logins to test the system:

1. An **admin** account to do work.
2. An **itil** (or similar) login to test as a technician.
3. An **ess (Employee Self Service)** login to test as an end user desktop.

## Impersonation logs

Impersonations are logged in the System Log.

Log impersonations for either interactive (UI) or non-interactive sessions.

## Working with Groups

A group is a set of users or customers who share information for common purpose.

Groups may perform tasks such as approving change requests, resolving incidents, receiving email notifications, or performing work order tasks. Any business rules, assignment rules, system roles, or attributes that refer to the group apply to all group members automatically. Users with the **user\_admin** role can create and edit groups.

1. A record in the **sys\_user\_group** table
2. Buckets which hold users who share a common purpose
3. Roles are assigned to groups
4. Groups contain **0 or more** roles
5. One Inherit other groups



## Exercise: 5 How to create a new group

We can create groups and assign roles to them. Users assigned to the group inherit the roles.

### Procedure

1. Navigate to User Administration > Groups
2. and create a New record
3. Fill the form with required details

The screenshot shows the ServiceNow User Administration interface. On the left, there is a sidebar with the following options: Role Attributes, Users, Groups (which is highlighted with a red box), Roles, Logged in users, and Active Transactions. At the top right, there is a navigation bar with tabs for Groups, New (highlighted with a red box), Search, and Name. Below the navigation bar, there is a search bar labeled "Search" and a list of groups. The list includes:

	Name
<input type="checkbox"/>	Application Development
<input type="checkbox"/>	ATF_TestGroup_Network
<input type="checkbox"/>	ATF_TestGroup_ServiceDesk
<input type="checkbox"/>	CAB_Approval
<input type="checkbox"/>	Capacity_Mgmt

4. Click on Submit

The screenshot shows the "Group New record" creation form. The form fields are as follows:

Name	Service Now Development ar	Group email	servicenow.rd@example.com
Manager	Abdul Kalam	Parent	(empty)
Hourly rate	\$ 300.00		
Description	This group is for service now R&D department		

At the bottom left of the form is a "Submit" button.

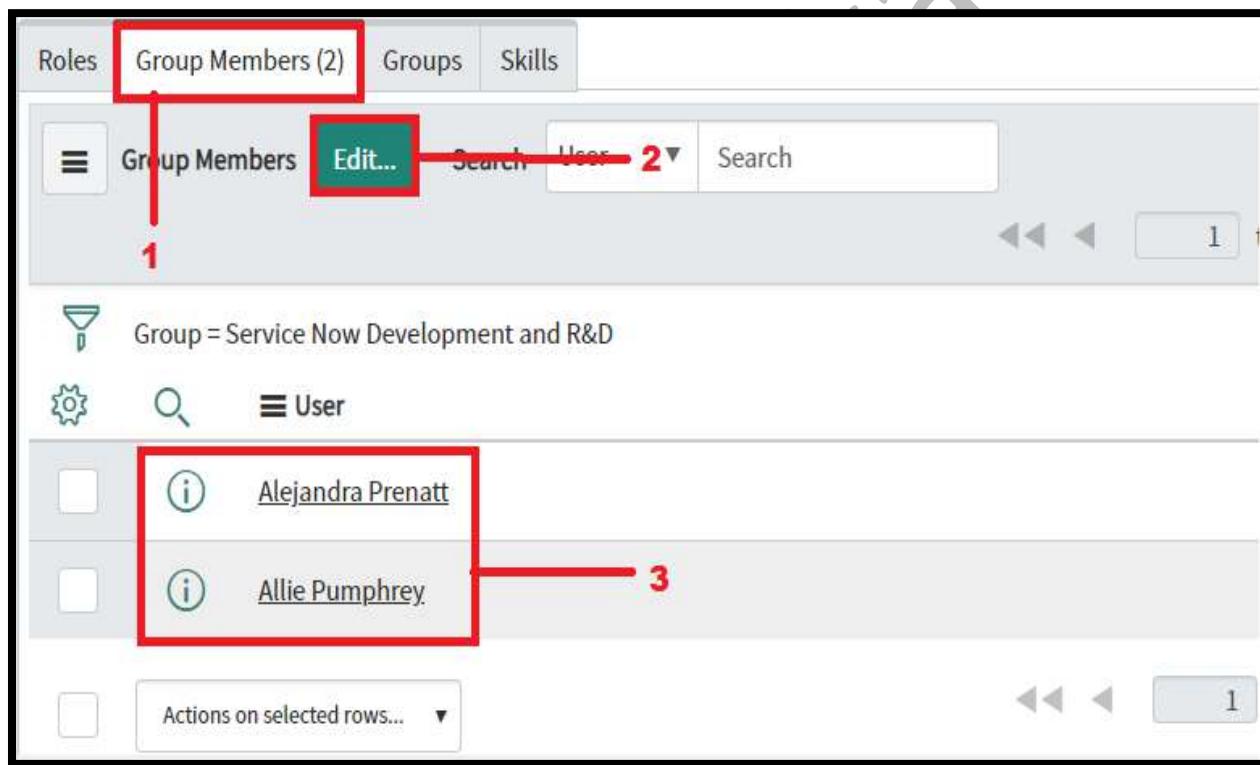
## Exercise: 6 Add a user to a group

We can add a user or members to a group so the user inherits all the roles assigned to the group.

**Note:** Only Admin can add members to specific group

### Procedure

1. Navigate to **User Administration > Groups**.
2. Open particular group record.
3. In the **Group Members related list**, click **Edit**.
4. Select one or more names in the Collection list.
5. Click **Add**.
6. Click **Update** the record.



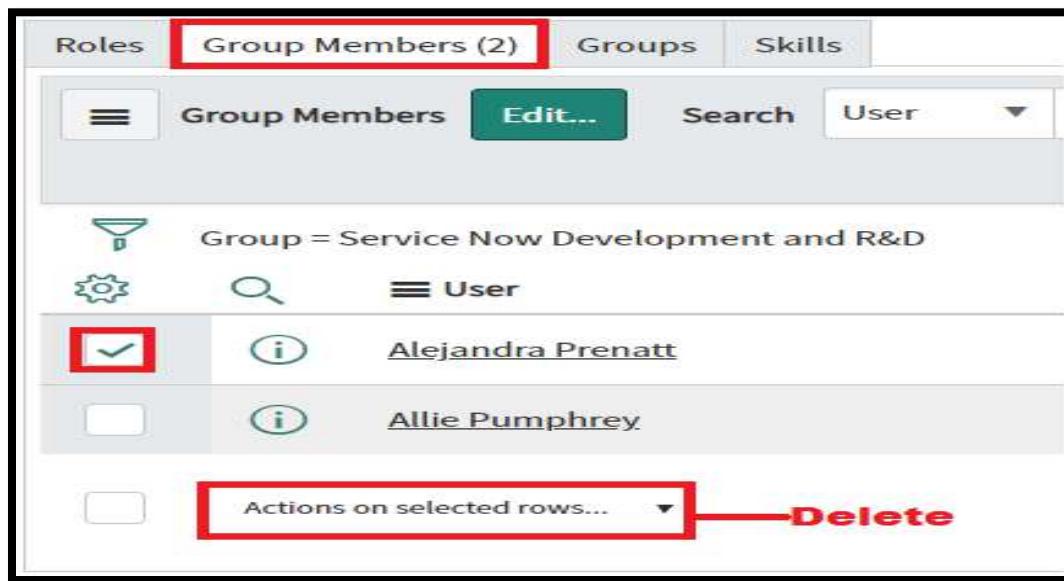
## Exercise: 7 Remove a user from a group

We can remove a user from a group when they change roles.

**Note:** Before selecting **Delete**, first make sure you have properly selected the rows containing the specific users you wish to remove from the **group**.

## Procedure

1. Navigate to **User Administration > Groups**.
2. Open particular group record.
3. In the **Group Members related list**, select the check box next to each group member name you wish to remove.
4. From the Actions on selected rows menu, select **Delete**.



## Working with role

A role is to control access to features and functionality in applications and modules. The new role does not have access to any application or module until you add other roles to it or add the new role to the appropriate applications and modules.

1. Grants permissions to parts of system
2. A record in the **sys\_user\_role** table
3. Assign **1 or more roles** to groups
4. Role contain 1 or more access control rules
5. Many OOB roles Service Now platform supports the following types of users:
6. End User
7. IT User (**ITIL** or **itil\_admin**)
8. Approver (**sys\_approver**)
9. System Administrator (**admin**)



## Base System Roles

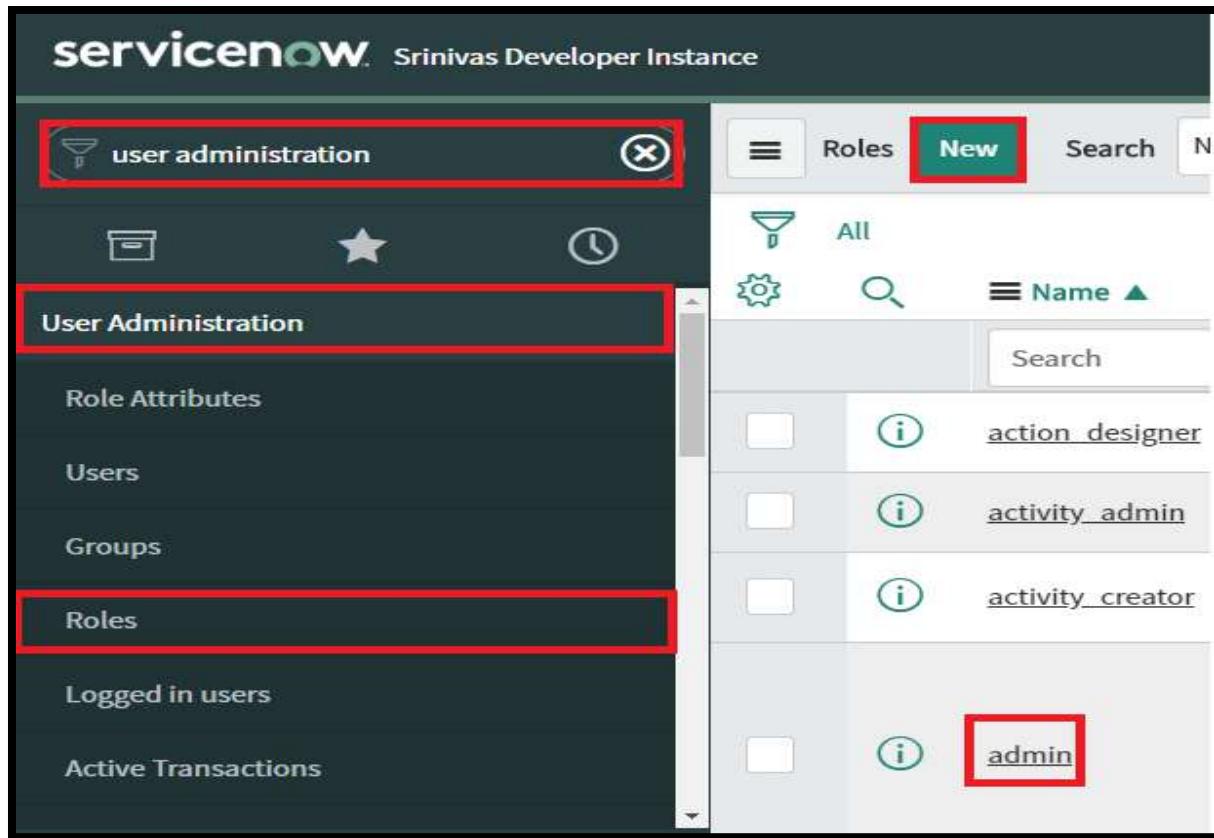
Predefined Roles	
✓ admin	✓ itil
✓ agent_admin	✓ Itil_admin
✓ approval_admin	✓ incident_manager
✓ approver_user	✓ knowledge
✓ asset	✓ knowledge_admin
✓ catalog	✓ major_incident_manager
✓ catalog_admin	✓ maint
✓ catalog_manager	✓ nobody
✓ impersonator	✓ public
✓ problem_manager	✓ report_publisher

## Exercise: 8 How to create a new Role

Once access has been granted to a role, all of the groups or users assigned to the role are granted the access. Roles can contain other roles, and any access granted to a role is granted to any role that contains

### Procedure

1. Navigate to User Administration > Roles
2. Create a **New** record.
3. Fill the form below.



4. Click on **Submit**

This screenshot shows a 'Role' creation form in ServiceNow. The top bar indicates it's a 'New record'. The form fields are as follows:

- \* Name: My Custom Role
- Application: Global
- Requires Subscription: Unspecified
- Elevated privilege: checked
- Description: This is custom role to access my scope application and module

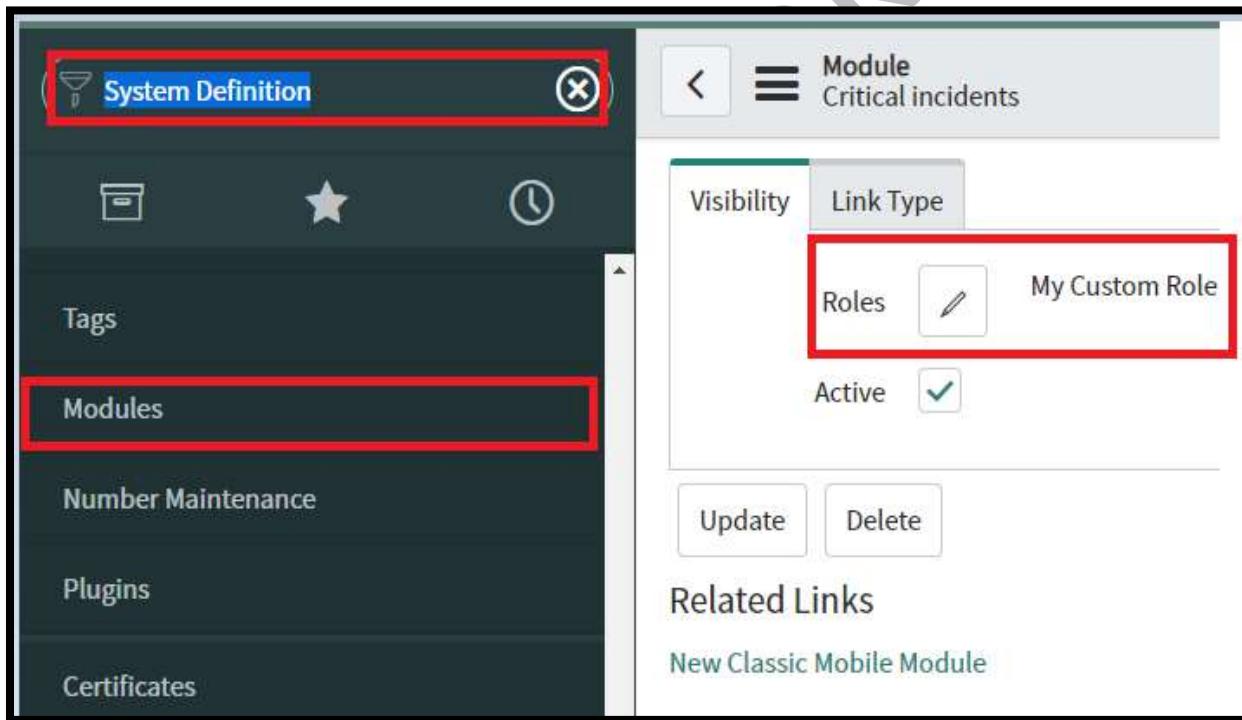
At the bottom left is a 'Submit' button.

## Exercise: 9 Grant a role access to applications and modules

Roles control access to features and capabilities in applications and modules. You add a role to an application or module to enable the role to grant access to the application or module for all users with the role.

### Procedure

1. Navigate to **System Definition > Applications** or
2. Navigate to **System Definition > Modules**.
3. Select the particular application or module to open it in form view.
4. Click on lock to open the **Roles** field.
5. Use the slush bucket to add the desired roles to the **application or module**.
6. Click on lock to close the **Roles** field
7. **Save** your changes.



## Exercise: 10 Assign a role to User

We can assign a role to a user to grant access to **applications and modules**.

A user inherits roles from all groups to which the user belongs. You can also assign roles directly to a user. Whenever a user is assigned a new role, it only takes affect after logging in with a new session.

1. To grant the **admin** role to a user, you must also have the **admin** role.
2. To grant the **security\_admin** role to a user, you must also have the **security\_admin role**, and must elevate to the **security\_admin** role before granting the **security\_admin** role to other users.

We cannot delete roles that are assigned to the group from the user record. You must remove the user from the group record.

## Procedure

1. Navigate to **User Administration > Users**
2. Open any user record.
3. In the **Roles related list**, click **Edit**.
4. In the Collection list, select the desired roles, and then **click Add**.
5. Click on **Update**.

The screenshot shows the ServiceNow User Administration interface. On the left, the navigation bar has 'user administration' selected. The main panel shows a user record for 'Lucius Bagnoli'. The 'Roles (9)' tab is selected in the related list header. A red box highlights the 'Edit...' button. The list table shows three rows of roles assigned to the user:

Role
inventory_user
cmdb_query_builder
financial_mgmt_user

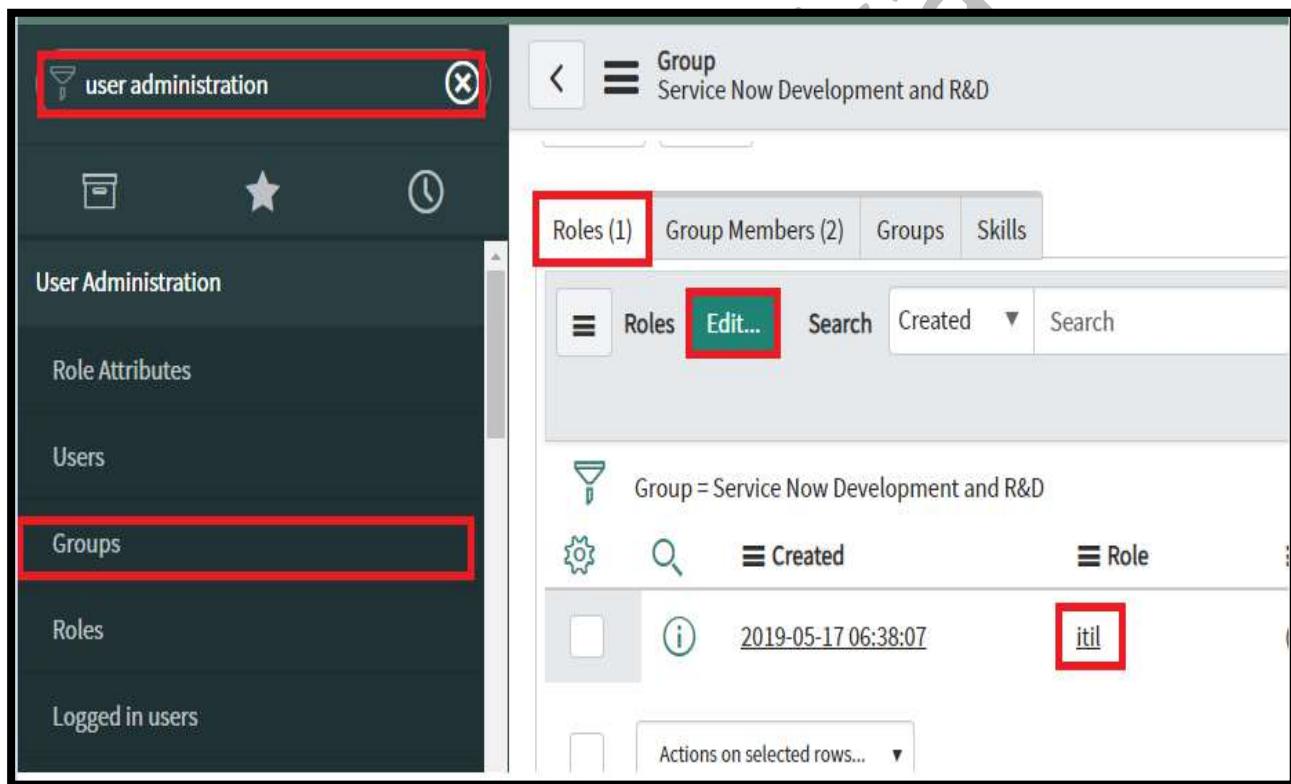
## Exercise: 11 Assign a role to a Group

We can assign a role to a **group** to grant access to applications and modules to group of members.

When we assign roles to groups rather than to individual users, members of the group inherit the role. When a user switches groups, the new group role is assigned automatically.

### Procedure

1. Navigate to **User Administration > Groups**.
2. Open the any **group** to assign a role.
3. In the **Roles related list**, click **Edit**.
4. Use the slush bucket to add the desired roles to the group.
5. Click **Update**.



### Importance of read-only role

The read-only role (**snc\_read\_only**) restricts a user or a group of users to read-only access on the tables to which the user already has access.

1. This role is not intended to be the only role a user has. It is intended to be an extra role to restrict insert, update, and delete operations on the tables that the user can access as defined by the other roles.

2. After you assign this role to a user, they can no longer create, update, or delete records on ANY tables.

**Note:** Assign this role only to users. Do not assign this role to other resources in the system, including applications, ACLs, and so on.

Users with the snc\_read\_only role have the following restrictions regardless of other roles and privileges they have.

1. User Cannot insert, update, or delete records from the UI or when using the Glide Record API.
2. User Cannot activate or upgrade plugins.
3. User Cannot directly run SQL statements.
4. Cannot upload any XML files.
5. Can only run background scripts when on an instance in the public sandbox environment.

## Audit user roles

If we change to user roles are automatically tracked in the Audit Roles [**sys\_audit\_role**] table.

## Interactive users

When we add a new user to the instance then automatically the user become a interactive users. Interactive users can perform the following actions:

1. Use their user name and password to log in to the UI or a service portal.
2. Connect to an instance from a URL that calls a UI page, form, or list, for example, <https://<instance name>.service-now.com/incident.do>.
3. Connect with single sign-on, for example, digest authentication or SAML.
4. Use their credentials to authorize SOAP connections if allowed by strict security.
5. Use their credentials for other API connections such as WSDL, JSON, XML, or XSD without restriction.

## Non-interactive users

Non-interactive users can only use their credentials to authorize API connections such as **JSON**, **SOAP**, and **WSDL**. They cannot log in to the Service Now UI. The strict security high security setting determines if non-interactive users are subject to **Contextual Security** requirements.

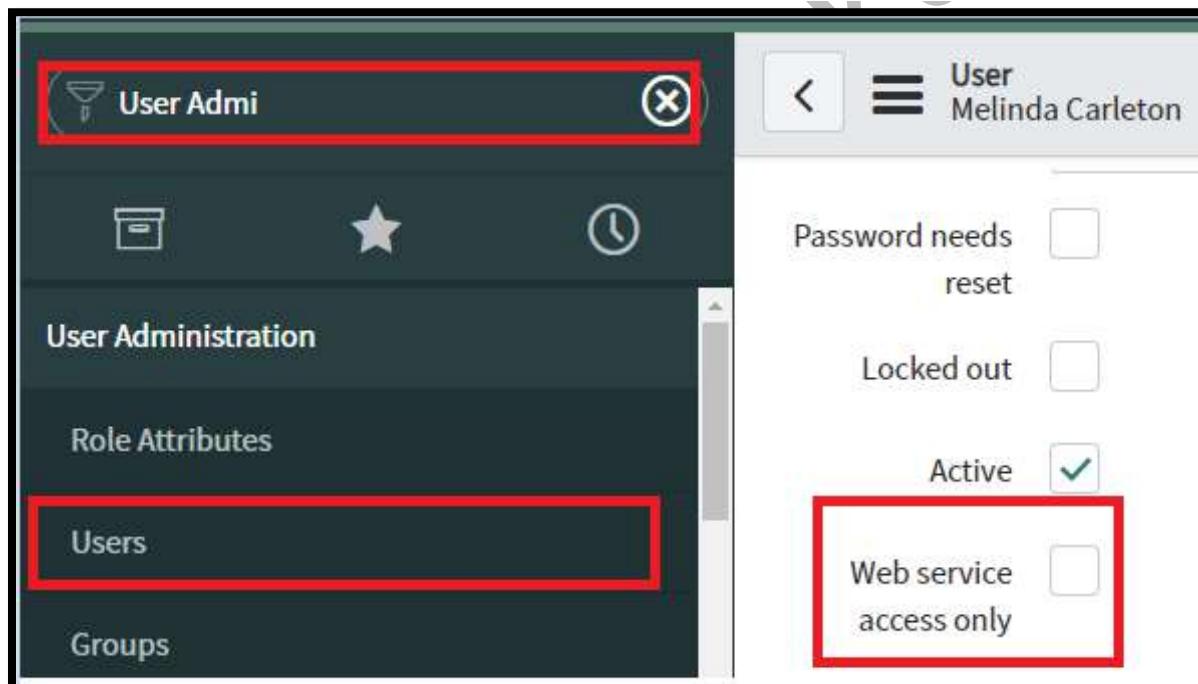
## Exercise:12 Create a non-interactive user for web services

Non-interactive users can only connect to a Service Now instance from an API protocol. Use this feature to set up user accounts for **web service authentication purposes**.

Non-interactive users cannot log in to an instance or a service portal, connect through **single-sign-on**, or be used as a **MID Server** user.

### Procedure

1. Navigate to **User Administration > Users**.
2. Search for the user to be updated.
3. For example, **SOAP** user.
4. Select the **Web Service Access Only** check box.
5. Click **Update**.



## Chapter – 9

Vas Sunkara

# UI Policies

## What is UI policy and Usage?

UI policies can dynamically change the form behavior of information.

Ui Policy is alternative of **Client Scripts**, its mainly running in client side used to fields make **Read only/Writable, Mandatory/Optional, Visible/Invisible**.

1. We can use UI policies to make the **number field on a form read-only**, make the **short description field mandatory**, and **on hold reason filed is Hide**.
2. Basic UI policies do not require any scripting,
3. however, for more advanced actions, in case if you want use scripting enable option **Run scripts**
4. You can also use client scripts to perform all of these actions, but for faster load times use UI policies when possible.
5. UI policies change fields on a form based on a set of conditions.
6. Use UI policies to show or hide fields, or to make fields mandatory or read-only based on these conditions.
7. A UI policy specifies one or more actions to take when the policy is executed.
8. First we can create the ui policy. Then add as many actions as required.

**UI policy actions are applied only if all of the following conditions are met:**

- ✓ The UI Policy record is **Active**
- ✓ The items in the **Conditions** field evaluate to true
- ✓ The field specified in the **UI policy action** is present on the specified form

## Creating a UI policy

We can create a **UI policy** to implement the conditions in the Incident form when the stage was changes to different states

## Exercise: 1 About This Requirement

**Number** and **Priority** field are read only and **Caller** and **Short Description** fields are mandatory for all states in **[Incident] Table**

- **Number and Priority** Fields are **Read Only**
- **Caller and Short Description** fields are **Mandatory**

## Procedure

1. Navigate to System UI > UI Policies.
2. Click New.
3. Fill the form with below details

The screenshot shows the ServiceNow interface for creating a UI Policy. The top navigation bar includes 'System UI' (highlighted with a red box and number 1), 'UI Policies' (highlighted with a red box and number 2), and a 'New' button (highlighted with a red box and number 3). The search bar contains 'Incident'. The left sidebar lists 'Embed Object Types' with 'UI Policies' selected. The main content area displays a table for 'All > Table >= incident' with two rows. The first row has a condition 'When state is Closed All fields are Read only.' and applies to 'Incident [incident]' with the filter 'state=7^EQ'. The second row has a condition 'When state is Closed Then Task sla ans RelatedCI should not be visible' and applies to 'Incident [incident]' with the filter 'state=7^EQ'. A note at the bottom states 'Fields set to mandatory'.

All > Table >= incident	Short description	Table	Conditions
<input type="checkbox"/> When state is Closed All fields are Read only.	Incident [incident]	state=7^EQ	
<input type="checkbox"/> When state is Closed Then Task sla ans RelatedCI should not be visible	Incident [incident]	state=7^EQ	

4. Table: Incident
5. Order :100
6. Short Description: Number and Priority field are read only and Caller and Short Description fields are mandatory for all states in [Incident] Table
7. Click on Submit

UI Policy

Number and Priority field are read only and Caller and Short Description fields are mandatory for all states [Advanced view]

Table: Incident [incident] Application: Global Active: ✓

\* Short description: Number and Priority field are read only and Caller and Short Description fields are mandatory for all

Order: 100

8. Again open the same **UI policy record** and apply action

9. Go to **UI Policy Action** tab from **Related List**

10. Click on **UI Policy Action New**

Field name	Mandatory	Visible	Read only
<u>short_description</u>	True	Leave alone	Leave alone
<u>number</u>	Leave alone	Leave alone	True
<u>caller_id</u>	True	Leave alone	Leave alone
<u>priority</u>	Leave alone	Leave alone	True

11. Select **Number** field make it **read only true**

12. Click on **Submit**

The screenshot shows the 'UI Policy Action' configuration page for a new record in the 'Incident' table. The 'Field name' is set to 'Number', which is highlighted with a red box. The 'Read only' setting is set to 'True', also highlighted with a red box. Other settings include 'UI policy' as 'Number and Priority field are', 'Application' as 'Global', 'Table' as 'Incident [incident]', 'Mandatory' as 'Leave alone', 'Visible' as 'Leave alone', and 'Clear the field value' as an unchecked checkbox.

13. Similarly set to remaining fields **Priority** Read Only **True**

The screenshot shows the 'UI Policy Action' configuration page for a new record in the 'Incident' table. The 'Field name' is set to 'Priority', highlighted with a red box. The 'Read only' setting is set to 'True', highlighted with a red box. Other settings are identical to the previous screenshot: 'UI policy' as 'Number and Priority field are', 'Application' as 'Global', 'Table' as 'Incident [incident]', 'Mandatory' as 'Leave alone', 'Visible' as 'Leave alone', and 'Clear the field value' as an unchecked checkbox.

## 14. Caller Mandatory True

The screenshot shows the 'UI Policy Action' configuration page for a new record in the 'Incident' table. The 'Field name' is set to 'Caller'. The 'Mandatory' dropdown is set to 'True', which is highlighted with a red box. Other settings include 'Visible' as 'Leave alone', 'Read only' as 'Leave alone', and 'Clear the field value' as unchecked.

UI policy Number and Priority field are Application Global

Table Incident [incident] Mandatory True

\* Field name Caller Visible Leave alone

Read only Leave alone

Clear the field value

Submit

## 15. Short Description Mandatory True

The screenshot shows the 'UI Policy Action' configuration page for a new record in the 'Incident' table. The 'Field name' is set to 'Short description', which is highlighted with a red box. The 'Mandatory' dropdown is set to 'True', also highlighted with a red box. Other settings include 'Visible' as 'Leave alone', 'Read only' as 'Leave alone', and 'Clear the field value' as unchecked.

UI policy Number and Priority field are Application Global

Table Incident [incident] Mandatory True

\* Field name Short description Visible Leave alone

Read only Leave alone

Clear the field value

Submit

16. Follow the below screen shots to find all actions in UI Policy

	Field name	Mandatory	Visible	Read only
	<a href="#">short_description</a>	True	Leave alone	Leave alone
	<a href="#">number</a>	Leave alone	Leave alone	True
	<a href="#">caller_id</a>	True	Leave alone	Leave alone
	<a href="#">priority</a>	Leave alone	Leave alone	True

17. Check in Incident records how these are working

Field	Value	Notes
Number	INC0010185	Read Only
Caller		Mandatory
Category	Inquiry / Help	
Subcategory	None	
Business service		
Configuration item		
State	New	
On hold reason		
Impact	3 - Low	
Urgency	3 - Low	
Priority	1 - Critical	Read Only
Assigned to		
Assignment group		
Short description		Read Only

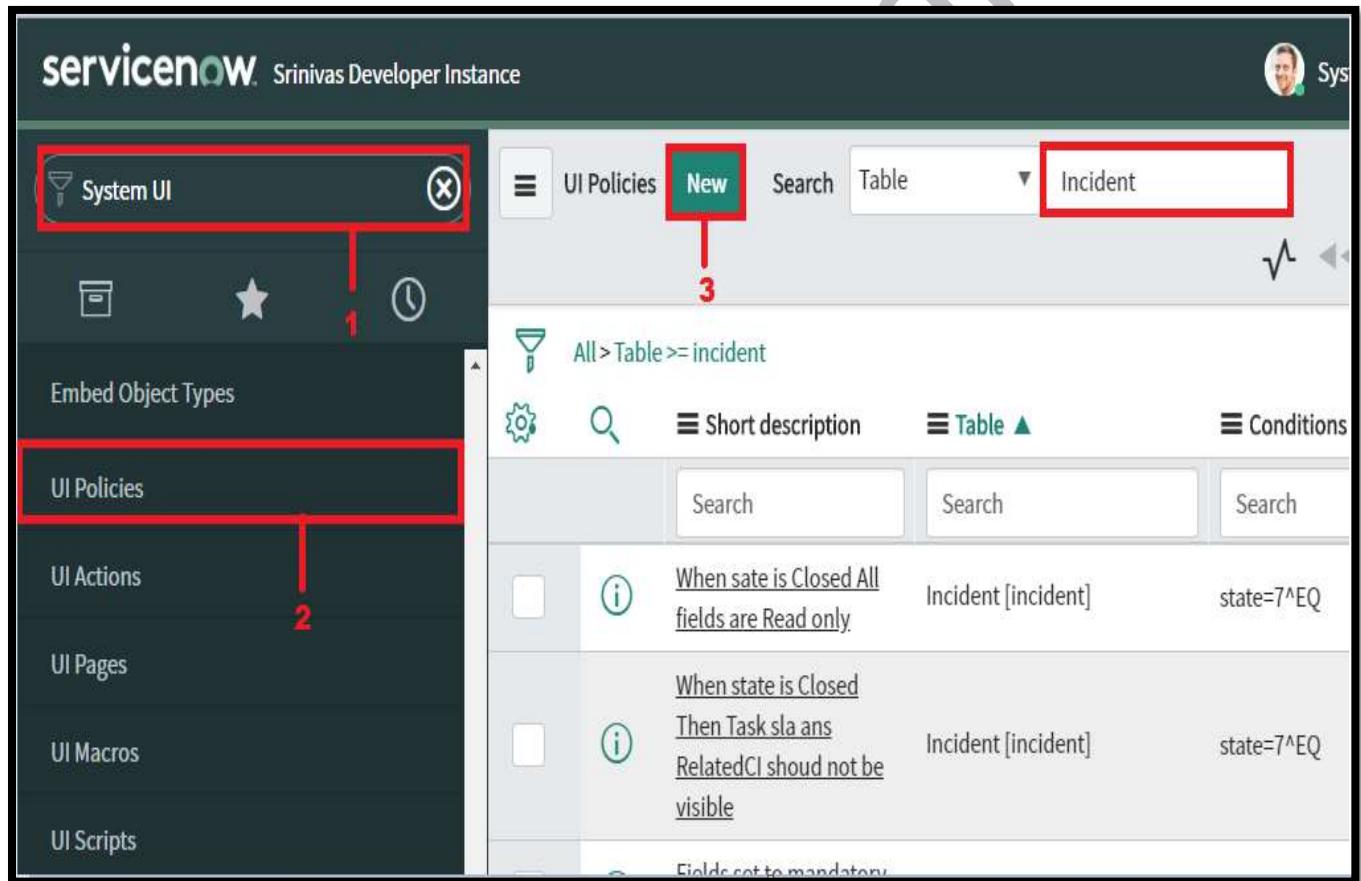
## Exercise: 2 About This Requirement

When the Incident State is **On-Hold** Then **On Hold Reason** field should be **Visible** and **Mandatory**

- Condition : [State] [Is] [On Hold]
- Action : On-Hold Reason Filed is **Visible True / Mandatory True**

### Procedure

1. Navigate to System UI > UI Policies.
2. Click New.
3. Fill the form with below details



4. Table: Incident
5. Conditions: state is **On-Hold**
6. Order :200
7. Short Description: When Incident State is **On-Hold** Then **On Hold Reason** field should be **Visible and Mandatory**
8. Click on Submit

UI Policy  
New record  
[Advanced view\*]

Table: Incident [incident] Application: Global Active:

\* Short description: When Sate is On-Hold Then On Hold Reason field should be Visible and Mandatory

Order: 200

When to Apply: Script

Conditions: Add Filter Condition | Add "OR" Clause

State: is: On Hold

9. Again open the same **UI policy record** and apply action

10. Go to **UI Policy Action** tab from **Related List**

11. Click on **UI Policy Action New**

UI Policy Actions	Field name	Mandatory	Visible	Read only
<input type="checkbox"/> hold_reason	True	True	Leave alone	

**12. Set On hold reason filed is Mandatory and Visible True**

**13. Click on Submit**

UI Policy Action  
New record [Advanced view]

UI policy: When State is On-Hold Then C

Table: Incident [incident]

Field name: **On hold reason**

Application: Global

Mandatory: **True**

Visible: **True**

Read only: Leave alone

Clear the field value:

Submit

**14. Check in Incident records how it is working**

Incident  
New record

Please Fill All Mandatory Fields

Number: INC0010186	Contact type: -- None --
* Caller:	State: <b>On Hold</b>
Category: Inquiry / Help	* On hold reason: <b>-- None --</b>
Subcategory: -- None --	Impact: 3 - Low
Business service:	Visible: <b>Visible</b>
Configuration item:	Urgency: 3 - Low <b>Mandatory</b>
	Priority: 1 - Critical
	Assigned to:

## Exercise: 3 About This Requirement

When the Incident state is **Resolved** Then **Assigned to** and **Assignment group** fields are should not be visible

- Condition : [State] [Is] [Resolved]
- Action : Assigned to Visible False
- Action : Assignment group Visible False

### Procedure

1. Navigate to System UI > UI Policies.
2. Click New.
3. Fill the form with below details

The screenshot shows the ServiceNow UI Policies page for the 'Incident' table. The left sidebar lists 'System UI' (selected), 'UI Policies' (selected), 'UI Actions', 'UI Pages', 'UI Macros', and 'UI Scripts'. The main area shows the 'UI Policies' table with two rows. Row 1: 'When state is Closed All fields are Read only' (Condition: state=7^EQ). Row 2: 'When state is Closed Then Task sla ans RelatedCI should not be visible' (Condition: state=7^EQ). The 'Table' column is set to 'Incident' for both rows. The 'Order' column is set to 300. The 'Short description' column contains the notes from the exercise requirements.

4. Table: Incident
5. Conditions: state is Resolved
6. Order :300
7. Short Description: When The Incident state is Resolved Then Assigned to and Assignment group fields are should not be visible
8. Click on Submit

Table Incident [incident] ▼ Application Global ⓘ

Active

\* Short description When state is Resolved Then Assigned to and Assignment group fields are should not be visible

Order 300

When to Apply Script

Conditions Add Filter Condition Add "OR" Clause

State is Resolved

9. Again open the same **UI policy record** and apply action

10. Go to **UI Policy Action** tab from **Related List**

11. Click on **UI Policy Action New**

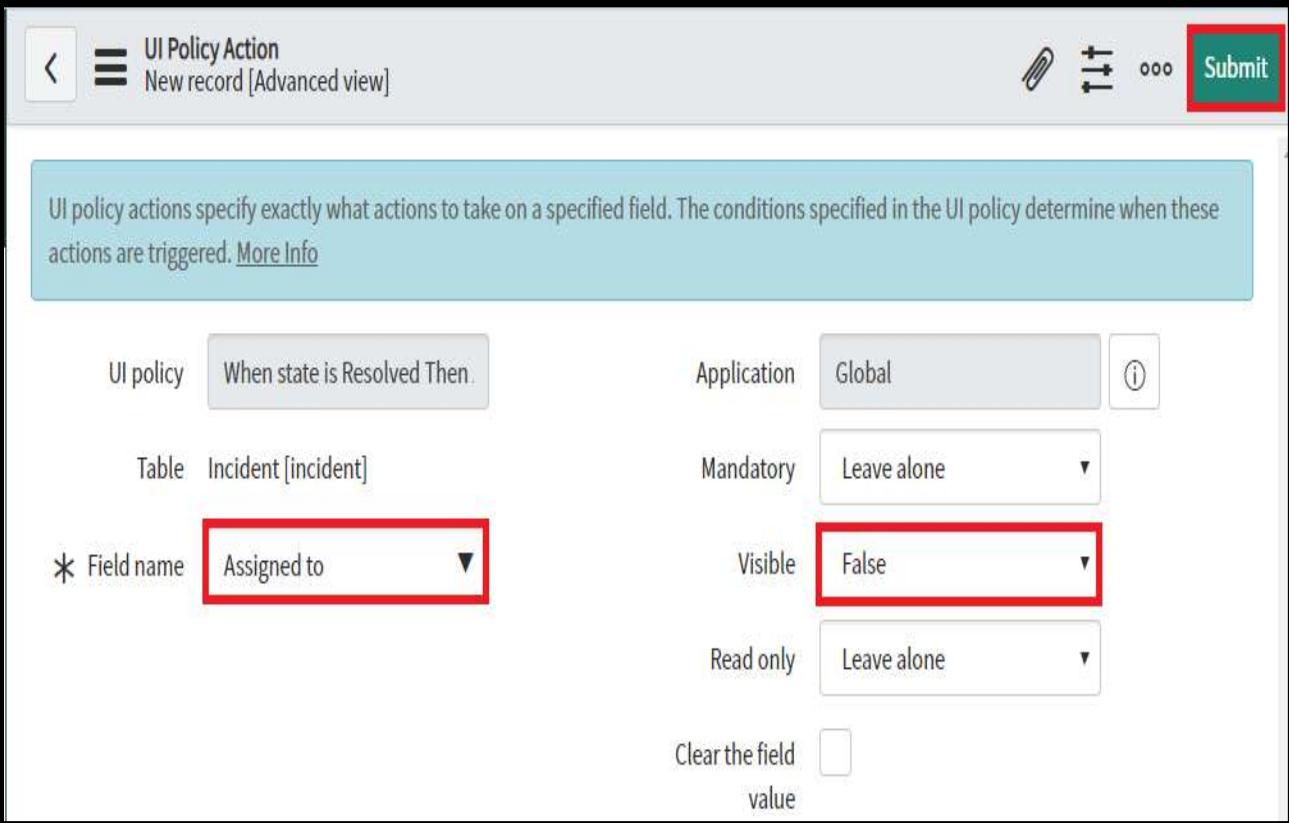
12. **Assign to** visible **False**

13. Click on **Submit**

UI Policy Actions	Field name	Mandatory	Visible	Read only
<input type="checkbox"/> <i>assigned_to</i>	Leave alone	<input type="checkbox"/> False	Leave alone	
<input type="checkbox"/> <i>assignment_group</i>	Leave alone	<input type="checkbox"/> False	Leave alone	

14. **Assigned to** Visible **False**

**15. Click on Submit**



UI Policy Action  
New record [Advanced view]

UI policy When state is Resolved Then Application Global

Table Incident [incident] Mandatory Leave alone

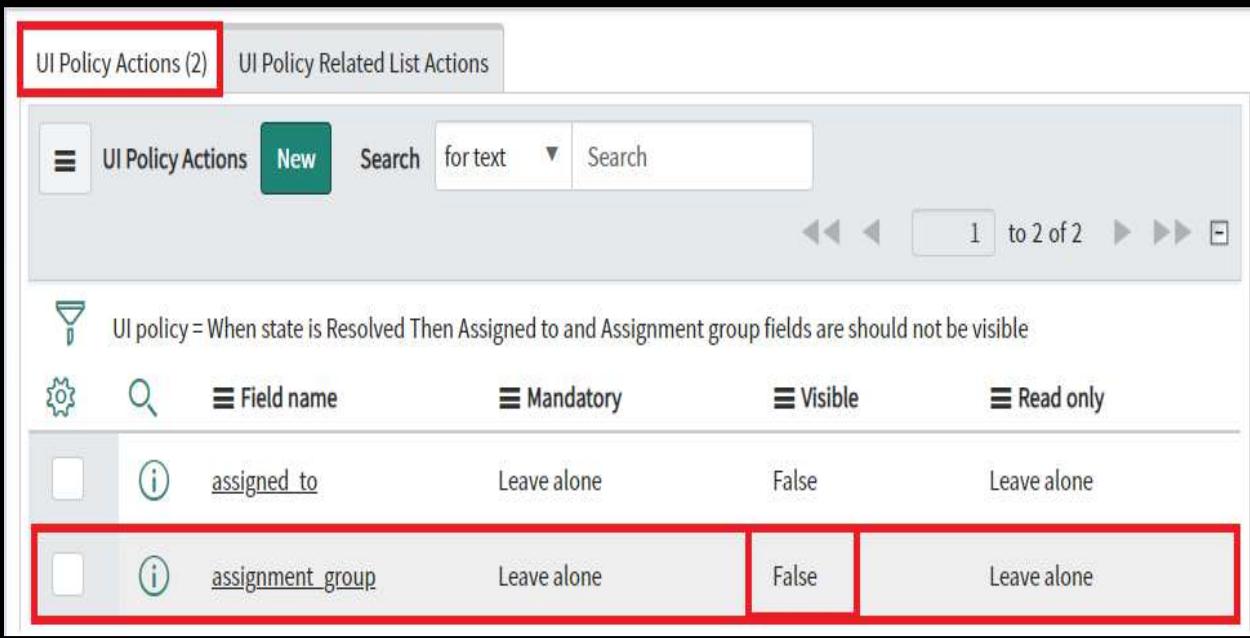
\* Field name Assigned to Visible False

Read only Leave alone

Clear the field value

**16. Assignment group Visible False**

**17. Click on Submit**



UI Policy Actions (2)		UI Policy Related List Actions			
	UI Policy Actions	New	Search for text	Search	
	Field name	Mandatory	Visible	Read only	
<input type="checkbox"/>	assigned_to	Leave alone	False	Leave alone	
<input type="checkbox"/>	assignment_group	Leave alone	False	Leave alone	

UI policy actions specify exactly what actions to take on a specified field. The conditions specified in the UI policy determine when these actions are triggered. [More Info](#)

UI policy	When state is Resolved Then...	Application	Global	<a href="#">(i)</a>
Table	Incident [incident]	Mandatory	Leave alone	▼
* Field name	Assignment group	Visible	False	▼
		Read only	Leave alone	▼
		Clear the field value	<input type="checkbox"/>	

## 18. Check in Incident records how it is working

Please Fill All Mandatory Fields

Number	INC0010188	Contact type	-- None --
* Caller	<input type="text"/>	State	Resolved
Category	Inquiry / Help	Impact	3 - Low
Subcategory	-- None --	Urgency	3 - Low
Business service	<input type="text"/>	Priority	1 - Critical
Configuration item	<input type="text"/>	<b>Hide Assign to and Assonet Group group fields</b>	
* Short description	<input type="text"/>		

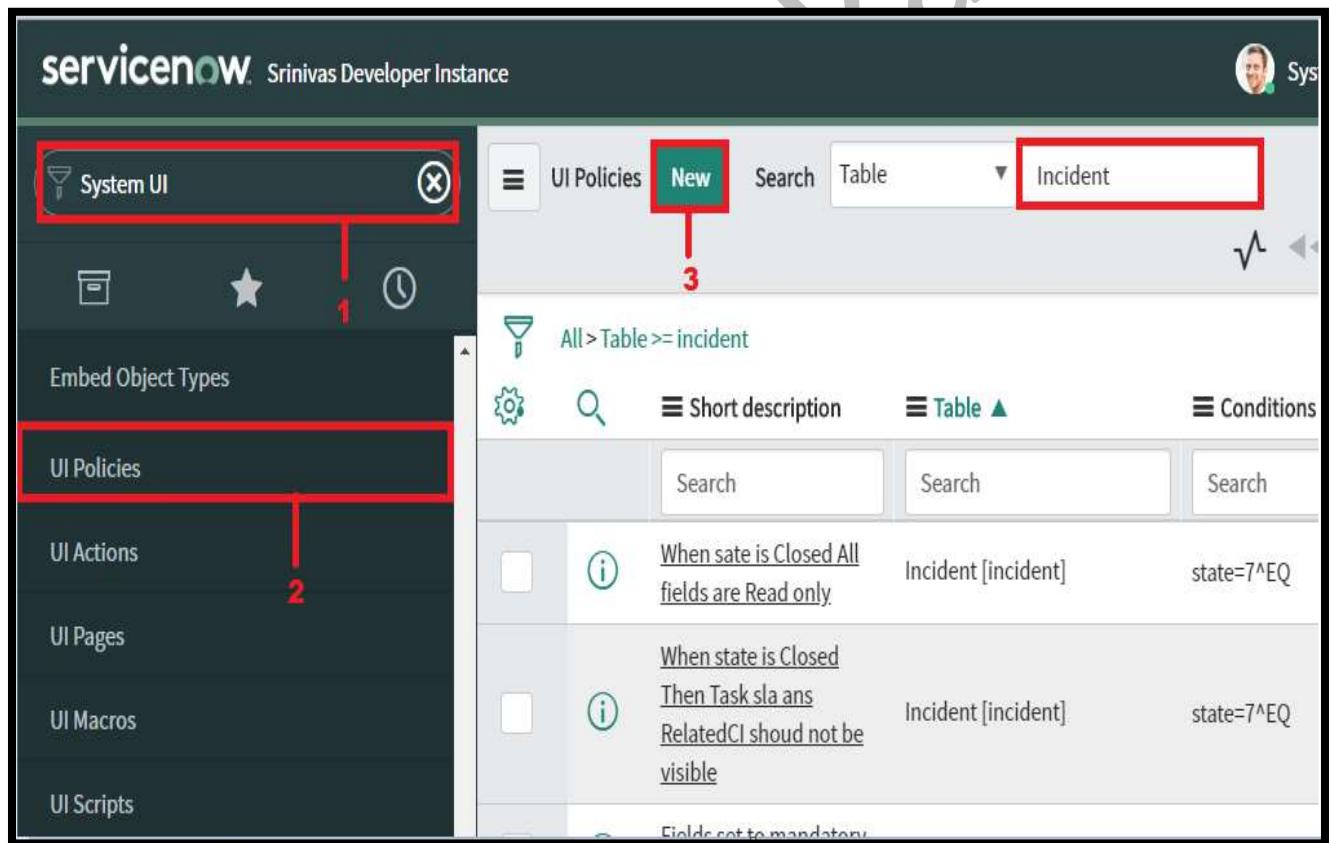
## Exercise: 4 About This Requirement

When the Incident state is **Resolved** Then **Resolution Code** and **Resolution notes** fields are **Mandatory**

- Condition : [State] [Is] [Resolved]
- Action : Resolution Code Mandatory True
- Action : Resolution Notes Mandatory True

### Procedure

1. Navigate to System UI > UI Policies.
2. Click New.
3. Fill the form with below details



4. Table: Incident
5. Conditions: state is Resolved
6. Order :400
7. Short Description: When Incident state is Resolved Then Resolution Code and Resolution Notes fields are Mandatory
8. Click on Submit

UI Policy  
New record  
[Advanced view\*]

Table: Incident [incident] Application: Global

Active:

\* Short description: When state is Resolved Then Resolution Code and Resolution note fields are Mandatory

Order: 400

When to Apply: Script

Conditions: Add Filter Condition, Add "OR" Clause

State: is Resolved

9. Again open the same **UI policy record** and apply **UI policy action**

10. Go to **UI Policy Action** tab from **Related List**

UI Policy Actions	Field name	Mandatory	Visible	Read only
<input type="checkbox"/> close_code	close_code	True	Leave alone	Leave alone
<input type="checkbox"/> close_notes	close_notes	True	Leave alone	Leave alone

11. Click on UI Policy Action New
12. Set Resolution Code mandatory true
13. Click on Submit

UI Policy Action  
New record [Advanced view]

UI policy When state is Resolved Then Application Global

Table Incident [incident] Mandatory True

\* Field name Resolution code Visible Leave alone

Read only Leave alone

Clear the field value

14. Navigate to UI Policy Action tab from Related List

UI Policy Actions (2) UI Policy Related List Actions					
	UI Policy Actions	New	Search for text	Search	
	UI policy	Field name	Mandatory	Visible	Read only
	When state is Resolved Then	close_code	True	Leave alone	Leave alone
	UI policy = When state is Resolved Then Resolution Code and Resolution note fields are Mandatory	close_notes	True	Leave alone	Leave alone

15. Click on UI Policy Action New
16. Set Resolution Notes Mandatory True
17. Click on Submit

UI Policy Action  
close\_notes [Advanced view]

UI policy When state is Resolved Then Application Global

Table Incident [incident] Mandatory True

\* Field name Resolution notes

Visible Leave alone

Read only Leave alone

Clear the field value

18. Navigate > incident record to see how it is working

## Exercise: 5 About This Requirement

When the Incident Category value is Inquiry/Help then Subcategory field should not be visible

- Condition : [Category] [Is] [Inquiry/Help]
- Action : Subcategory Visible False

## Procedure

1. Navigate to System UI > UI Policies.
2. Click New.
3. Fill the form with below details

The screenshot shows the ServiceNow UI Policies interface for the 'Incident' table. The left sidebar lists 'System UI' and 'UI Policies' under 'Embed Object Types'. The main area shows a table with three rows of conditions. The first row has condition 'When state is Closed All fields are Read only' and action 'Incident [incident] state=7^EQ'. The second row has condition 'When state is Closed Then Task sla ans RelatedCI shoud not be visible' and action 'Incident [incident] state=7^EQ'. The third row has condition 'Fields set to mandatory'. Red numbers 1, 2, and 3 are overlaid on the screenshot: 1 points to the 'System UI' header, 2 points to the 'UI Policies' header, and 3 points to the 'New' button in the top navigation bar.

All > Table >= incident	Short description	Table	Conditions
<input type="checkbox"/> When state is Closed All fields are Read only	Incident [incident]	state=7^EQ	
<input type="checkbox"/> When state is Closed Then Task sla ans RelatedCI shoud not be visible	Incident [incident]	state=7^EQ	
	Fields set to mandatory		

4. **Table:** Incident
5. **Condition:** Category is Inquiry/Help
6. **Order :** 500
7. **Short Description:** When the Incident **Category** value is **Inquiry/Help** then Subcategory field should not be visible
8. Click on **Submit**

The screenshot shows the 'UI Policy' configuration screen. Key fields highlighted with red boxes include:

- Table:** Incident [incident]
- Application:** Global
- Active:** checked
- Short description:** When the Category value is Inquiry/Help then Subcategory field should not be visible
- Order:** 500
- When to Apply:** Script (selected tab)
- Conditions:** Add Filter Condition, Add "OR" Clause
- Category:** is Inquiry / Help

9. Again open the same **UI policy** record and apply **UI policy** action

10. Go to **UI Policy Action** tab from Related List

The screenshot shows the 'UI Policy Actions' list screen. A single entry is displayed:

UI policy	Description
When the Category value is Inquiry/Help then Subcategory field should not be visible	<span>Field name:</span> subcategory <span>Mandatory:</span> Leave alone <span>Visible:</span> False <span>Read only:</span> Leave alone

11. Click on UI Policy Action New
12. Set Subcategory Visible False
13. Click on Submit

UI policy actions specify exactly what actions to take on a specified field. The conditions specified in the UI policy determine when these actions are triggered. [More Info](#)

UI policy	When the Category value is In	Application	Global
Table	Incident [incident]	Mandatory	Leave alone
* Field name	Subcategory	Visible	False
		Read only	Leave alone
		Clear the field value	

14. Navigate > incident record to see how it is working

Incident  
New record

Please Fill All Mandatory Fields

Number	INC0010209	Contact type	-- None --
* Caller	<input type="text"/>	State	New
Category	Inquiry / Help	Impact	3 - Low
Business service	<input type="text"/>	Urgency	3 - Low
Configuration item	<input type="text"/>	Priority	1 - Critical

**Sub category field s not visible**

## Exercise: 6 About This Requirement

When the Incident State is **Closed or Cancelled** Then Number, Caller, Category, Impact, Urgency, State, Work notes, Closed Code, Closed Notes, Assign to, Assignment Group, Comments, Knowledge Configuration Item, Short Description Fields are **Read Only**

- Condition : [State] [Is] [Closed] or
- Condition : [State] [Is] [Cancelled]
  
- Action : Caller Read Only True
- Action : Category Read Only True
- Action : State Read Only True
- Action : Impact Read Only True
- Action : Urgency Read Only True
- Action : Assigned to Read Only True
- Action : Assignment Group Read Only True
- Action : Configuration Item Read Only True
- Action : Short Description Read Only True
- Action : Work Notes Read Only True
- Action : Closed Notes Read Only True
- Action : Knowledge Read Only True
- Action : Closed Code Read Only True

## Procedure

1. Navigate to **System UI > UI Policies**.
2. Click **New**.
3. Fill the form with below details

The screenshot shows the ServiceNow UI Policies page for the 'Incident' object. The top navigation bar includes 'UI Policies', a green 'New' button, 'Search', 'Table', and 'Incident'. The left sidebar lists 'Embed Object Types' and 'UI Policies' (which is highlighted with a red box and numbered 1). The main content area shows two UI policy definitions:

- When state is Closed All fields are Read only**: Incident [incident] state=7^EQ
- When state is Closed Then Task sla ans RelatedCI should not be visible**: Incident [incident] state=7^EQ

A red box highlights the 'Table' tab in the header, and another red box highlights the 'Incident' search term.

4. **Table:** Incident
5. **Condition: State is Closed (or)**
6. **Condition: State is Cancelled**
7. **Order :600**
8. **Short Description:** When the Incident **State is Closed or Cancelled** Then Number, Caller, Category, Subcategory, Impact, Urgency, State, Work notes, Closed Code, Closed Notes, Assign to, Assignment Group, Comments, Knowledge Configuration Item, Short Description Fields are **Read Only**
9. Click on **Submit**

The screenshot shows a UI Policy record for the "Incident [incident]" table. The "Table" dropdown is set to "Incident [incident]". The "Application" is "Global" and the "Active" checkbox is checked. The "Short description" field contains the text: "When the Incident State is Closed or Cancelled Then Caller, Category, Subcategory, Impact, Urgency,". The "When to Apply" section is expanded, showing two conditions under "Conditions": "Add Filter Condition" and "Add 'OR' Clause". The first condition is "Incident state is Closed". The second condition, preceded by an "or" operator, is "Incident state is Canceled".

**10.** Again open the same **UI policy record** and apply **UI policy action**

**11.** Go to **UI Policy Action** tab from **Related List**

**12.** Click on **UI Policy Action New**

The screenshot shows a UI Policy Action record for the "Incident [incident]" table. The "UI policy" is "Make fields read-only on close". The "Table" is "Incident [incident]". The "Field name" is "State". The "Mandatory" setting is "Leave alone". The "Visible" setting is "Leave alone". The "Read only" setting is "True". The "Clear the field value" checkbox is unchecked. At the bottom, there are "Update" and "Delete" buttons, with "Update" highlighted by a red box.

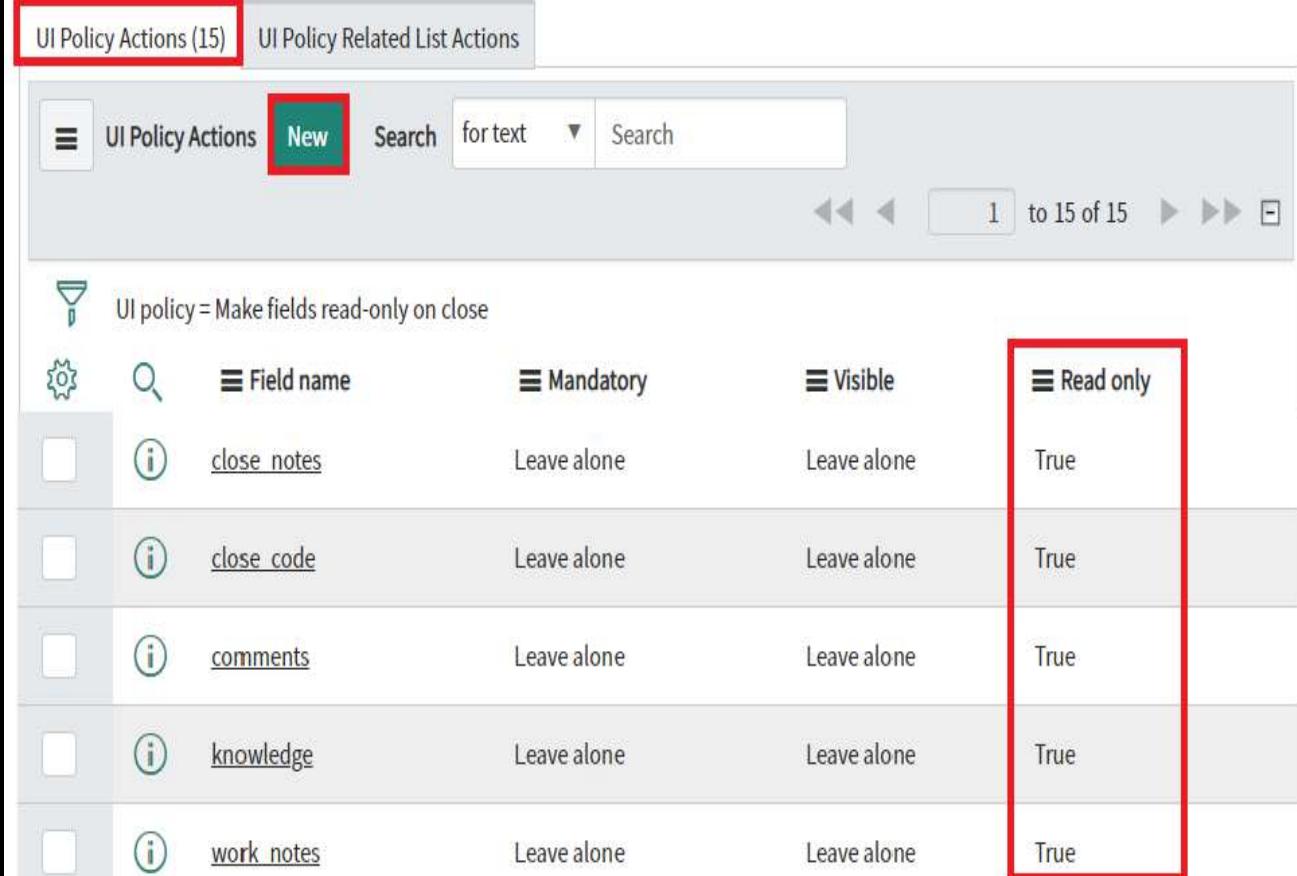
- 13. Set State Read Only True**
- 14. Set Caller Read Only True**
- 15. Set Impact Read Only True**
- 16. Set Urgency Read Only True**
- 17. Set Number Read Only True**
- 18. Click on Submit**

	Field name	Mandatory	Visible	Read only
<input type="checkbox"/>	<i>state</i>	Leave alone	Leave alone	True
<input type="checkbox"/>	<i>caller_id</i>	Leave alone	Leave alone	True
<input type="checkbox"/>	<i>impact</i>	Leave alone	Leave alone	True
<input type="checkbox"/>	<i>urgency</i>	Leave alone	Leave alone	True
<input type="checkbox"/>	<i>number</i>	Leave alone	Leave alone	True

- 19. Set State Read Only True**
- 20. Set Caller Read Only True**
- 21. Set Impact Read Only True**
- 22. Set Urgency Read Only True**
- 23. Set Number Read Only True**
- 24. Click on Submit**

UI Policy Actions (15)					
	UI Policy Actions	New	Search for text	Search	
	Field name	Mandatory	Visible	Read only	
<input type="checkbox"/>	cmdb_ci	Leave alone	Leave alone	True	
<input type="checkbox"/>	category	Leave alone	Leave alone	True	
<input type="checkbox"/>	assignment_group	Leave alone	Leave alone	True	
<input type="checkbox"/>	assigned_to	Leave alone	Leave alone	True	
<input type="checkbox"/>	short_description	Leave alone	Leave alone	True	

25. Set Configuration Item Read Only True
26. Set Category Read Only True
27. Set Assignment Group Read Only True
28. Set Assign to Read Only True
29. Set Short Description Read Only True



UI Policy Actions (15)					
	UI Policy Actions	New	Search for text	Search	
					1 to 15 of 15
<p>UI policy = Make fields read-only on close</p>					
	Field name	Mandatory	Visible	Read only	
<input type="checkbox"/>	<i>close_notes</i>	Leave alone	Leave alone	True	
<input type="checkbox"/>	<i>close_code</i>	Leave alone	Leave alone	True	
<input type="checkbox"/>	<i>comments</i>	Leave alone	Leave alone	True	
<input type="checkbox"/>	<i>knowledge</i>	Leave alone	Leave alone	True	
<input type="checkbox"/>	<i>work_notes</i>	Leave alone	Leave alone	True	

30. Set Close Notes Read Only True
31. Set Close Code Read Only True
32. Set Comments Read Only True
33. Set Knowledge Read Only True
34. Set Work Notes Read Only True

Field	Value
Number	INC0009004
* Caller	David Miller
Category	Software
Subcategory	-- None --
Business service	
Configuration item	
Contact type	-- None --
State	Closed
Impact	3 - Low
Urgency	1 - High
Priority	3 - Moderate
Assignment group	
Assigned to	
* Short description	Defect tracking tool is down.

35. Navigate > incident record to see how it is working

## Exercise: 7 About This Requirement

When the Incident State is **On-Hold** and **On Hold Reason** is **Awaiting Caller** Then **Comments** field is make **Mandatory**

- Condition : [State] [Is] [On-Hold] and
- Condition : [On Hold Reason] [Is] [Awaiting Caller]
  
- Action : **Comments Mandatory True**

### Procedure

1. Navigate to **System UI > UI Policies**.
2. Click **New**.
3. Fill the form with below details

The screenshot shows the ServiceNow UI Policies interface for the 'Incident' table. The left sidebar lists 'Embed Object Types' including 'UI Policies', which is highlighted with a red box and numbered 1. A red box also highlights the 'System UI' section at the top of the main pane. The main pane displays a table of UI Policies. A red box highlights the 'New' button at the top of the table area, and a red number 3 points to it. The table has three rows:

	All > Table >= incident	Short description	Table ▲	Conditions
<input type="checkbox"/>	<b>When state is Closed All fields are Read only.</b> Incident [incident] state=7^EQ			
<input type="checkbox"/>	<b>When state is Closed Then Task sla ans RelatedCI should not be visible</b> Incident [incident] state=7^EQ			

A red box highlights the last row of the table, and a red number 2 points to the 'UI Policies' entry in the sidebar.

4. **Table:** Incident
5. **Condition: State is On Hold (and)**
6. **Condition: On Hold Reason is Awaiting Caller**
7. **Order :700**
8. **Short Description:** When the Incident State is On-Hold and On Hold Reason is Awaiting Caller Then Comments field is make Mandatory
9. Click on **Submit**

The screenshot shows the 'UI Policy' record configuration. Key fields highlighted with red boxes include:

- Table:** Incident [incident] (dropdown menu)
- Application:** Global
- Active:** Checked (checkbox)
- Short description:** When the Incident State is On-Hold and On Hold Reason is Awaiting Caller Then Comments field is mandatory
- Order:** 700
- When to Apply:** Script (selected tab)
- Conditions:** Add Filter Condition, Add "OR" Clause
- All of these conditions must be met:**
  - On hold reason is Awaiting Caller
  - State is On Hold

10. Again open the same **UI policy** record and apply **UI policy** action

11. Go to **UI Policy Action** tab from Related List

12. Click on **UI Policy Action New**

The screenshot shows the 'UI Policy Action' configuration. Key fields highlighted with red boxes include:

- UI policy:** Make the field 'Additional Cor
- Table:** Incident [incident]
- Mandatory:** True
- Field name:** Additional comments
- Visible:** Leave alone
- Read only:** Leave alone
- Clear the field value:** (checkbox)

**13. Addition Comments Mandatory True**

**14. Click on Submit**

The screenshot shows a list of UI Policy Actions. A new policy is being created, as indicated by the 'New' button being highlighted with a red box. The policy details are as follows:

Field name	Mandatory	Visible	Read only
comments	True	Leave alone	Leave alone

**15. Navigate > incident record to see how it is working**

The screenshot shows an incident record with the following details:

Number	INC0000053	Contact type	Phone
* Caller	Margaret Grey	State	On Hold
Category	Inquiry / Help	* On hold reason	Awaiting Caller

The 'Notes' tab is selected. In the notes section, there is a field labeled 'Additional comments (Customer visible)' which is also highlighted with a red box.

## Exercise: 8 About This Requirement

When the Incident State is **Closed** Then All the **Related List** should not be Visible in **Incident Form**

- Condition : [State] [Is] [Closed]
- Related List Action : Task SLA, Affected Cis, Impacted Services/Cis, Child Incidents

### Procedure

1. Navigate to **System UI > UI Policies**.
2. Click **New**.
3. Fill the form with below details

The screenshot shows the ServiceNow UI Policies screen. On the left, there's a sidebar with 'System UI' (highlighted with a red box and number 1), 'Embed Object Types' (UI Policies highlighted with a red box and number 2), and 'UI Actions', 'UI Pages', 'UI Macros', 'UI Scripts'. The main area shows 'UI Policies' (highlighted with a red box and number 3) with a 'New' button. The table lists two rows:

	Condition	Action
<input type="checkbox"/>	<u>When state is Closed All fields are Read only</u>	Incident [incident] state=7^EQ
<input type="checkbox"/>	<u>When state is Closed Then Task sla ans RelatedCI should not be visible</u>	Incident [incident] state=7^EQ

4. **Table:** Incident
5. **Condition: State is Closed**
6. **Order :800**
7. **Short Description:** When the Incident State is **Closed** Then All the related list should not be Visible in **Incident Form**
8. Click on **Submit**

Table: Incident [incident] Application: Global Active:

\* Short description: When the Incident State is Closed Then All the related list should not be Visible in Incident Form

Order: 800

**When to Apply** Script

Conditions: Add Filter Condition, Add "OR" Clause

State: Closed

9. Again open the same **UI policy** record and apply **UI Policy Related List** action

10. Go to **UI Policy Related List Action** tab from **Related List**

11. Click on **UI Policy Action New**

12. Set List Name **Impacted CIs** Visible **False**

13. Click on **Submit**

UI Policy Related List Action: task\_cmdb\_ci\_service.task

UI policy: When the Incident State is Clo

List name: Impacted CIs Visible: False

Update Delete

14. Set List Name **Affected CI** Visible **False**

15. Click On **Submit**

UI Policy Related List Action  
task\_ci.task

UI policy: When the Incident State is Cle

Application: Global

List name: Affected CIs

Visible: False

Update Delete

16. Set List Name **Request->Parent** Visible **False**

17. Click on **Submit**

UI Policy Related List Action  
sc\_request.parent

UI policy: When the Incident State is Cle

Application: Global

List name: Request->Parent

Visible: False

Update Delete

List name	Visible
task_cmdb_ci_service.task	False
sc_request.parent	False
task_sla.task	False
task_ci.task	False

**18. Navigate > incident record to see how it is working**

Number	Contact type
INC0000060	Self-service

Caller	State
Joe Employee	Closed

Category	Impact
Inquiry / Help	2 - Medium

## Reverse if false:

When we enabled this check box. If the incident state is not **Closed**, the UI policy is reversed.

## On load

When we Enabled this check box to perform the actions when the form is **loaded** or when the **condition changes**.

## Inherit

Tables that extend the specified **Table** inherit this UI Policy

The screenshot shows the 'Conditions' section of a UI Policy configuration. It includes buttons for 'Add Filter Condition' and 'Add "OR" Clause'. Below is a condition row with dropdowns for 'State' (set to 'Closed'), 'is', and another dropdown. A note below says: 'If selected, the UI Policy applies to all form views; otherwise the UI Policy is view-specific'. To the right, another note says: 'Apply the UI policy actions when the form is loaded and when the user changes values on the form'. At the bottom, there are four checkboxes: 'Global' (checked), 'On load' (checked), 'Reverse if false' (checked, highlighted with a red border), and 'Inherit' (unchecked).

## Use Client scripts in UI policies

We can write **Client Scripts** for **UI policies** that will run on the client side.

We can use the **UI Policy form** to create client scripts that run **Onchange** when the UI policy conditions are met (**Execute if true**) or not met (**Execute if false**). To display these scripting fields in the UI Policy form, in the Script section, **Enabled** the **Run scripts** check box.

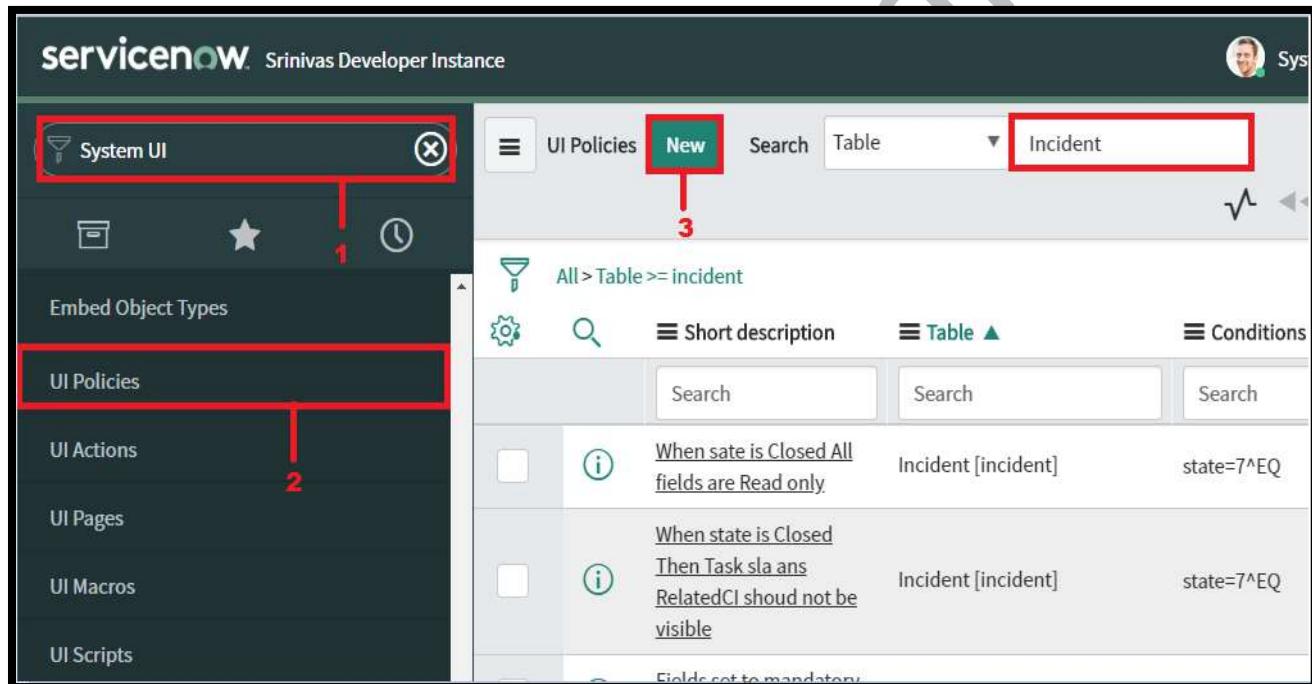
## Exercise: 9 About This Requirement

When the incident **State** field value changes to **Closed**, given alert message to customer, if condition is **True**

- Condition : [State] [Is] [Closed]
- Alert Message : 'Are you closing this Incident'

### Procedure

1. Navigate to **System UI > UI Policies**.
2. Click **New**.
3. Fill the form with below details



4. Table: Incident
5. Condition: State is Closed
6. Order :900
7. Short Description: When the incident **State** field value changes to **Closed**, given alert message to customer, if condition is **True**
8. Select **Script Tab**
9. Run scripts: Enabled Check box
10. Run Script in UI type: All
11. Click on **Submit**

The screenshot shows the 'Script' definition for an incident state change. The 'Table' is set to 'Incident [incident]'. The 'Short description' is 'When the incident State field value changes to Closed, given alert message to customer, if condition'. The 'Order' is 900. The 'When to Apply' is 'Script'. The 'Run scripts' checkbox is checked. The 'Run scripts in UI type' is 'All'. The 'Execute if true' section contains a script block:

```

1 function onCondition() {
2     alert('Are you closing this Incident');
3 }

```

12. Navigate > incident record to see how it is working

The screenshot shows an incident record with number INC0000051. The state is 'In Progress'. An alert dialog is displayed, asking 'Are you closing this ticket?' with an 'OK' button. The dialog is highlighted with a red box.

Field	Value
Number	INC0000051
Contact type	Phone
* Caller	Joe Employee
Category	Software
Subcategory	-- None --
Business service	
State	In Progress
Impact	1 - High
Urgency	1 - High
Priority	1 - Critical

**Chapter – 10**

as Sunkara

# **Data Policies**

## What is Data Policy

Data policy are similar to UI Policy used to enforce data consistency by setting **Mandatory** and **Read-only** states for fields.

Data policies are working as UI policies, but UI policies only apply to data entered on a form through with in the browser. Data policy rules can apply to all data entered into the system, including data brought in through import sets or web services and data entered through the mobile UI enter data through java script.

**Example**, suppose that we are configured a web service or rest API that allows users from outside the platform to update incident record on the Service Now instance. but these incidents are not updated through the instance UI, they are not subject to the UI policies on the problem form. To ensure that the **Resolution code** and **Resolution notes** field is completed before an incidents are marked **Closed/Resolved**,

1. We can create a data policy that applies to **server-side imports**.
2. Data that does not comply with this data policy displaying an error.
3. We can also apply the **UI policy** on the browser by selecting the **Use as UI Policy on client** check box in the data policy record.
4. By default, data policies are applied to all **Glide Record** operations including those used in Scripted REST APIs, and the REST Table API.

## Exercise :1 Create New Data Policy

We can create a new data policy rule to define data rules for a **Incident** table.

**Caller** and **Short Description** fields are make mandatory in incident table

### Procedure

1. Navigate to **System Policy > Rules > Data Policies**.
2. Click on **New**

	Short description	Type
<input type="checkbox"/>	Mandatory Fields	Number [sys_number]
<input type="checkbox"/>	Semaphore mandatory fields	Semaphore [sys_semaphore]
<input type="checkbox"/>	Assigned to is required when state is one of 'Assess, Work in Progress or Closed' and Close code is not 'Canceled'	Problem Task [problem_task]

### 3. Fill Data Policy form

Table: Incident [incident]

Application: Global

Inherit:

Reverse if false:

Active:

Short description: Caller and Short Description fields are make mandatory in incident table

Description:

Conditions: Add Filter Condition | Add "OR" Clause

4. **Table:** Incident
5. **Reverse if false:** Auto Filled
6. **Active:** Auto filled
7. **Apply import sets:** Auto filled
8. **Apply to REST/SOAP:** Auto filled
9. **Use as UI Policy on Client:** Auto filled
- 10. Short Description:** Caller and Short Description fields are make mandatory in incident table
- 11. Right click on form Header and Save**

The screenshot shows the ServiceNow Data Policy screen. At the top, there is a message: "Data Policy Caller and Short Description fields are make mandatory in incident table". Below this are "Update" and "Delete" buttons. A "Related Links" section contains a link to "Convert this to UI Policy". The main area has a search bar with "Data Policy Rules" and a "New" button highlighted with a red box. Below the search bar is a navigation bar with icons for back, forward, and search, followed by the text "1 to 1 of 1". Underneath the search bar, there is a list item: "Data Policy = Caller and Short Description fields are make mandatory in incident table". At the bottom of the screen are filter buttons for "Field name", "Mandatory", and "Read only".

12. Come down on same form
13. Create New Data Policy Rule click on New

The screenshot shows the "Data Policy Rule" creation screen. The title bar says "Data Policy Rule" and "New record". There is a "Submit" button at the top right. The form fields include:

- \* Table: Incident [incident]
- Application: Global
- \* Field name: Caller (highlighted with a red box)
- Read only: Leave alone
- Mandatory: True (highlighted with a red box)

At the bottom left is another "Submit" button.

**14. Field Name:** Caller

**15. Mandatory:** True

**16. Click on Submit**

The screenshot shows the 'Data Policy Rules' list view. A single rule is listed for the 'caller\_id' field. The rule details are as follows:

Field name	Mandatory	Read only
caller_id	True	Leave alone

**17. Create New Data Policy Rule click on New**

The screenshot shows the 'Data Policy Rule' creation form. The configuration is as follows:

Field name	Read only	Mandatory
Short description	Leave alone	True

Buttons visible on the screen include 'Submit' (green) and 'New record'.

**18. Field name:** Short Description

**19. Mandatory:** True

**20. Click on Submit**

**21. Click on Update**

The screenshot shows the 'Data Policy' configuration page for the 'Caller and Short Description fields are make mandatory in incident table'. The 'Update' button is highlighted with a red box. Other settings shown include:

Table	Application
Incident [incident]	Global

Checkboxes and settings include:

- Inherit:
- Apply to import sets:
- Reverse if false:
- Apply to SOAP:

## Exercise 2: Converting UI policy to data policy

We are going to convert the **UI policy** to **Data policy** to apply the same condition to data policy for server side

**Requirement:** When State is **Resolve** Then **Resolution code** and **Resolution note** are mandatory

1. We can also apply a UI policy condition and action to **Import Sets**
2. Data imported by **REST/SOAP** web services when we convert it to a data policy.
3. When we create a record from **Glide Record API**
4. When we can convert a **UI policy to a data policy** then automatically deactivates the UI policy record. activates data policy record
5. To retain the policy in the UI, ensure that the **Use as UI Policy on client** check box is selected on the data policy record.
6. While converting UI policy to be eligible for conversion to a data policy, the following conditions should be met on the **UI Policy form**.

### Procedure

1. Navigate to **System UI > UI Policies**
2. Open an existing **UI policy** record like below screen shot

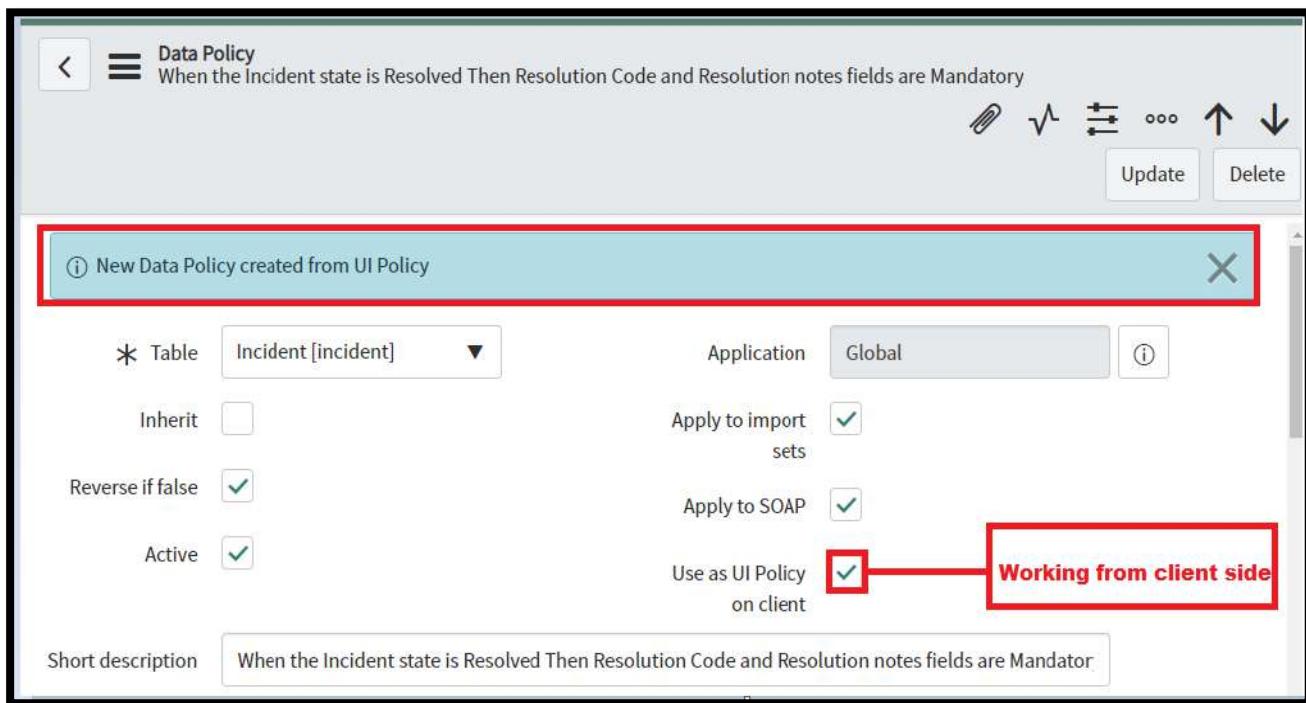
The screenshot shows the ServiceNow UI Policies list view. The left sidebar has items like System UI, Attachment Icon Rules, Themes, Field Styles, Form Annotation Types, Form Sections, UI Policies (which is selected and highlighted with a red box), and Forms. The main area shows a policy titled "All > Table >= Incident". The policy details are:

- Fields set to mandatory for all states: Incident [incident] false
- Make the field 'Additional Comments' mandatory when the On Hold Reason is 'Awaiting Caller'
- When the Incident state is Resolved Then Resolution Code and Resolution notes fields are Mandatory

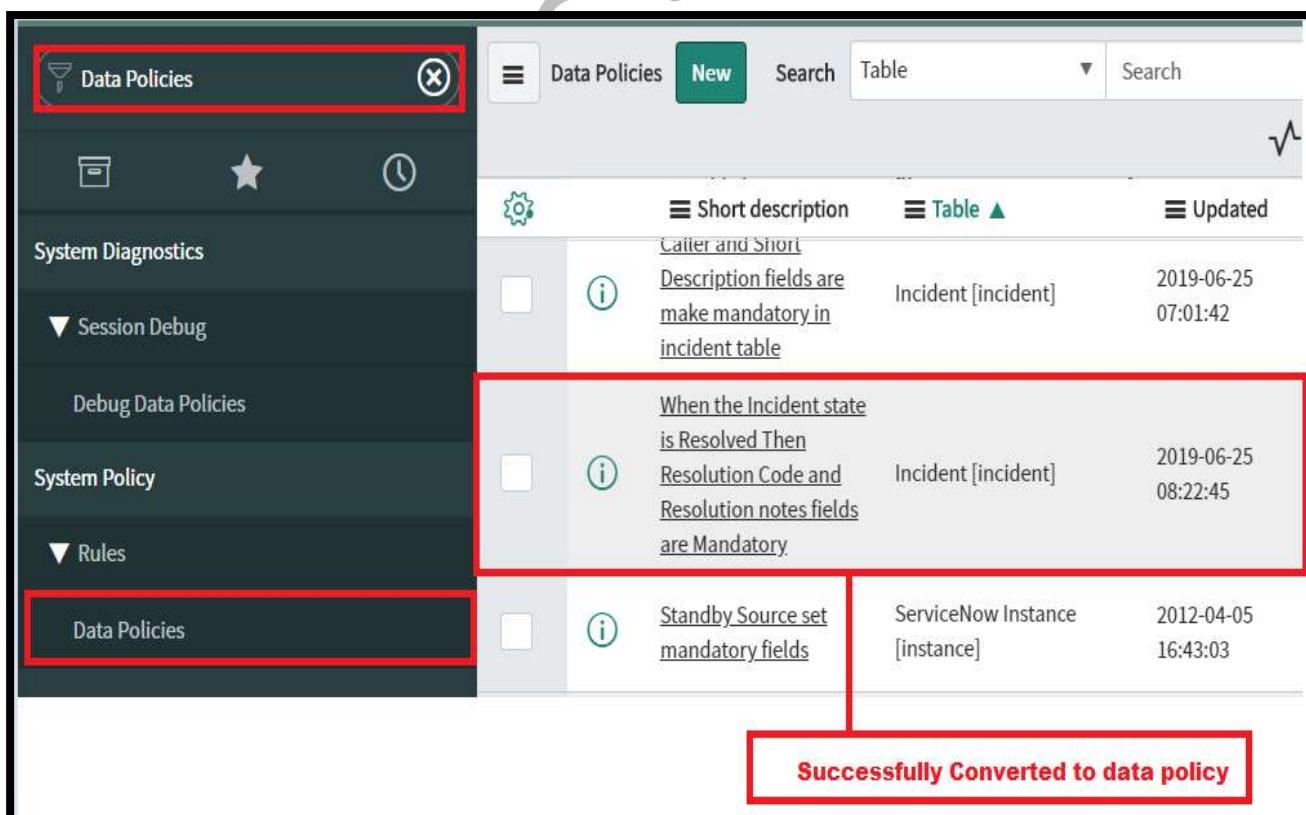
3. Go to under **Related Links**,
4. Click on **Convert this to Data Policy**

The screenshot shows the details view for a UI Policy. The top bar says "UI Policy" and describes the policy: "When the Incident state is Resolved Then Resolution Code and Resolution notes fields are Mandatory". Below the top bar are "Update" and "Delete" buttons. The "Related Links" section contains a link "Convert this to Data Policy" (which is highlighted with a red box). The bottom section shows tabs for "UI Policy Actions (2)" and "UI Policy Related List Actions". The "UI Policy Actions" tab is active, showing a list with a "New" button and search filters.

5. We will get below screen shot after converted



6. Click on **Update**



- Refer below screen shot successfully converted to **Data Policy Rule**

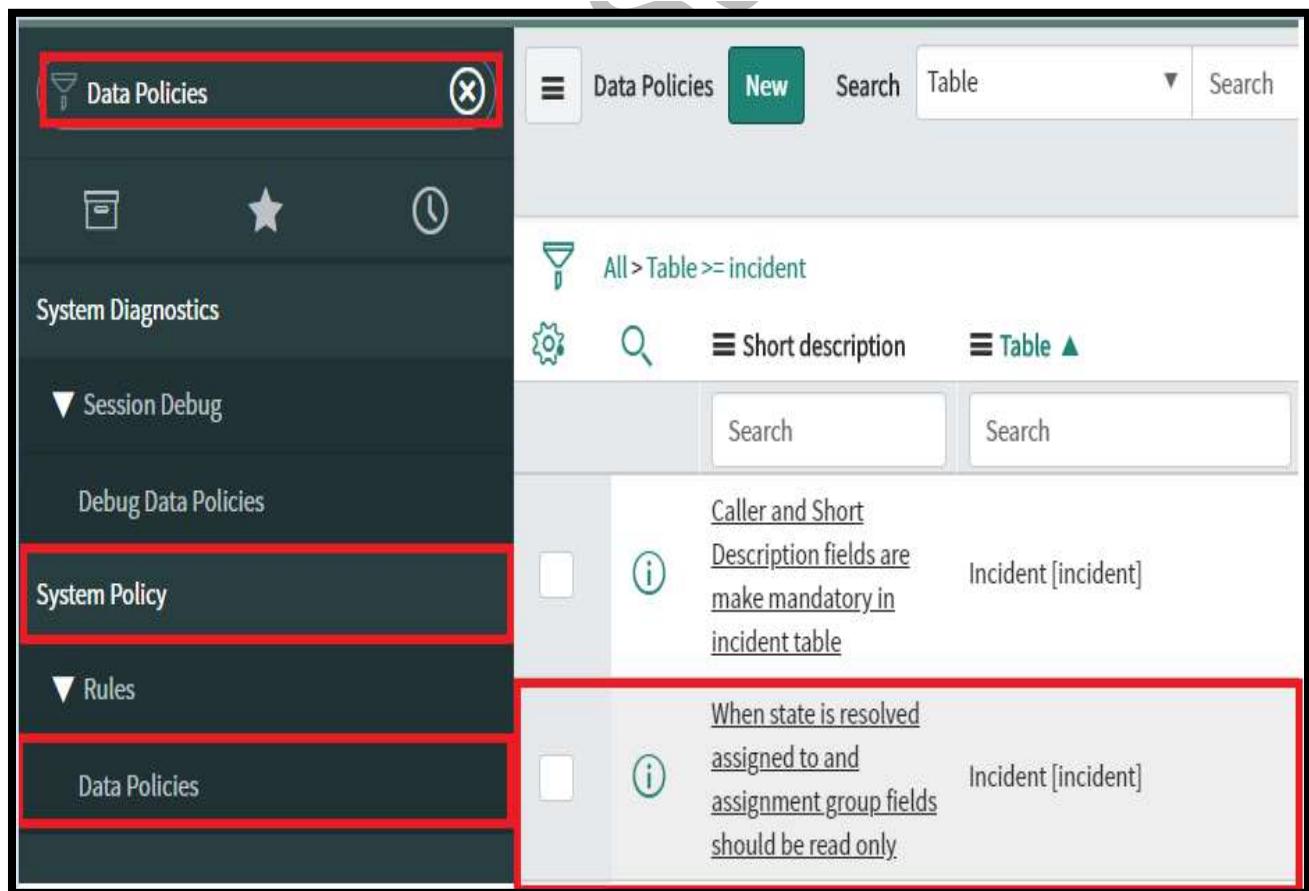
## Exercise: 3 Convert Data policy to UI policy

We can convert a data policy to a UI policy is useful if a data policy already exists, but only needs to apply to records created or updated with in browser and client side. While convert to data policy this is not deactivates - the new UI policy will have applied only at the system UI browser side and not working to import sets or data imported from REST/SOAP web services

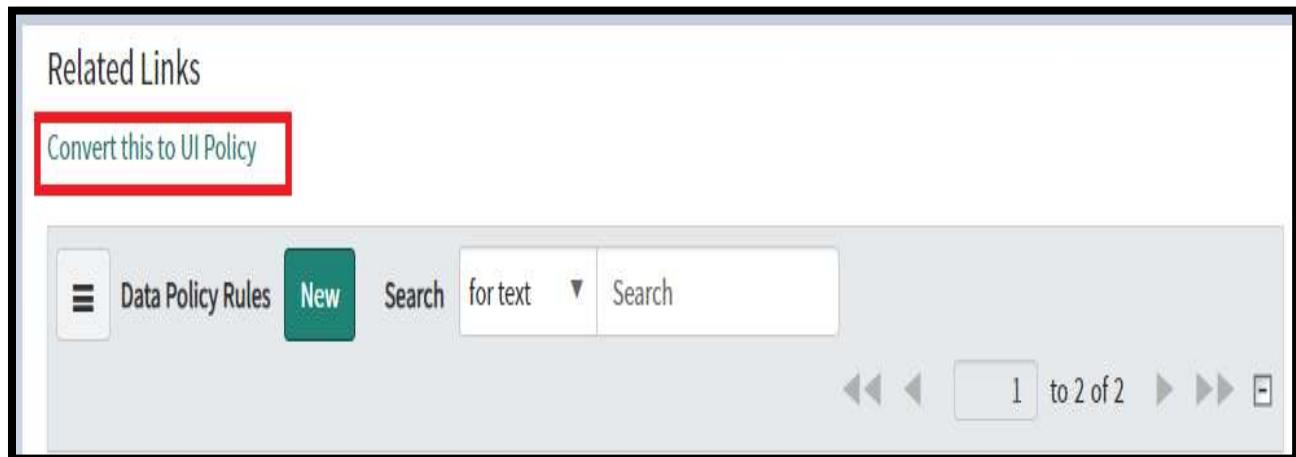
- This is an alternative to converting from a **Data policy to a UI policy** is to select the Use as UI Policy on client checkbox on the data policy record.
- This field extends the data policy to the UI. The main difference between converting and using the Use as UI Policy on client checkbox is that converting provides the Visible field on the UI policy record.

## Procedure

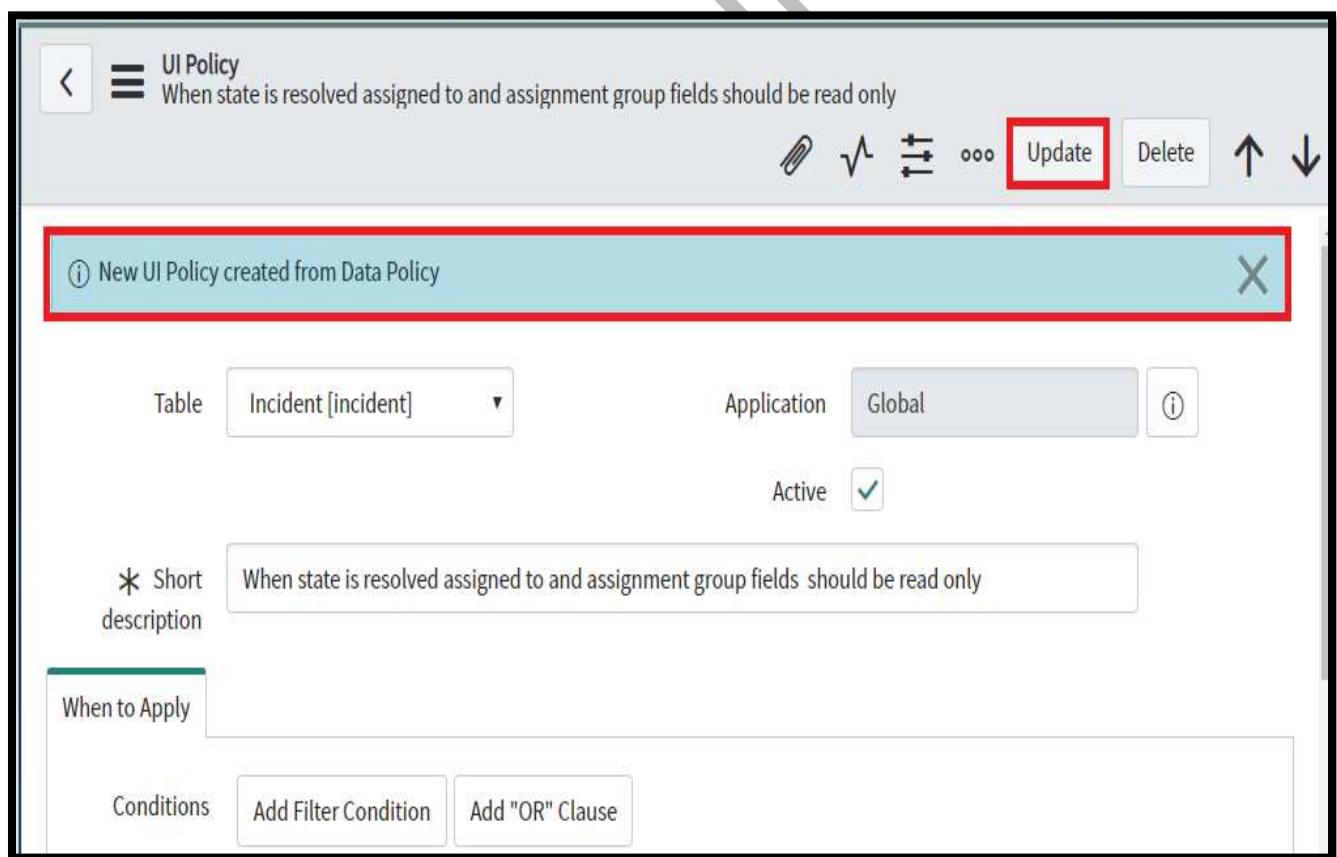
- Navigate to **System Policy > Rules > Data Policies**.
- Open existing **Data Policy** record



3. Go to Under **Related Links**,
4. Click on **Convert this to UI Policy**.



5. Refer below screen shot successfully converted to **UI Policy**
6. Click on **Update**



## Chapter – 11

# Metrics

## What is Metrics?

A metrics can be calculating and evaluates the effectiveness of IT service management processes in Business.



**Ex:** a metric will measure the effectiveness of the incident, resolution process by calculating how long it takes to resolve an incident and close the incident

## Highlights of Metrics

1. Sometimes a metric can be easily gain from the data.
2. It is used to find the number of incidents or problems that were resolved or closed today,
3. We can generate a report will simply count the number of incidents in the incident table with a Created date of last 3 months.
4. Often, however, metrics need to be gathered as **data is updated**.
5. Representing how long an incident was assigned to a certain group requires collecting information about assignment changes and calculating the duration of each assignment.
6. **Ex:** The "**Assignment Group Duration**" metric can calculating the duration of time an incident is assigned to a one group to another group.
7. The metric is defined by creating a metric definition of type "**Field value duration**" and selecting the "Assigned to" field from the Incident table.

## Exercise :1 Create a metric definition

Create a metric definition for **Incident** table

This metrics can be calculating the time duration between Individual **assign to** field

### Procedure

1. Navigate to **Metrics > Definitions**
2. Click on **New**.

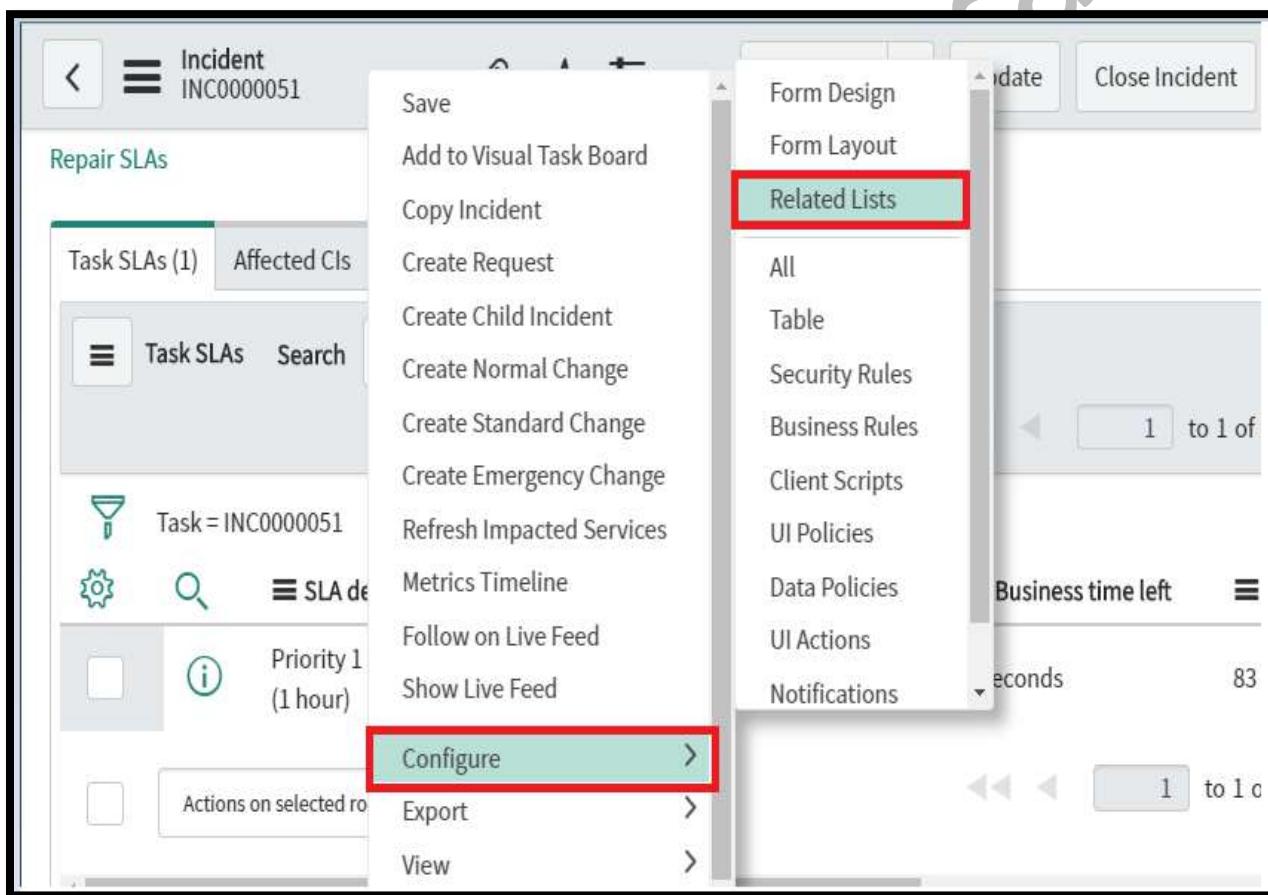
The screenshot shows the 'Metric Definitions' list page. At the top right, there is a red 'New' button. The left sidebar has sections: 'Metrics' (highlighted with a red box), 'Definitions' (highlighted with a red box), 'Instances', and 'Business Rules'. The main area displays five metric definitions, each with a checkbox, an info icon, and a number: MTRC0000007, MTRC0000001, MTRC0000002, and MTRC0000003. A green 'All' filter icon is visible above the list.

### 3. Fill metrics definition Form

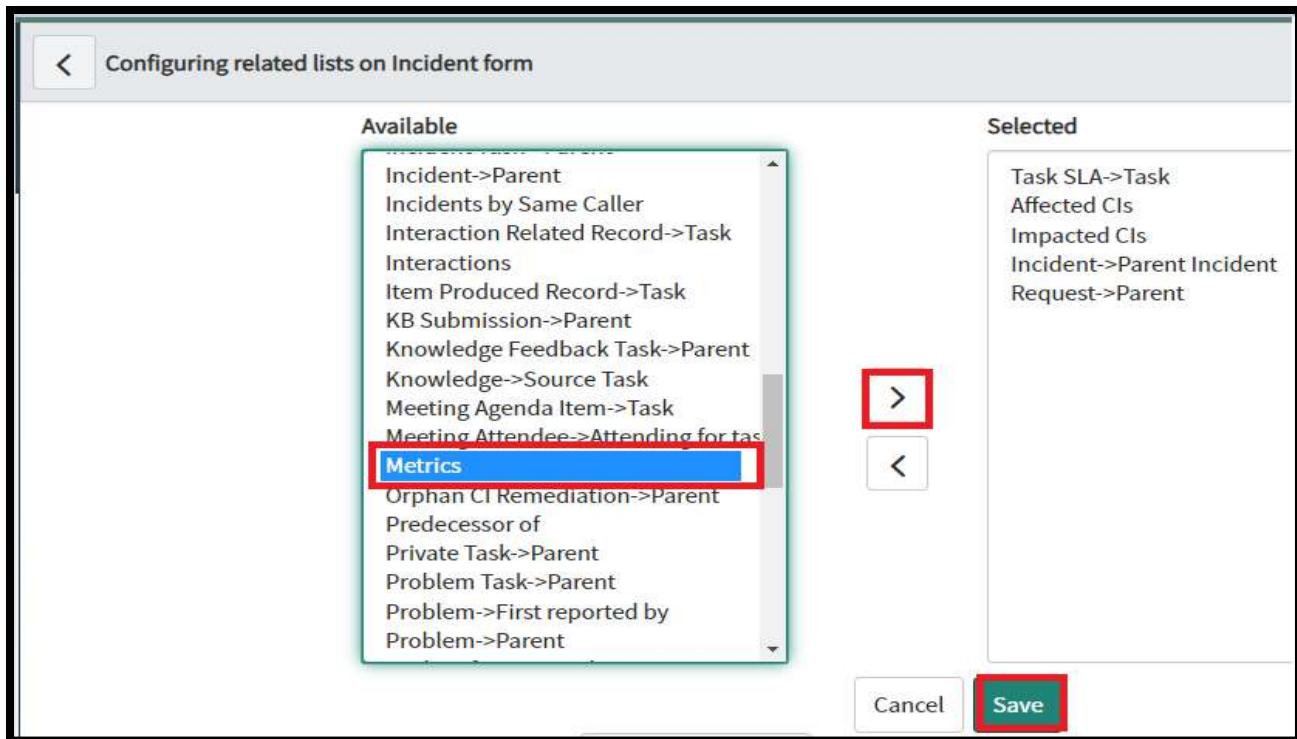
The screenshot shows the 'Metric Definition' form for a new record. The top right features a 'Submit' button with a red dashed border. The form fields include:

Number	MTRC0010003	Application	Global
Name	Assign To Calculation	Type	Field value duration
Table	Incident [incident]	Timeline	<input checked="" type="checkbox"/>
Field	Assigned to	Active	<input checked="" type="checkbox"/>
Description	This metrics definition can define and calculating the time duration for Individual assign to field		

4. **Number:** Auto Filled
5. **Name:** Assign to Calculation
6. **Table:** Incident
7. **Field:** Assign to
8. **Type:** Field value duration
9. **Description:** This metrics can be calculating the time duration between Individual assigned to persons
10. **Timeline:** check true
11. Click on **Submit**
12. Open one existing **incident record** add **Metrics related list**



13. Right click on **Form Header > Configure > Related List**



**14.** Select **Metrics** related List and Click on > Add

**15.** Click on **Save**

Task SLAs (1)	Affected CIs	Impacted Services/CIs	Child Incidents	Metrics (2)
<span>Metrics</span> <span>New</span> <span>Search</span> <span>Created</span> <span>Search</span>				
<span>Metrics</span>				
Created	Definition	ID	Value	Start
<span>2019-05-30 22:19:04</span>	<u>Create to</u> <u>Resolve</u> <u>Duration</u>	<u>Incident:</u> <u>INC0000051</u>		2019-03-08 12:48:32
<span>2019-05-30 22:19:04</span>	<u>Incident State</u> <u>Duration</u>	<u>Incident:</u> <u>INC0000051</u>	Resolved	2019-05-30 22:18:57

**16.** Successfully added **Metrics** Related List to **Incident** form

**17.** Change **assigned to** field value and check **Metrics** calculation

	Created	Definition	ID	Value	Start	End	Duration	Cal
<input type="checkbox"/>	2019-05-31 03:09:14	Assigned to Duration	Incident: INC0000051	Fred Luddy	2019-05-31 03:09:10	2019-05-31 03:10:59	1 Minute	true
<input type="checkbox"/>	2019-05-31 03:11:04	Assigned to Duration	Incident: INC0000051	Don Goodliffe	2019-05-31 03:10:59	(empty)		false

In the base system, metrics are configured to work on the **task** table only. To apply metrics to **cmdb\_ci** tables, duplicate the **metric\_events** business rule that currently runs on the **task** table for the **cmdb\_ci** table. Without the events created, no metric processing



A metric instance is a record in the **metric\_instance** table. A record contains details about one instance of a metric.

The screenshot shows a ServiceNow 'Metric' configuration page. At the top, it displays 'Metric' and 'Created 2019-05-30 22:19:04'. On the right, there are standard action buttons: a pencil icon for Update, three dots for more options, and a delete icon.

The configuration fields are as follows:

- Definition:** Incident State Duration (with a search icon and info icon)
- Table:** Incident [incident] (with a dropdown arrow icon)
- Field:** Incident state (with a dropdown arrow icon)
- ID:** Incident: INC0000050 (with a search icon and info icon)
- Duration:** Days 00 (Hours 00 Minutes 00 Seconds 00)
- End:** (with a calendar icon)
- Start:** 2019-05-30 22:19:02 (with a calendar icon)

On the right side of the form, there is a section labeled 'Calculation complete' with an unchecked checkbox and a 'Value' field containing 'Resolved'.

**Chapter – 12**

# **Related Lists**

## What is Related List?

The **Related Lists** are showing on particular forms and show records in tables that have relationships to the **current record**.

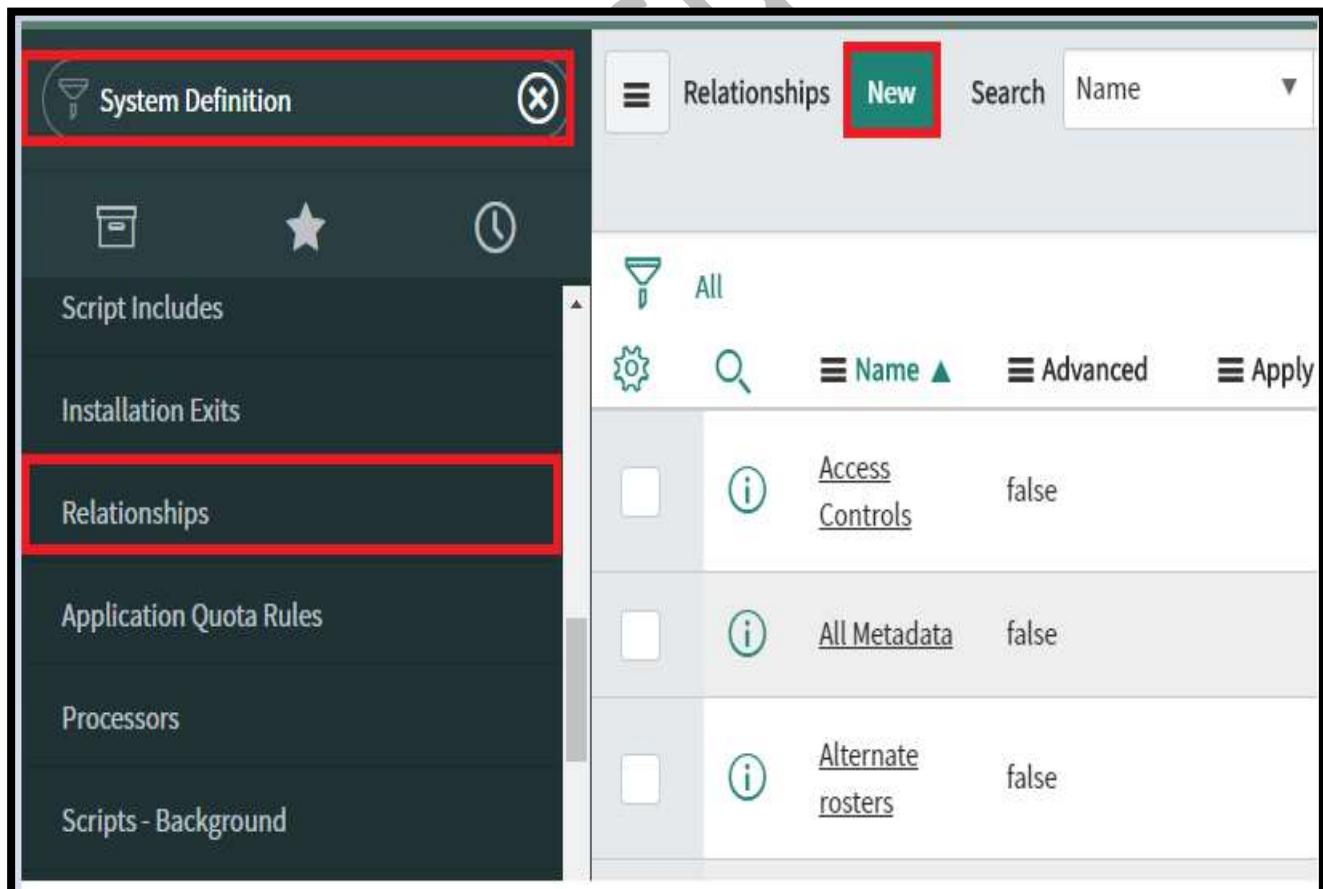
1. Users can view and modify the information in related lists based on current form
2. Only **Administrators** can configure related lists to appear on forms and in hierarchical lists by **configuring a form**.
3. There is no size limitation for related list

## Exercise: 1 Configure Related List

Create a new **Relationship** that will be display all related records based on current **Assign to** field

### Procedure

1. Navigate to **System Definition > Relationships**
2. Click on **New**



### 3. Fill Relationship form

The screenshot shows the 'Relationship' configuration page for 'Incidents Assigned to same user'. The 'Name' field is set to 'Incidents Assigned to same u'. The 'Application' is 'Global'. The 'Applies to table' dropdown is set to 'Incident [incident]'. The 'Queries from table' dropdown is also set to 'Incident [incident]'. A note below states: 'This script refines the query in current that will populate the related list. For more information about it, its parameters and control variables, see the Wiki See also the article about the recommended form of the script.' Below the note is a 'Query with' section containing a code editor with the following JavaScript:

```
1 (function refineQuery(current, parent) {  
2     current.addQuery('assigned_to',parent.assigned_to);  
3 })(current, parent);  
4  
5 )
```

4. **Name:** Incidents Assigned to same user
5. **Applies to table:** Incident
6. **Queries from table:** Incident
7. **Code:** current.addQuery ('assigned\_to', parent.assigned\_to);
8. Click on **Submit**

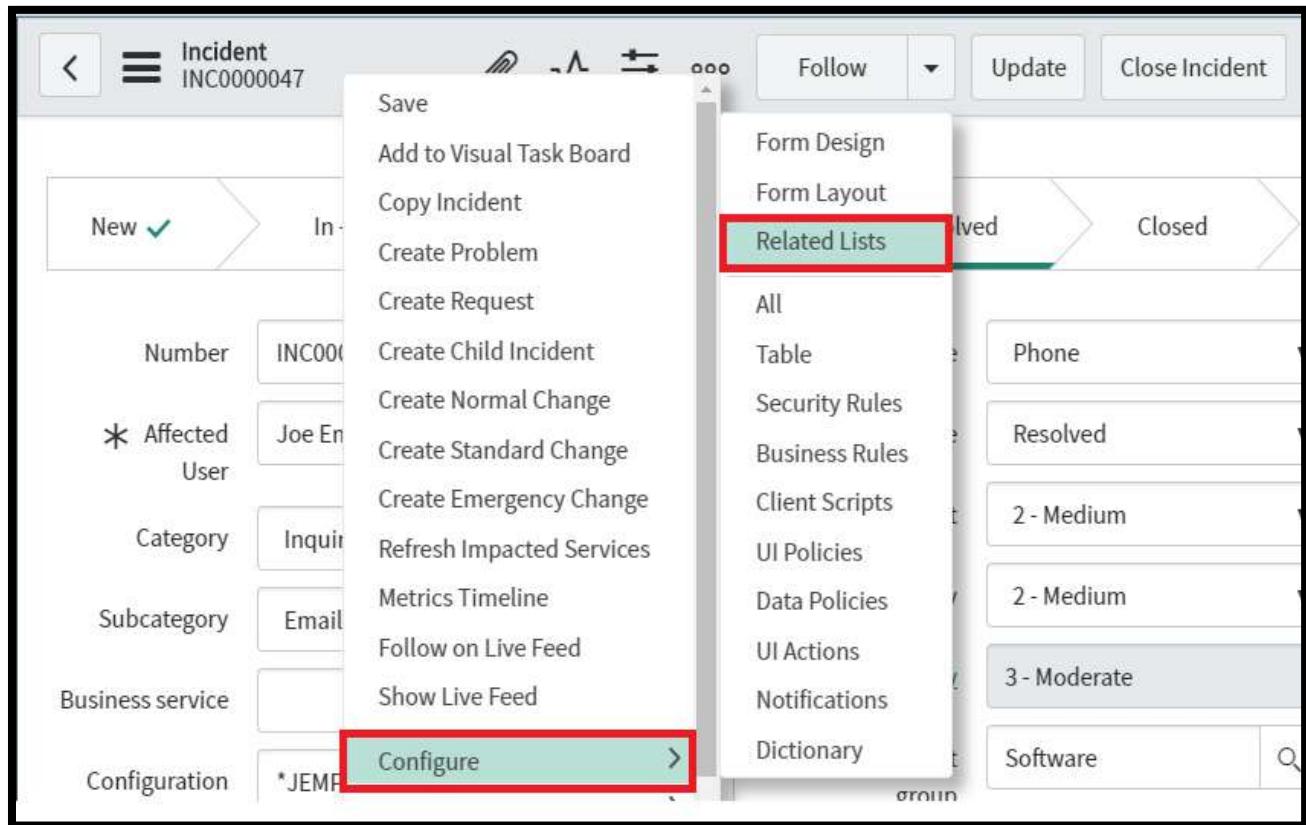
The screenshot shows the 'Relationships' list page. A new relationship named 'Incidents Assigned to same user' has been created and is highlighted with a red box. The details of the relationship are shown in the table below:

Incidents	Assigned to	false	Incident [incident]	Incident [incident]
	<u>same user</u>			

9. Navigate to any existing **Incident** Record

10. Right click on **Form Header**

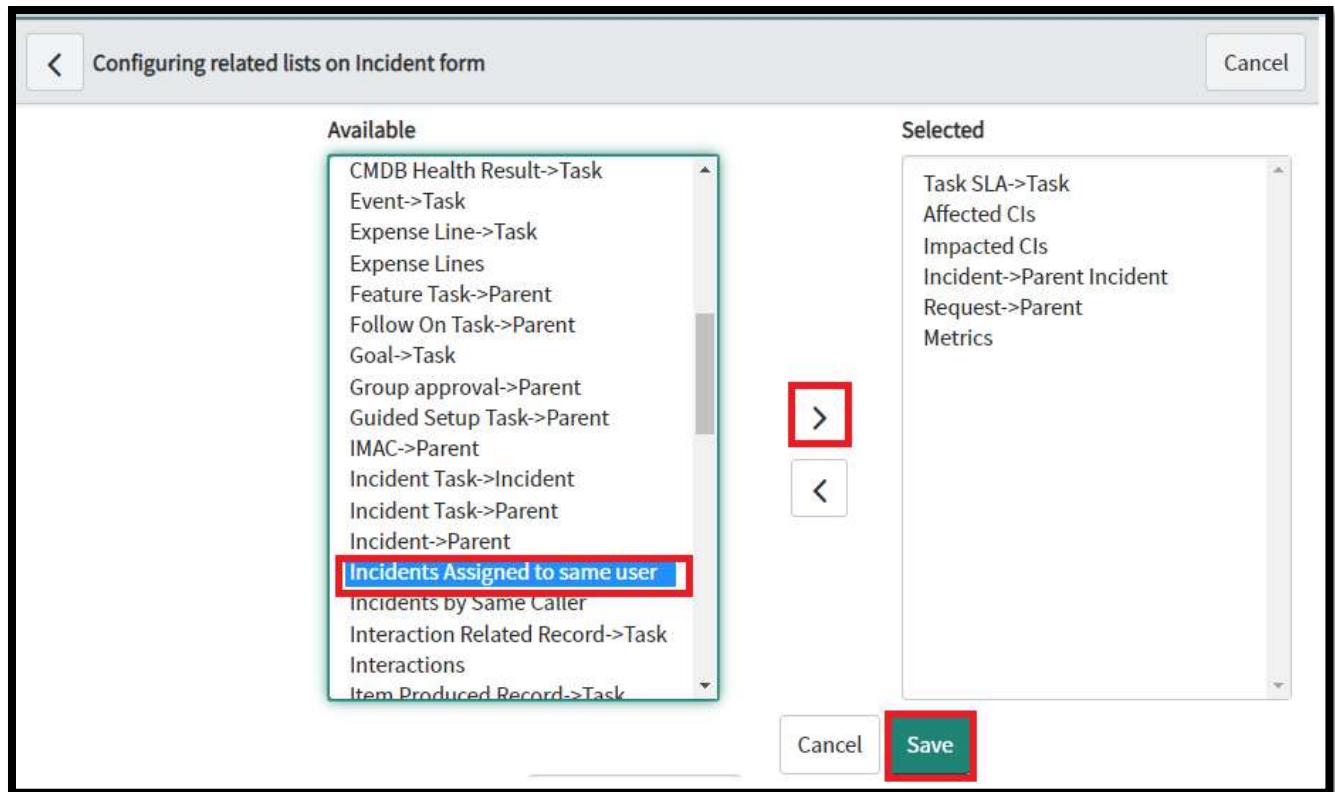
11. Go to **Configure > Related List**



12. Select >**Incident Assigned to same user related list**

13. Click on >**Add**

14. Save



## 15. Check the result in Incident record

Number	State	Category	Affected User	Priority	Assigned to
INC0000052	Resolved	Software	Bud Richman	1 - Critical	Fred Luddy
INC0000044	In Progress		Joe Employee	2 - High	Fred Luddy
INC0000017	On Hold	Inquiry / Help	Joe Employee	1 - Critical	Fred Luddy

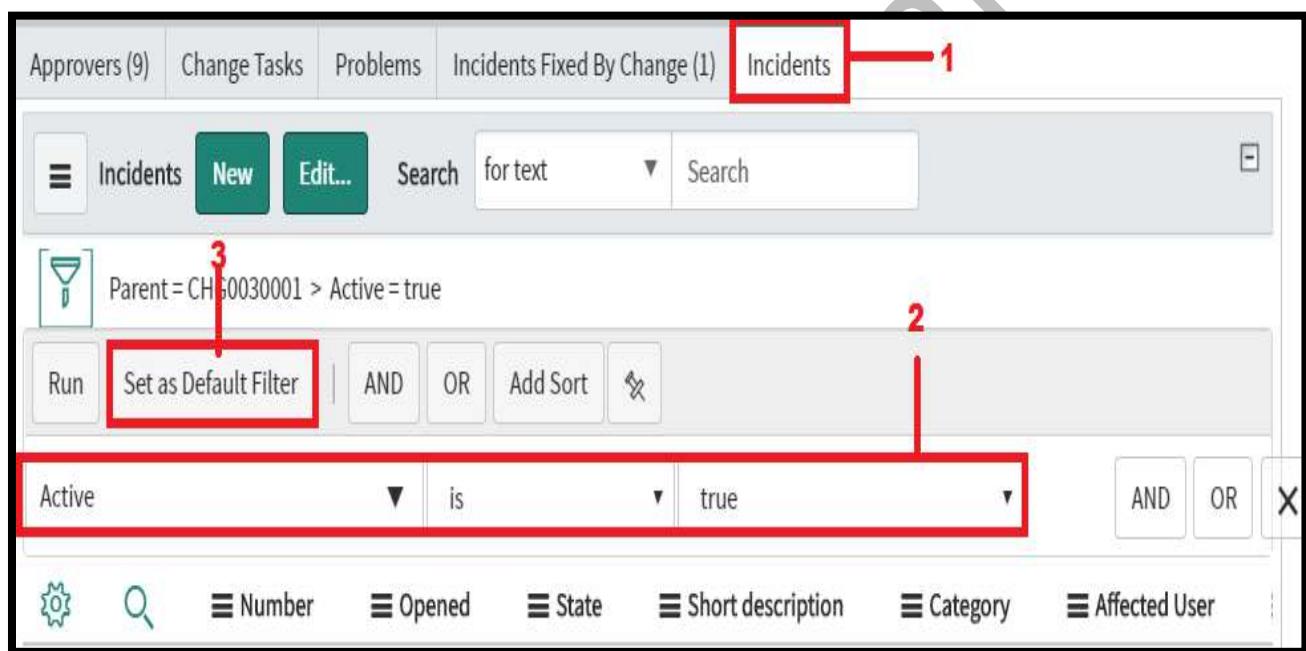
## 16. If you want explore more into Related Lists following existing Relationship record

## Exercise: 2 Configure default filter for Related Lists

We can create a default filter condition that will work on to a related list when a form loads.

### Procedure

1. Navigate to the **Related List > Incidents record on a Change record**.
2. Navigate **> Incident Related List**
3. Build the Required filter condition using the **Condition Builder**
4. Condition: **[Active] [is] [true]**
5. Click on **Set as Default Filter**
6. Click on **Run**



## Exercise :4 Configure User Transaction Related List

This Relationship will show last 10 transactions performed by current user

### Procedure

1. Navigate to **System Definition > Relationships**.
2. Click on **New**.

The screenshot shows the ServiceNow System Definition interface. On the left, a sidebar lists several categories: Script Includes, Installation Exits, Relationships (which is selected and highlighted with a red box), Application Quota Rules, Processors, and Scripts - Background. At the top right, there are tabs for Relationships, New (which is highlighted with a red box), Search, and a dropdown menu set to Name. Below the tabs is a search bar with a magnifying glass icon. The main area displays a list of relationships, with three entries shown:

	Name	Value
<input type="checkbox"/>	<a href="#">Access Controls</a>	false
<input type="checkbox"/>	<a href="#">All Metadata</a>	false
<input type="checkbox"/>	<a href="#">Alternate rosters</a>	false

### 3. Fill Relationship Form

The screenshot shows the Relationship form for a new record. The form has the following fields:

- Name:** Current User Last 10 Transaction (highlighted with a red box)
- Application:** Global
- Advanced:**
- Applies to table:** User [sys\_user] (highlighted with a red box)
- Queries from table:** Task [task] (highlighted with a red box)

Below the form, a note states: "This script refines the query in current that will populate the related list. For more information about it, its parameters and control variables, see the Wiki See also the article about the recommended form of the script."

The "Query with" section contains a code editor with the following JavaScript code:

```

1  (function refineQuery(current, parent) {
2
3      current.addQuery('opened_by',parent.sys_id);
4
5  })(current, parent);

```

4. **Name:** Current user last 10 transaction

5. **Applies to table:** User[sys\_user]

6. **Queries from table: Task[Task]**
7. **Code:** current.addQuery('opened\_by', parent.sys\_id);
8. Click on **Submit**
9. Navigate to > **User Administration > Users**
10. Open any particular User Record (Ex. Fred Luddy)
11. Right Click on **Form Header**
12. Add **Current User Last 10 Transaction** Related List to your form
13. Check **Result** like below

The screenshot shows the ServiceNow User Administration interface. On the left, there's a sidebar with links: 'User Administration' (highlighted with a red box), 'Role Attributes', 'Users' (highlighted with a red box), 'Groups', 'Roles', 'Logged in users', and 'Active Transactions'. The main area shows a user record for 'Fred Luddy'. Below the header, there are buttons for 'View Subscriptions' and 'Reset a password'. A navigation bar at the top right includes 'Update' and 'Delete' buttons. In the center, there's a 'Current User Last 10 Transaction' related list (highlighted with a red box). This list has a 'New' button, search fields for 'Number' and 'Search', and a page navigation section showing '1 to 1 of 1'. The list table has columns: 'Tasks' (with a gear icon), 'Number' (with an info icon), 'Priority', 'State', 'Assigned to', 'Short description', and 'Task type'. One task is listed: 'INC0000038' (Priority 4 - Low, State Closed, Assigned to Luke Wilson, Description: 'my PDF docs are all locked from editing', Type: Incident).

Chapter – 13



# SLA Definitions

## Define Service Level Management

In any business service the Service Level Managers are responsible for a set of agreements between a service provider and customer that define the **scope, quality and speed** of the services being provided.

Service level agreements (**SLAs**) provide the customer with an expectation of service within a known time line and the capability to monitor when expected service levels are not being met.

### Purpose of SLA

We can use the SLA Definition document to define a specific set of business criteria that would result in an SLA being running.

#### We need to define some of the following parameters:

- ✓ **Table:** SLAs can be defined against any particular table like. **Incident**
- ✓ **Duration:** You can specify the time duration in which the service must be provided to the customer.
- ✓ **Schedule:** We can define the schedule time, which represent valid working and not-working days that the service provider follows to deliver the service. The selected schedule will be used to determine when the SLA will breach.
- ✓ **Conditions:** You can specify the conditions under which the SLA will **start, pause, stop, or reset.**



When any **SLA Definition** is triggered against a particular task the Task SLA record is created and contains all the tracking data for the specific SLA on that record.

If an **SLA Definition** exists for **Priority 1** incidents a Task SLA record [**task\_sla**] will attach to the P1 incident record and capture all the data associated with it. In many cases there will be multiple Task SLA records against a single task since many definitions apply.

### Objectives of SLA

- ✓ Define, Document, Agree, Monitor, Measure, Report and Review the level of IT Service Provided
- ✓ Provide and improve the relationship and communication with the business and customer
- ✓ Ensure the specific and measurable targets are developed for all IT service
- ✓ Monitor and improve the customer satisfaction with quality of service delivered

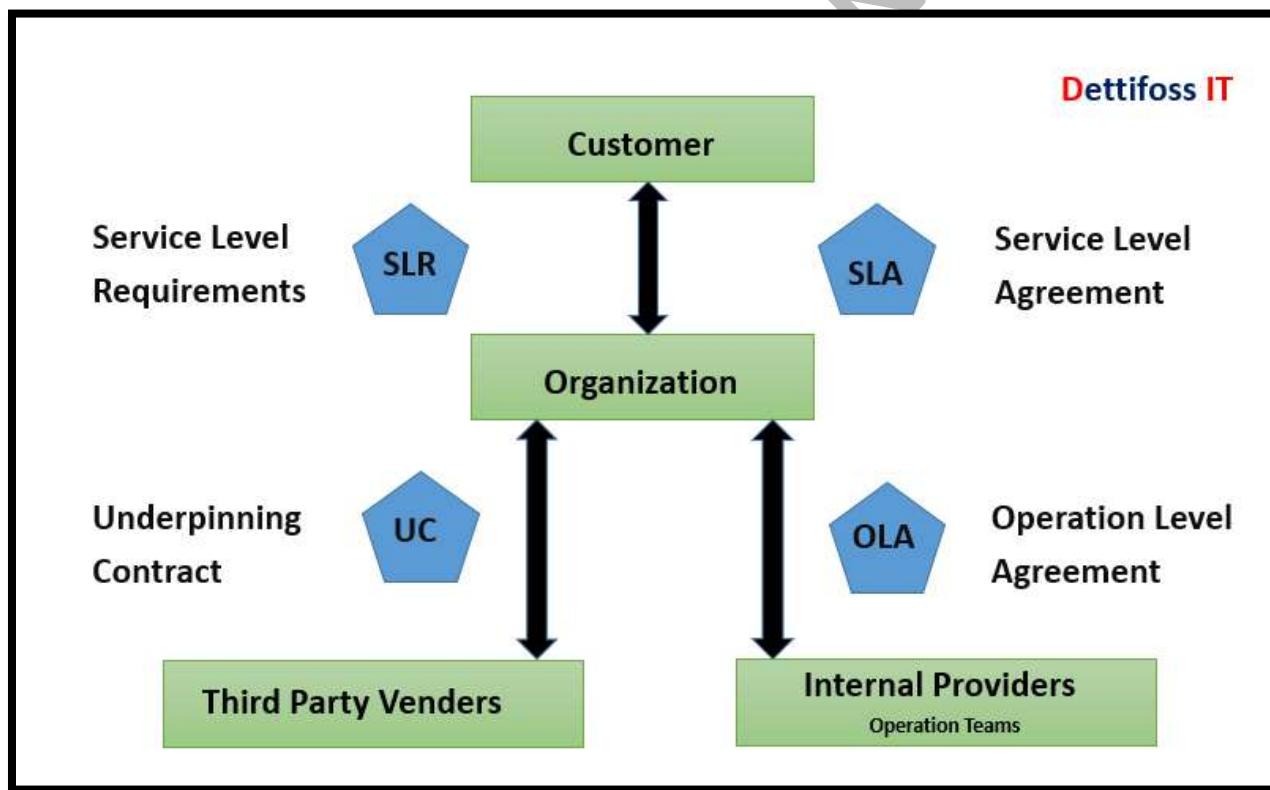
## Create new SLA definition

An SLA definition record can define the **conditions, schedule, duration, timings, workflows**, and other information required to create and progress **task SLAs**. We can able to create **one or more SLA** definition records based on our client requirement



**Priority 1 resolution** time is (1 hour) SLA Definition defines the **Task SLAs** to attach to incidents with a P1 - Critical priority, specifies appropriate conditions for those Task SLAs, and uses the default SLA workflow to create events such as to send a notification, when an incident's Task SLA reaches **50%** of its allotted time and it can provide information about breaches

## SLM Architecture – Agreements



## Types of SLAs (SLA, OLA, UC)

### Service Level Requirement (SLR)

A set target and responsibilities documented agreed upon for each proposed new or changed services. SLR based upon business objectives and used to negotiate agreed upon service level targets

### Service Level Agreement (SLA)

An agreement between an It service provider and IT customer, it defines key service target and responsibilities of both parties.

### Operation Level Agreement (OLA)

An agreement between an IT service provider and another part of same organization that assist with the provision of service. A facilities department that maintaining.

Network team supports the (network services). An OLA should contain targets

### Underpinning Contract (UC)

A contract between an IT service provider and external third part vendor covering delivery of services that support it organization in its delivery of services.

## Exercise: 1 Add the choices to below fields

First we have to add choices for **Impact, Urgency, Priority** fields

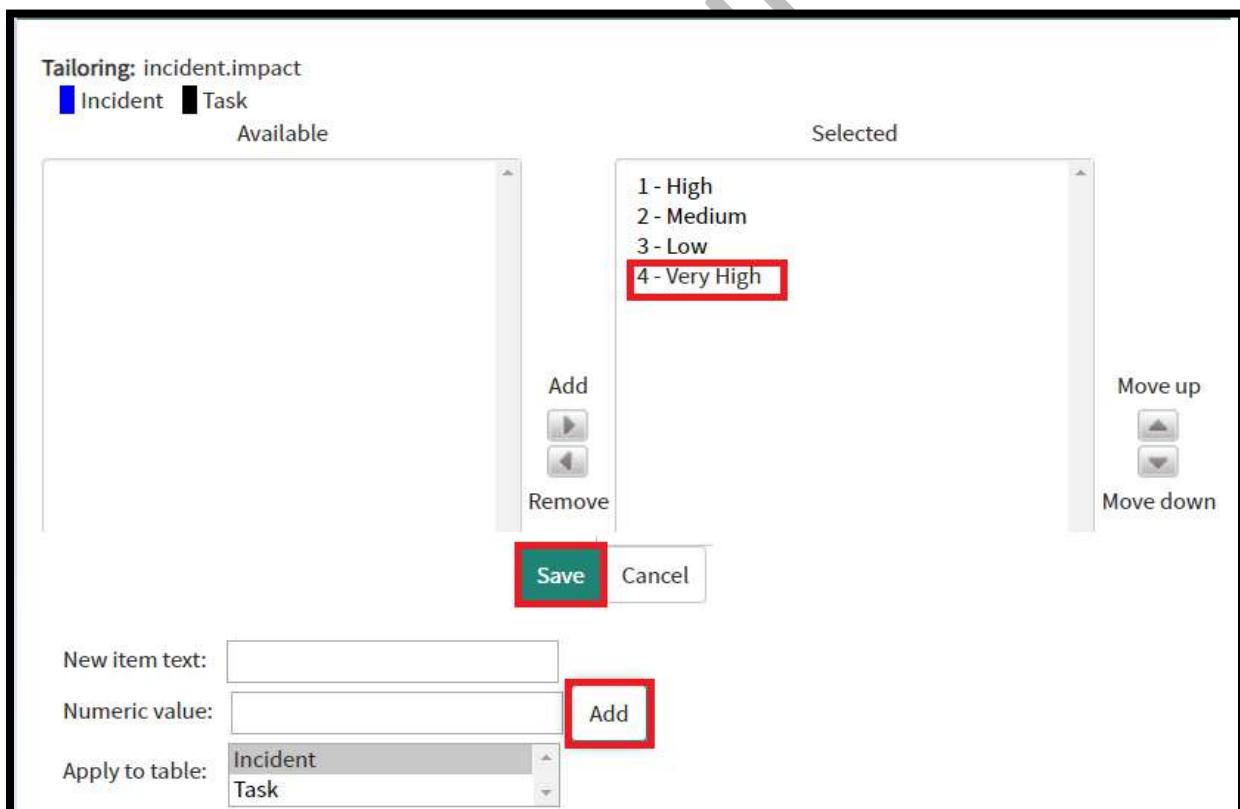
**Impact:** 4 –Very High, **Urgency:** 4 – Very High, **Priority:** 6 – Very Critical

### Procedure

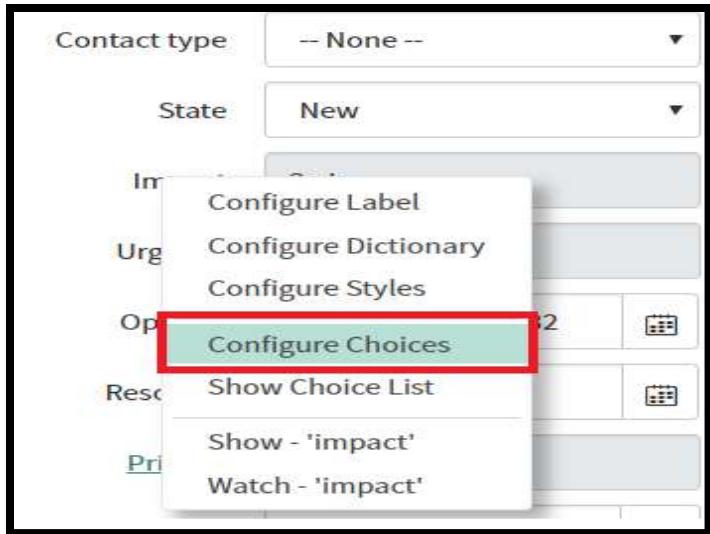
1. Right click on **Impact** label
2. Click on **Configure Choices**



3. Add the choice **4 – Very High**



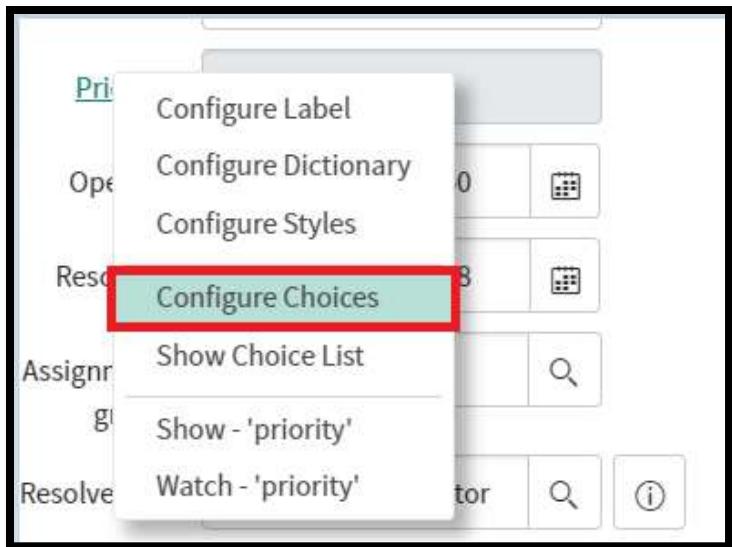
4. Click on **Save**
5. Right click on **Urgency** label
6. Click on **Configure Choices**



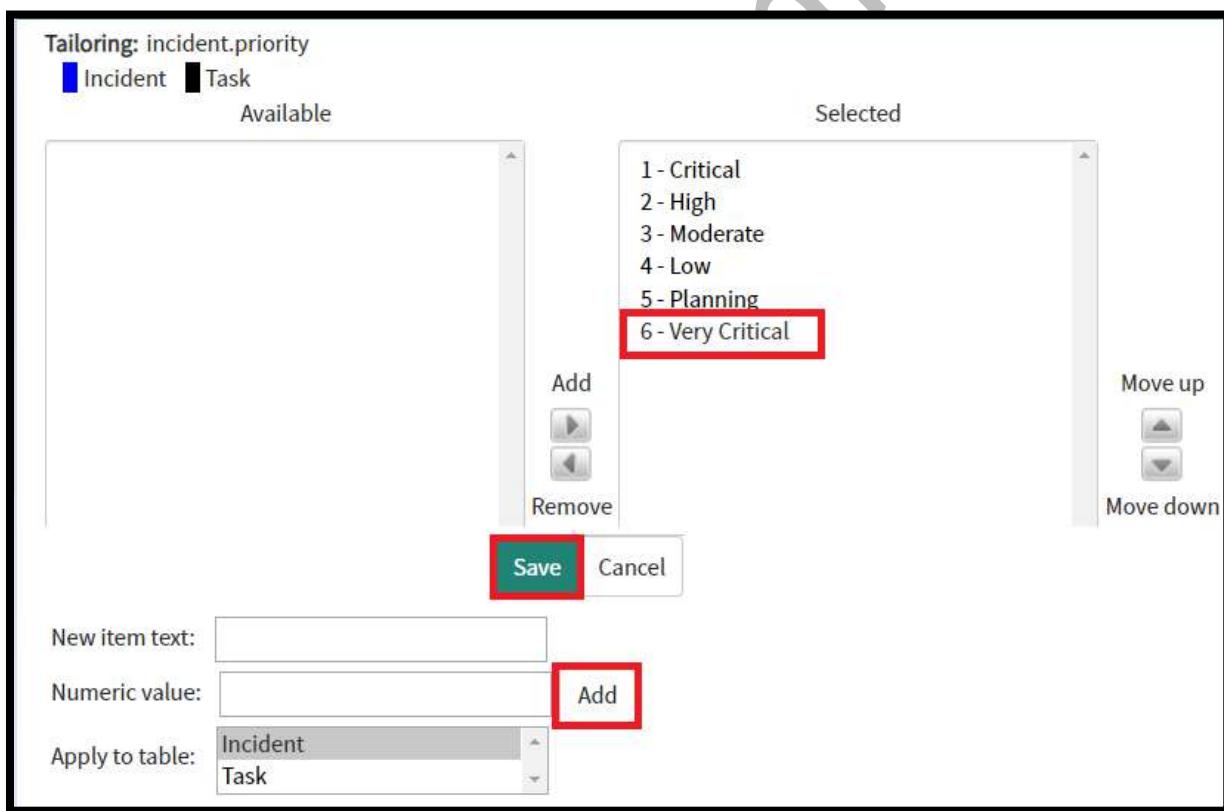
7. Add the choice **4 – Very High**



8. Click on **Save**
9. Right click on **Impact** label
10. Click on **Configure Choices**



**11. Add the choice 6 – Very Critical**



**12. Click on Save**

**13. Configure Lookup Definition Record in dl\_u\_priority table**

**14. Navigate to filter navigation open table dl\_u\_priority.list**

	(i)	100	1 - High	1 - High	1 - Critical
	(i)	200	1 - High	2 - Medium	2 - High
	(i)	300	1 - High	3 - Low	3 - Moderate
	(i)	400	2 - Medium	1 - High	2 - High

15. Click Priority Data Lookup **New**

16. Fill the below form

Impact	4 - Very High	Application	Global
Urgency	4 - Very High	Active	<input checked="" type="checkbox"/>
Priority	6 - Very Critical	Order	1,000

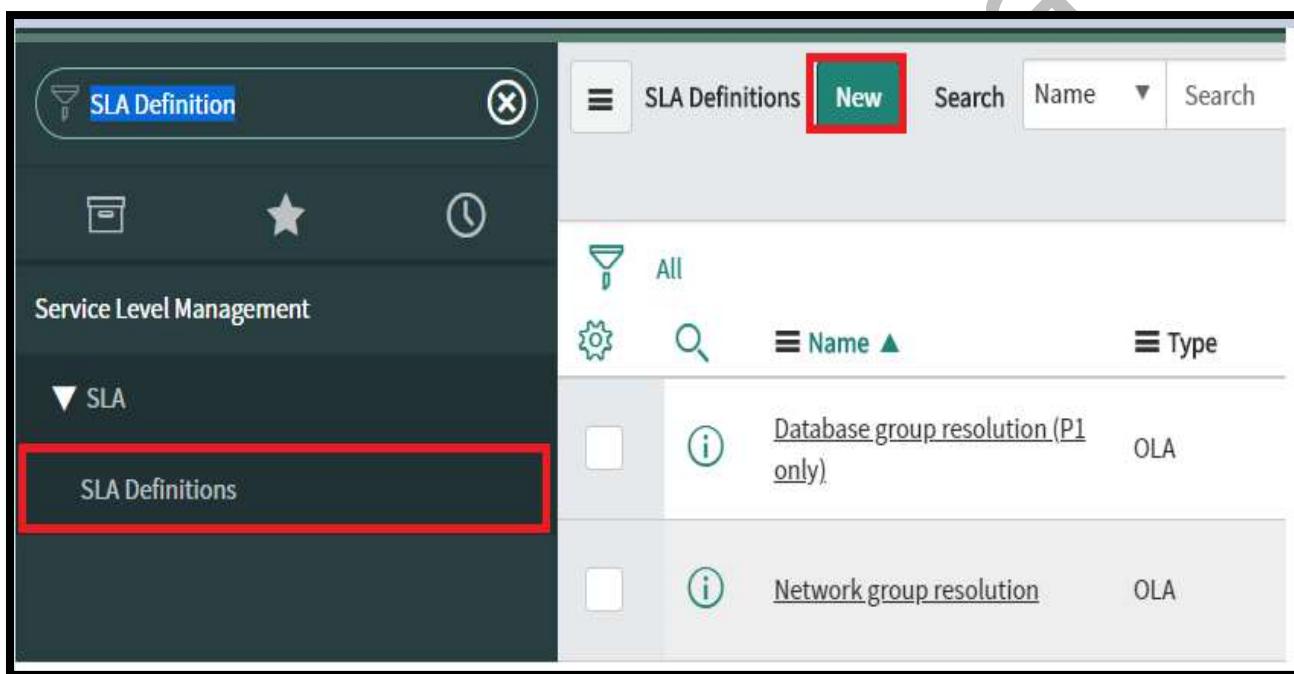
17. Click on **Submit**

## Exercise: 2 Create new SLA definition

Any customer created a **Very Critical Priority** Incident Then This SLA Definition record will attach to that incident

### Procedure

1. Navigate to Service Level Management > SLA Definition
2. Click on New
3. Fill the below details



4. Name : Very Critical Incident (30 mins)
5. Type : SLA
6. Target : Resolution
7. Table : Incident
8. Workflow : Default SLA Workflow
9. Duration
10. Schedule Source: No Schedule

The screenshot shows the 'SLA Definition' page in ServiceNow. A new record is being created. The configuration includes:

- Name:** Very Critical Incidended(30 m)
- Type:** SLA (highlighted with a red box)
- Target:** Resolution
- Table:** Incident [incident] (highlighted with a red box)
- Workflow:** Default SLA workflow (highlighted with a red box)
- Active:** Checked
- Duration type:** User specified duration
- Duration:** Days: 00, Hours: 00, Minutes: 30, Seconds: 00 (Hours field highlighted with a red box)
- Schedule source:** No schedule
- Note:** SLA will run 24x7 as no schedule is selected.
- Enable logging:** Unchecked

The 'Submit' button is highlighted with a red box in the top right corner.

**11. Apply the conditions when it has to be start, pause, stop, reset**

## 12. Start Condition

The screenshot shows the 'Start condition' configuration page. The conditions for attaching the SLA are:

- Priority:** is 1 - Critical
- Active:** is true

Other settings include:

- Retroactive start:** Checked (highlighted with a red box)
- Set start to:** Created (highlighted with a red box)
- Retroactive pause:** Checked
- When to cancel:** Start conditions are not met (highlighted with a red box)

## 13. Pause Condition

Start condition   **Pause condition**   Stop condition   Reset condition

The conditions under which the SLA will pause (stop increasing elapsed time) and resume

Pause condition   Add Filter Condition   Add "OR" Clause

All of these conditions must be met

State	is	On Hold
-------	----	---------

On hold reason	is	Awaiting Caller
----------------	----	-----------------

OR all of these conditions must be met

State	is	Resolved
-------	----	----------

When to resume

Pause conditions are not met
------------------------------

## 14. Stop Condition

Start condition   Pause condition   **Stop condition**   Reset condition

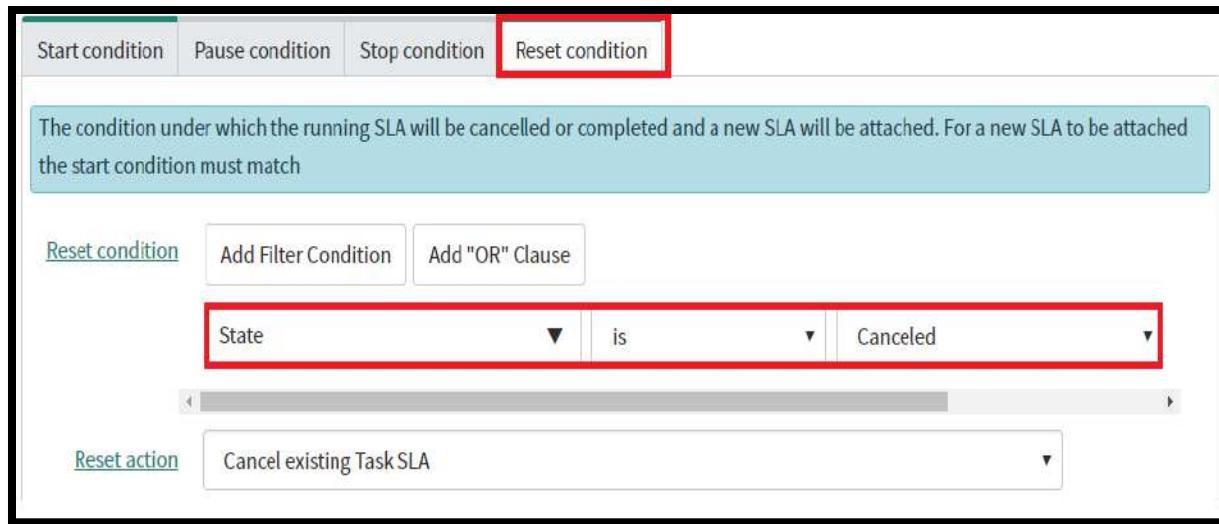
The condition under which the SLA will complete

Stop condition   Add Filter Condition   Add "OR" Clause

State	is	Closed
-------	----	--------

Update   Delete

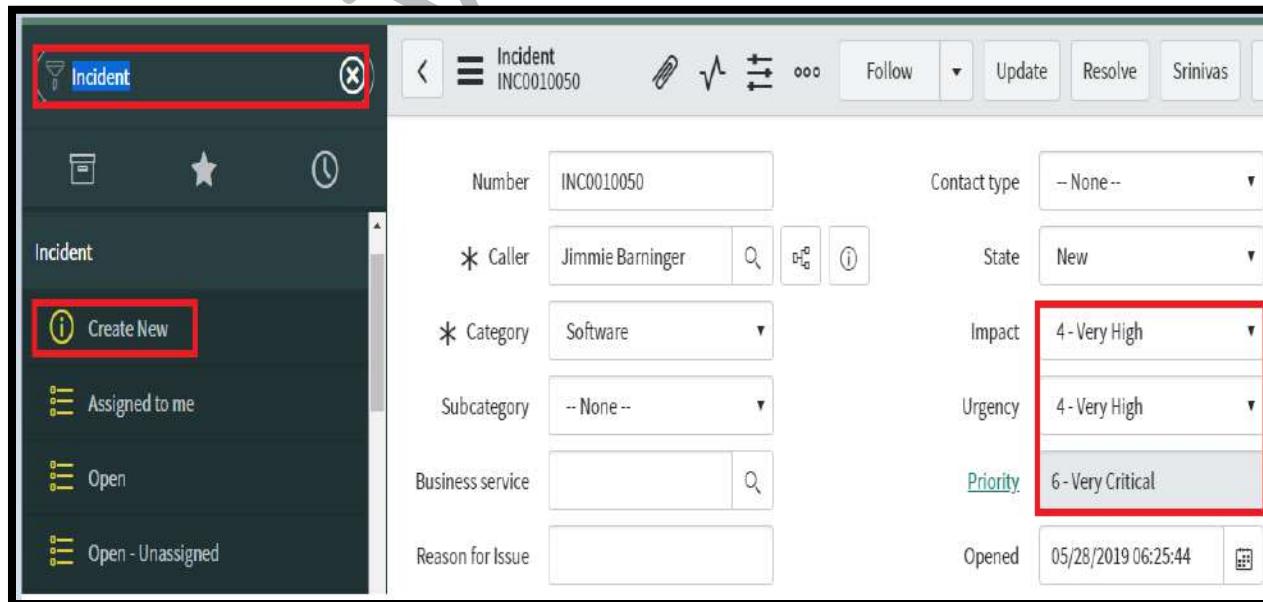
## 15. Reset Condition



16. Click on **Submit**

## SLA Task: 1

1. Navigate to **Incident Application** > Click on **New Module**
2. **Impact** : Very High
3. **Urgency** : Very High
4. **Priority** : Auto filled (**Very Critical**)
5. Click on **Submit**



6. Again open same record

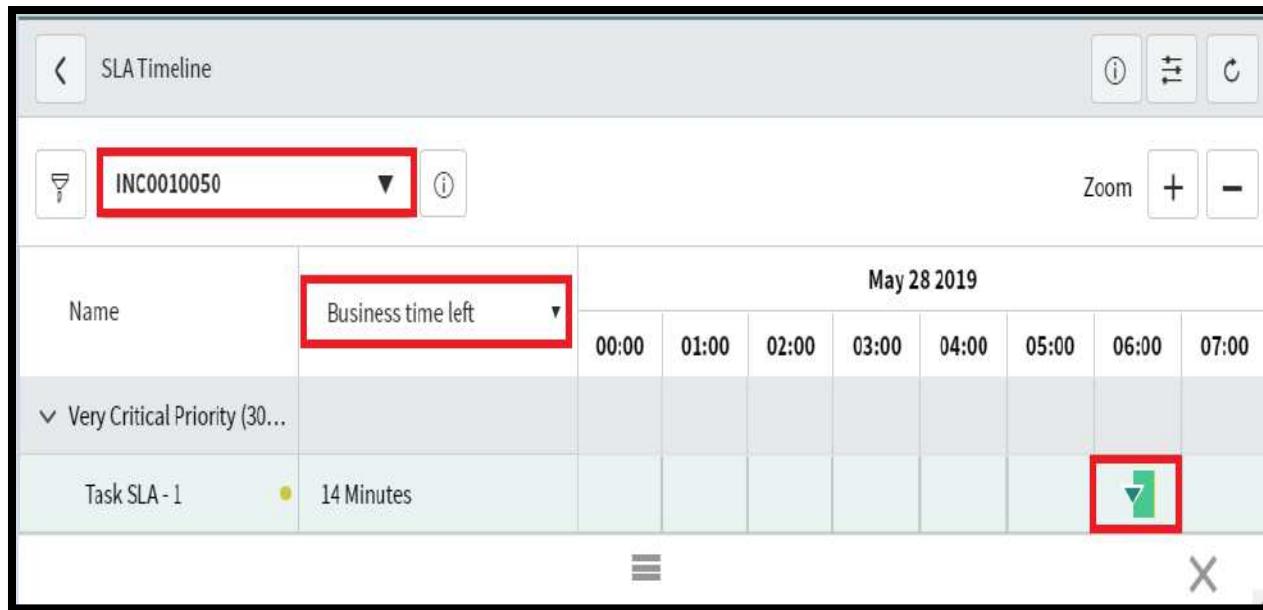
## 7. Navigate to Task SLA from Related list

The screenshot shows the 'Task SLAs' list view with a single item highlighted. The top navigation bar has tabs: 'Task SLAs (1)', 'Affected CIs', 'Impacted Services/CIs', and 'Child Incidents'. Below the tabs is a search bar with 'Task SLAs' selected and 'SLA definition' dropdown. The main list area shows a single row for 'Task = INC0010050'. The row contains columns for SLA definition (Very Critical Priority (30mins)), Type (SLA), Target (Resolution), Stage (In progress), Business time left (19 Minutes), and Business elapsed time (10 Minutes). The entire row is highlighted with a red box.

8. This example demonstrates how an SLA can be attached to an incident, then progressed to completion.

## 9. SLA Time Line

The screenshot shows the 'Task SLAs' list view with a single item. The top navigation bar has tabs: 'Task SLAs (1)', 'Affected CIs', 'Impacted Services/CIs', and 'Child Incidents'. Below the tabs is a search bar with 'Task SLAs' selected and 'SLA definition' dropdown. The main list area shows a single row for 'Task = INC0010050'. The row contains columns for SLA definition (Very Critical Priority (30mins)), Type (SLA), Target (Resolution), Stage (In progress), Business time left (11 Minutes), and Business elapsed time (18 Minutes). Above the list, there is a 'Related Links' section with a button 'Show SLA Timeline' highlighted with a red box. Other links in the section include 'Srinivas' and 'Repair SLAs'.



## SLA Calculation for exact time

As a result, breaches can occur when SLA calculations are calculated up to 100%. You can enable SLA calculations to instead use the business time or actual time left.

For example, a business percentage of 99.951% is rounded up to 100%, which causes a breach.

For more accurate SLA calculations, enable the SLA engine property for using the exact value of the business time left if a schedule is specified or the actual time left if the SLA has no schedule specified.

## Chapter – 13

Sunkara

# Import Sets

## What is import sets?

Import sets will allow service now administrators to import the data from various external data sources, and then we can map that data into Service Now target tables.

1. The Import Sets table can act as a staging area for records imported from various data source
2. Data should not be imported in extremely large files that may cause some problem. Creating an extremely large import set can cause delays and system outages.
3. A transform map can be defining the relationships between fields displaying in an Import Set table and fields in an existing Service Now table
4. Importing sets will skip records when the data in the instance matches the data being imported.
5. Import Sets can run on as user System. Therefore, Import Sets cannot add data to encrypted fields

## Import Sets Supporting Files

<b>CSV</b>	This files that double quotes may not appear inside fields. The first row of data in an imported CSV file becomes the header row and defines the columns for that import set.
<b>Excel</b>	Excel files should have the extension of XLS or XLSX extension.
<b>XML</b>	XML files should have a consistent XPath for each data row from this file.
<b>JSON</b>	For JSON arrays, the path for each row must specify the array root element twice, such as

## Supporting External Data Sources

<b>JDBC</b>	Importing data through some JDBC connection require Mid Server Configuration
<b>LDAP</b>	LDAP imports require a valid transform map.

## Exercise: 1 Importing Excel File

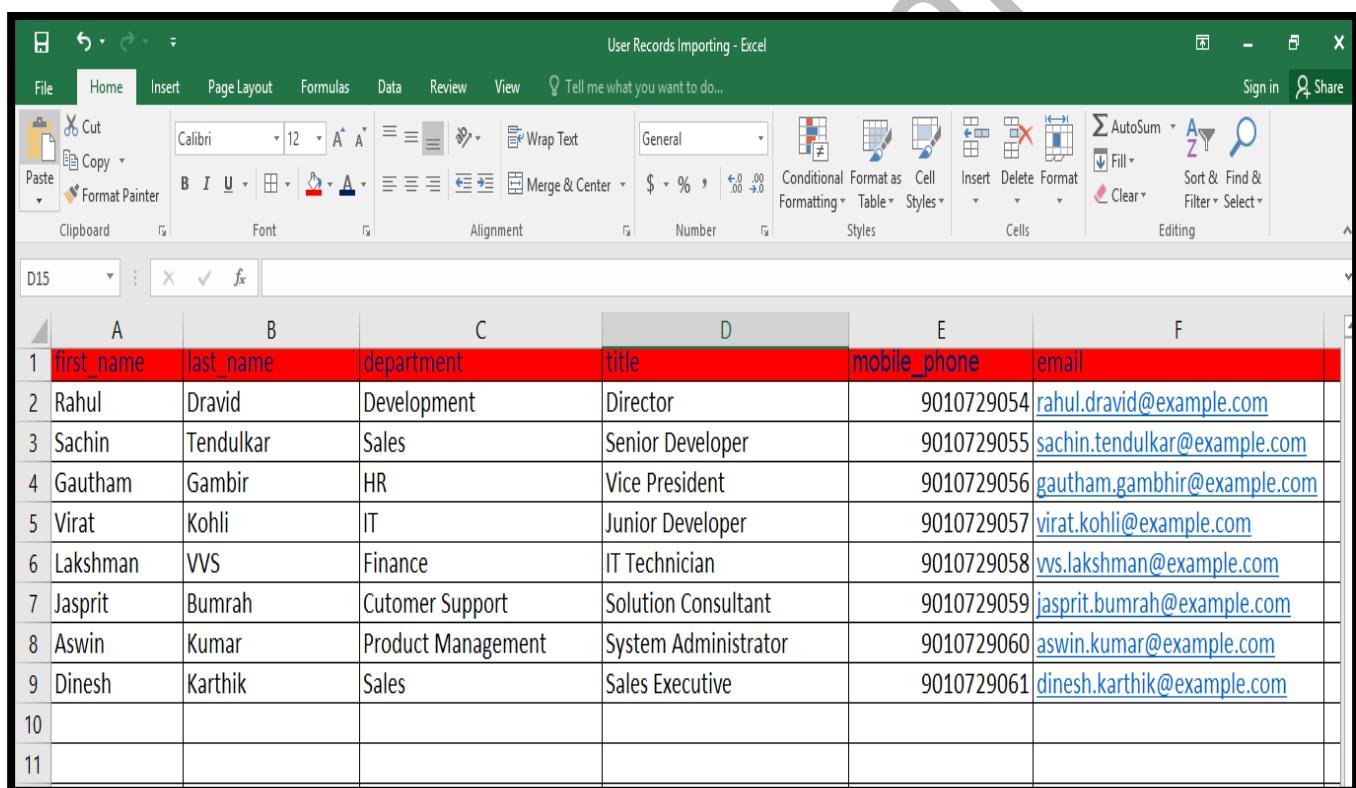
We will import **Excel File** that is representing each row is record in a file

**Following** below steps to importing data in service now tables.

We are going to importing the data into **sys\_user** table

### Procedure

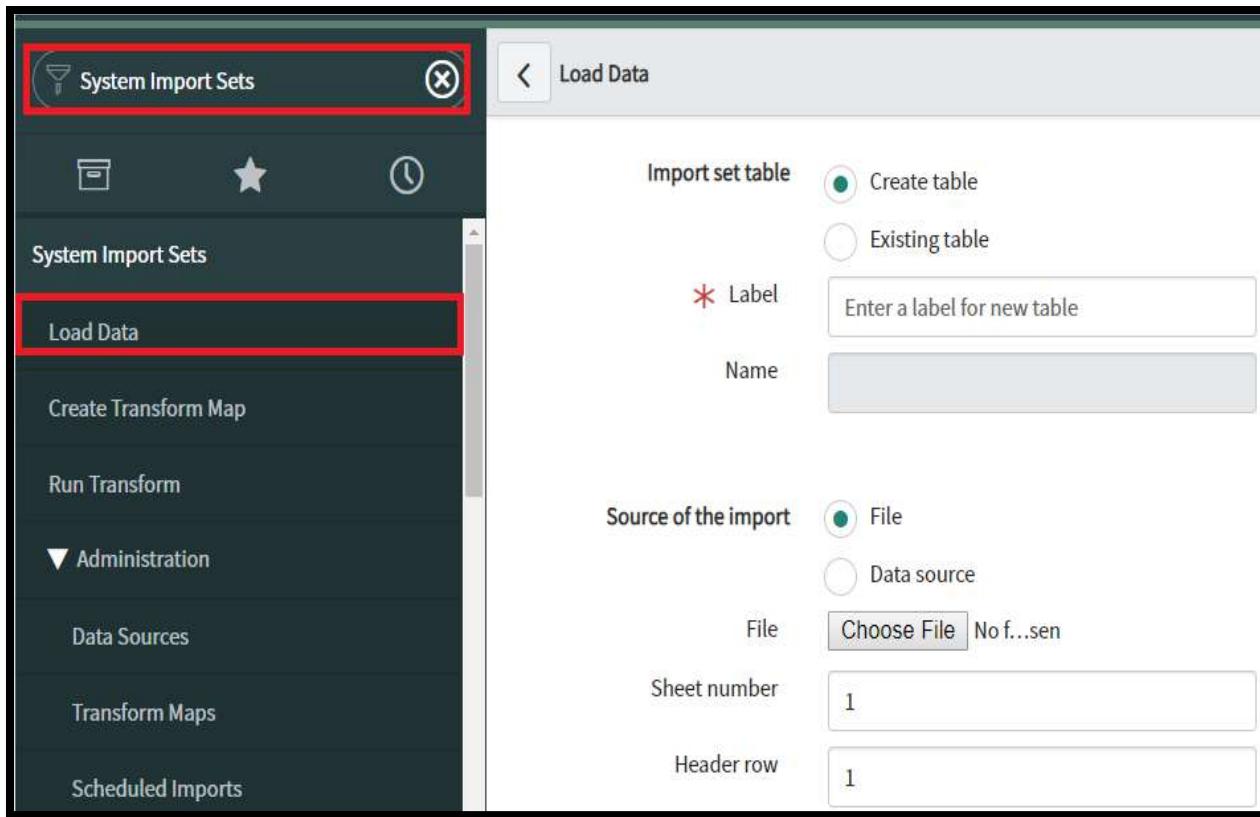
1. First we need to create **Data Source File**
2. Open Empty **Excel File** and Create **8 or More** user records



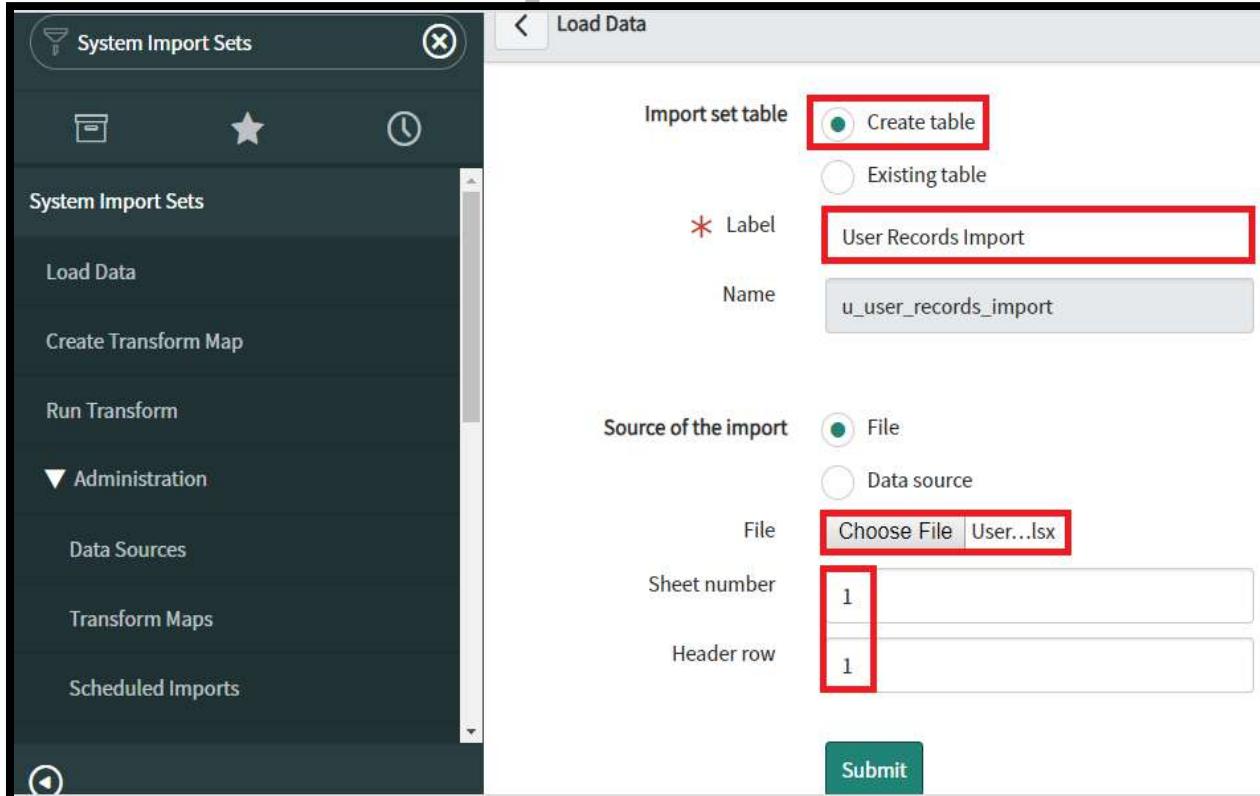
The screenshot shows an Excel spreadsheet titled "User Records Importing - Excel". The table has columns labeled A through F. Column A contains field names: "first\_name", "last\_name", "department", "title", "mobile\_phone", and "email". Rows 2 through 10 contain data for six users. Row 11 is empty. The data is as follows:

	A	B	C	D	E	F
1	first_name	last_name	department	title	mobile_phone	email
2	Rahul	Dravid	Development	Director	9010729054	rahul.dravid@example.com
3	Sachin	Tendulkar	Sales	Senior Developer	9010729055	sachin.tendulkar@example.com
4	Gautham	Gambir	HR	Vice President	9010729056	gautham.gambhir@example.com
5	Virat	Kohli	IT	Junior Developer	9010729057	virat.kohli@example.com
6	Lakshman	VVS	Finance	IT Technician	9010729058	vvs.lakshman@example.com
7	Jasprit	Bumrah	Customer Support	Solution Consultant	9010729059	jasprit.bumrah@example.com
8	Aswin	Kumar	Product Management	System Administrator	9010729060	aswin.kumar@example.com
9	Dinesh	Karthik	Sales	Sales Executive	9010729061	dinesh.karthik@example.com
10						
11						

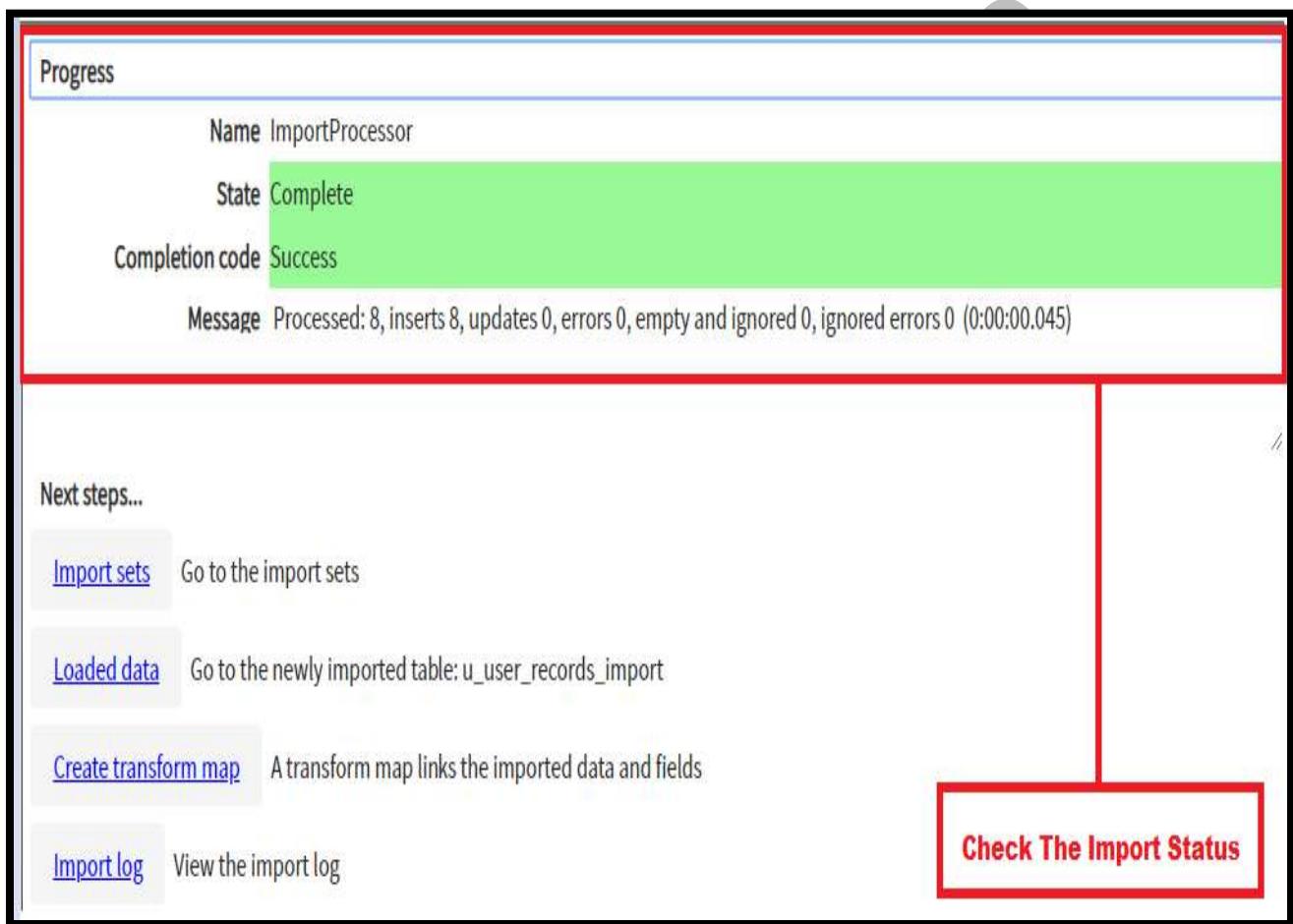
3. Navigate to **System Import Sets**
4. Click on **Load Data** module



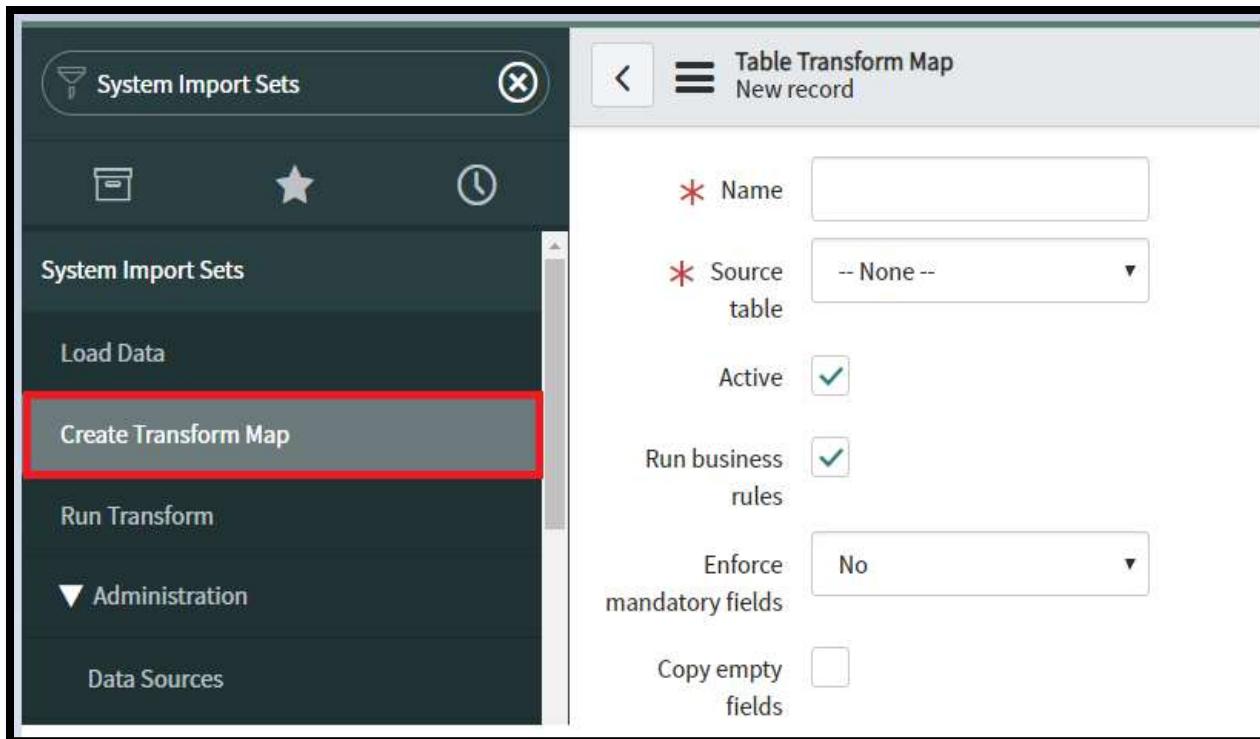
5. Fill required detail below



6. Select **Create Table** Radio Button
7. **Label:** User Records Import
8. **Name:** Auto Filled
9. **Source of the Import:** File
10. **File:** Select our target file from browser
11. **Sheet number:** 1
12. **Header row :**1
13. Click on **Submit**
14. Check the status of import process like below screen shot



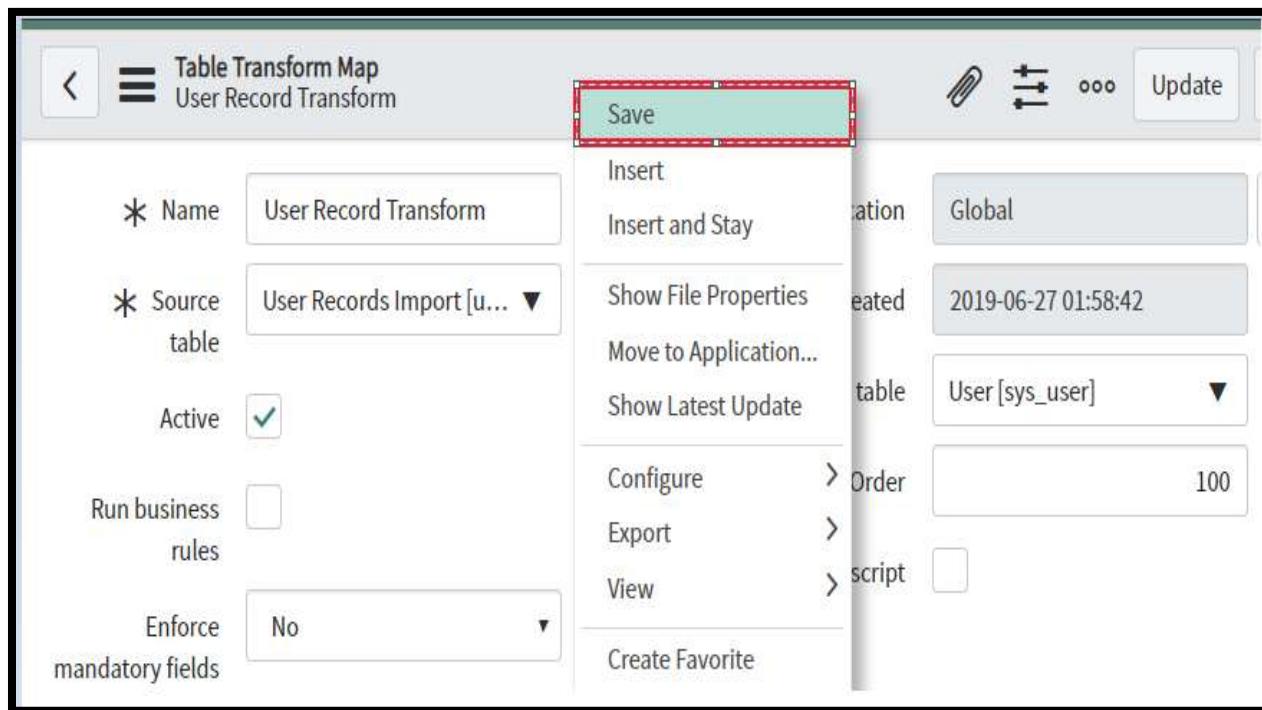
15. Create new Transform Map



16. Fill Transform Map form

This screenshot shows the 'Table Transform Map' configuration form. The 'Name' field is set to 'User Records Transform' and has a red box around it. The 'Source table' dropdown is set to 'User Records Import[u...]' and has a red box around it. The 'Active' checkbox is checked and has a red box around it. The 'Target table' dropdown is set to 'User [sys\_user]' and has a red box around it. The 'Order' field is set to '100'. Other fields like 'Application' (Global), 'Created' (empty), 'Run business rules' (unchecked), 'Enforce mandatory fields' (dropdown 'No'), 'Copy empty fields' (unchecked), and 'Create new record on empty coalesce fields' (unchecked) are also shown. A 'Submit' button is at the top right. A large watermark 'S' is visible across the center of the screen.

17. **Name:** User Records Transform
18. **Source table:** User records import
19. **Target table:** sys\_user
20. **Run business rules:** Disabled property



21. Right click form header and click on Save



22. Down to under Related Links
23. Click on Auto Map Matching Fields

The screenshot shows the 'Field Maps' section of the ServiceNow interface. A red box highlights the 'Mapping Assist' link under 'Related Links'. The 'Field Maps (6)' tab is selected. The table lists three mappings:

Source field	Target field	Coalesce
<u>u_department</u>	department	false
<u>u_title</u>	title	false
<u>u_first_name</u>	first_name	false

## 24. Create Coalesce for email field

The screenshot shows the 'Field Maps' section of the ServiceNow interface. A red box highlights the 'Field Maps (6)' tab. The table lists five mappings, including a new one for the 'email' field with 'Coalesce' set to 'true':

Source field	Target field	Coalesce
<u>u_department</u>	department	false
<u>u_title</u>	title	false
<u>u_first_name</u>	first_name	false
<u>u_email</u>	email	true
<u>u_last_name</u>	last_name	false

## 25. Click on Mapping Assist

Related Links

- Auto Map Matching Fields
- Mapping Assist**
- Transform
- Index Coalesce Fields

Field Maps (6) Transform Scripts

Field Maps	New	1 to 6 of 6
	Source field	Target field
	<u>u_department</u>	department
		false

Source: User Records

Import

Comment	Department
Created	Title
Created by	First name
Error	Email
Import set run	Last name
Row	Mobile phone

Field Map

Target: User

Add > Remove < Add

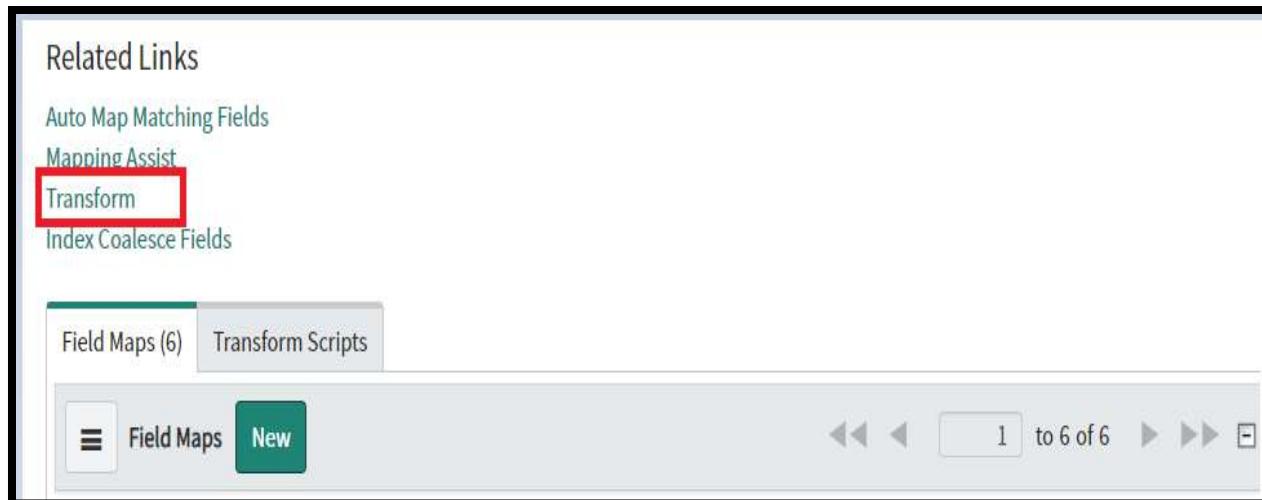
Save Cancel

Data Viewer

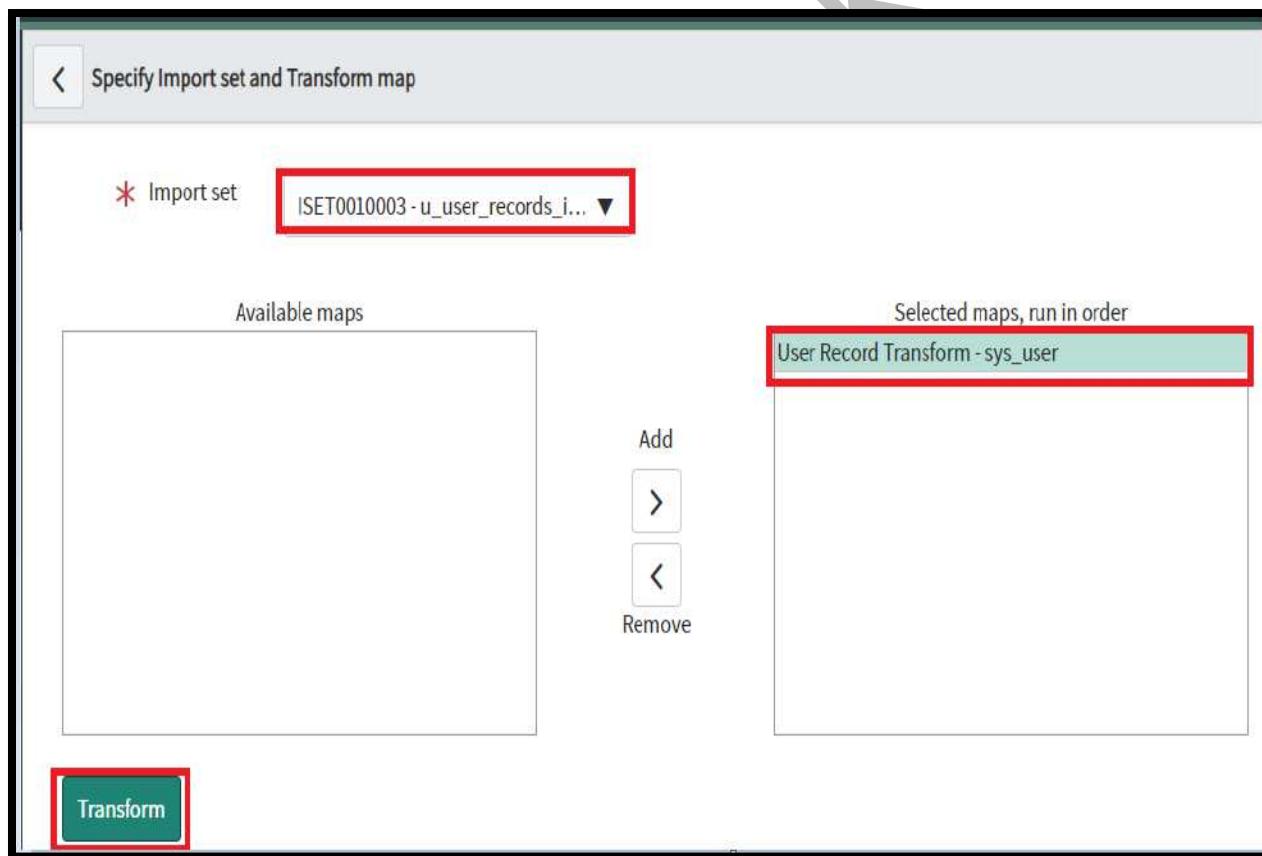
Show All Fields  Mapped Fields

26. Select **Mapped Fields** radio button

27. Click on **Save** button



**28. Click on Transform**



**29. Select our Transform**

**30. Click on Transform Button**

The screenshot shows the ServiceNow Progress screen for a transformation named 'Transforming: ISET0010003'. The 'State' is 'Complete' (highlighted with a red box) and the 'Completion code' is 'Success'. A message at the bottom states 'Transformation complete'. Below this, under 'Next steps...', there are three options: 'ISET0010003 Go to the import set', 'Transform history' (which is highlighted with a red box), and 'Import log View the import log'.

31. Click on **Transform History**

The screenshot shows the ServiceNow Transform Histories list screen for Set Number ISET0010003. The table displays one record: a completed transformation from June 29, 2019, at 21:32:56. The transformation duration was 0 seconds and it imported User Records Import (table [u\_user\_records\_import]) with 8 inserts and 0 updates. The entire row is highlighted with a red box.

Started	State	Completed	Run time	Set	Import set table	Total	Inserts	Updates
2019-06-29 21:32:56	Complete	2019-06-29 21:32:56	0 Seconds	ISET0010003	User Records Import [u_user_records_import]	8	8	0

32. Check **Status** for all records

33. Open **ISET0010003** record check history

The screenshot shows the 'Transform History' screen in ServiceNow. The 'Import set table' field is set to 'User Records Import [u\_user\_records\_import]'. The 'State' field is set to 'Complete'. The results summary table shows:

	Total	Inserts	Updates	Ignored	Skipped	Errors
Started	2019-06-29 21:32:56	8	0	0	0	0
Completed	2019-06-29 21:32:56	8	0	0	0	0
Run time	Days 0	0	0	0	0	0
Hours	00 00 00	0	0	0	0	0
Set	ISET0010003	0	0	0	0	0

34. Navigate to sys\_user table check all new records

The screenshot shows the 'sys\_user.list' view in ServiceNow. The table has columns: User ID, Name, Email, Active, and Created. The 'Name' column for all records is highlighted with a red box. The data is as follows:

User ID	Name	Email	Active	Created
(empty)	Sachin Tendulkar	sachin.tendulkar@example.com	true	2019-06-29 21:32:56
(empty)	Rahul Dravid	rahul.dravid@example.com	true	2019-06-29 21:32:56
(empty)	Lakshman VVS	vvs.lakshman@example.com	true	2019-06-29 21:32:56
(empty)	Dinesh Karthik	dinesh.karthik@example.com	true	2019-06-29 21:32:56
(empty)	Virat Kohli	virat.kohli@example.com	true	2019-06-29 21:32:56
(empty)	Aswin Kumar	aswin.kumar@example.com	true	2019-06-29 21:32:56

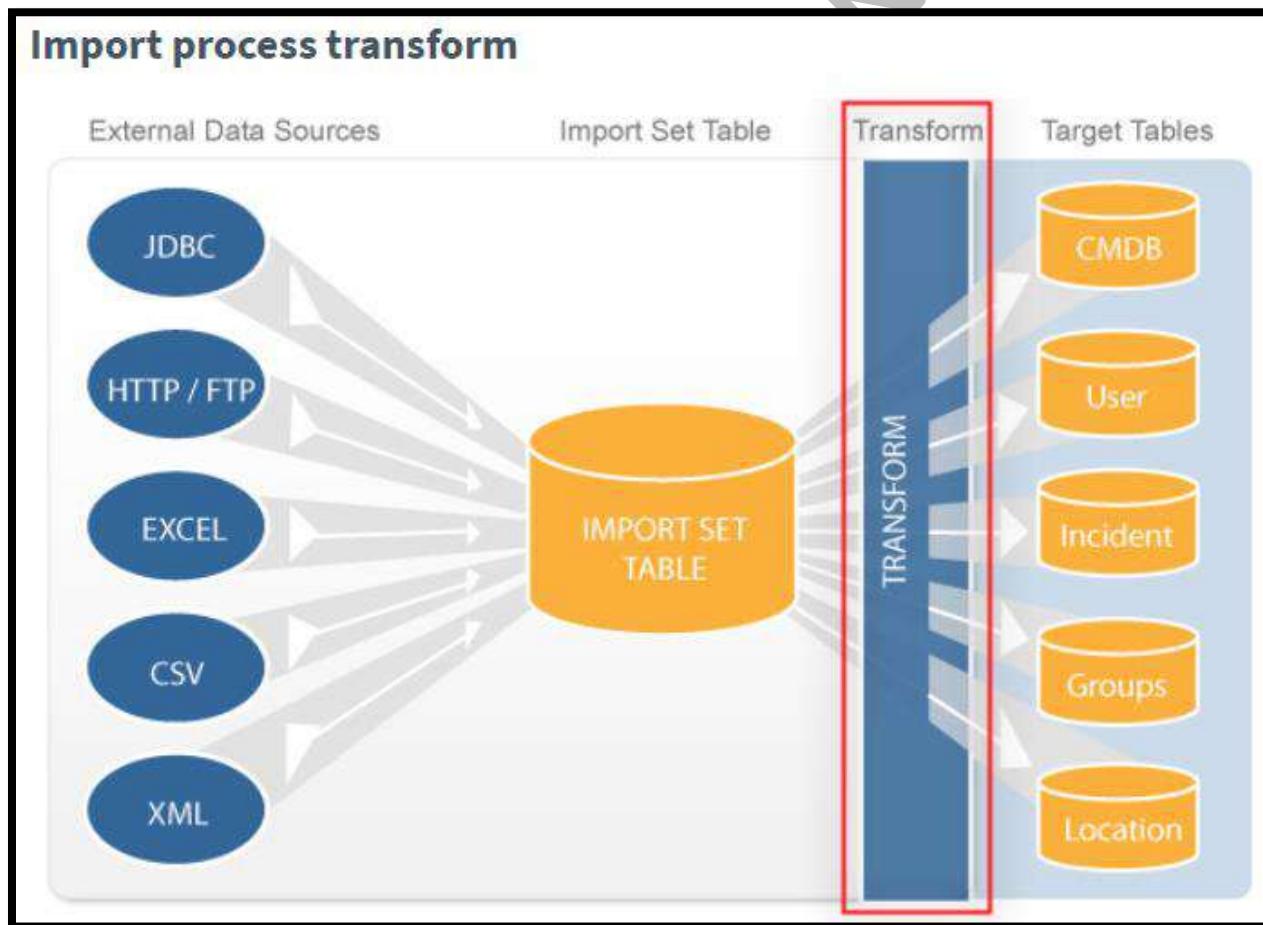
## Import Sets Terminology

### 1. Load Data

If we want import bulk data into service now tables, first we have import the staging table (temporary table).

### 2. Transform Maps

A transform map is staging area that is used to set of field maps that define the relationships between fields in an import set and fields in an existing Service Now table (**Source & Target**), such as Configuration Item [cmdb\_ci] or User [sys\_user].



After created a transform map, we can be able to reuse it to map data from another import set to the same table based on our business requirement

The **Transform Maps** module enables an administrator to define destinations for imported data on any tables. Transform mapping can be as **simple as a drag and drop operation** to specify linking between source fields on an import set table and destination fields on any table. Use transform mapping to map source and destination fields dynamically.

## Multiple Transform Maps

Multiple transform maps can be applied to a single data source.

One import set row is created per transform map. This behavior can cause a large number of temporary records to be generated.



If we want use multiple transform maps for the same import set, the transform creates multiple entries in the import set table.

Users can select multiple transform maps during data import. The selected transform maps will be executed on the same import set in the order specified.

**Multi-map transform**

**Specify Import Set and Map:**

**Import set:** ISET10018 - u\_test\_users (2009-06-24 01:19:18)

**Available maps**

**Selected maps, run in order**

- Test Location - cmn\_location
- Test User - sys\_user

Add ➤ Remove ⬅

**Transform**

## What is Coalesce

1. The coalesce is a field property that is used to when we inserting data into target table, System won't be accepting user to inserting duplicate records and uses to updating existing records.
2. The coalesce option on a field map allows you to specify if the selected **Target field** should be used to coalesce on when import set records are transformed. If the field map **Coalesce** checkbox is selected,
3. when the import set row is transformed the instance checks for an existing record in the target table that has the same value in the **Target field** as the import set row **Source field**.
4. If an existing record with a matching value in the target table, then that record is updated.
5. If any record not matched, then a new record will create in the target table.



When we can choose fields in the target table to make coalesce on only if those fields will have unique values in the table. If more than one record in the target table matches the specified coalesce options, only the first matching record in the target table is updated.

## No coalesce

If no coalesce is created, all imported rows or records are treated as new records in the target table. existing records are not being updated.

## Single field Coalesce

You can coalesce on a single field to update an existing record.

If a target table record exists with the same value in the coalesce field as the staging table record, the target table record is updated using the import set record values.

## Multiple-field coalesce

We can make **Coalesce** on multiple fields to update an existing record.

If a target table record exists with the same values in all coalesce fields as the staging table record, the target table record is updated using the staging table record values. All coalesce field values between the target and staging tables must match to coalesce with multiple fields.

## Records Updating No Inserting (Restrict User)

When we want to only update the records where a record match is found, and skip where a record not match, then we can define a coalesce field and add the following script as an **onBefore** script to the transform map.

```
1 if (action == 'insert')
2 ignore = true;
```

## Working with conditional coalesce using dot-walking

We can use **dot-walked fields** in a conditional coalesce script, which is to match the email address of a user when importing **Incident or Problem** data.

In this example, this script is defined in the Source script of a field map for the Incident target table **sys\_id** field.

```
1 var gr = new GlideRecord('incident');
2 gr.addQuery('caller_id.email', source.u_email);
3 //check if the incident caller's email matches the import row email value
4 gr.query();
5
6 if(gr.next())
7 {
8     answer = gr.sys_id;
9     //if a match exists, return the sys_id of the matching Incident record
10 }
11 else
12 {
13     answer= -1;
14 }
```

## Working with Coalesce on empty fields

1. We can control user if an import set will coalesce on fields with no value.
2. The field map Coalesce empty fields field allows you to coalesce on fields with no value.
3. By default, fields marked as Coalesce in the field map cause the import set to check for a target record with a field value that matches the value from the import set staging record.
4. When Coalesce empty fields is selected for that field map, an empty value in the target record and import set staging record counts as a match for the purpose of coalescing.
5. the User transform map coalesces on the email field. With the Coalesce empty fields option selected,
6. a source record containing an empty email address coalesces to a target record containing an empty email address.

## Import sets maximum row size

1. Rows imported using import sets must not exceed the maximum row size.
2. A single row in a database may not contain more than 8126 bytes of data.
3. The size of each row is determined by the amount of content in all fields, as well as the character set for text fields.
4. For example, a row with 10 text fields each containing 1000 characters using a French character set takes 15360 bytes.
5. Attempting to import more data to a single row than the maximum size causes the import to skip that row. Any rows that were skipped for this reason are listed in the import log.

## View the Import Log File

The screenshot shows the ServiceNow Import Log interface. At the top, it displays 'Import Log' and 'Created 2019-06-30 07:05:46'. Below this are several filter and search controls: 'Level' (set to 'Information'), 'Created' (set to '2019-06-30 07:05:46'), 'Source' ('Loader (user records import)'), and 'Import set row' (with a search icon). The main area contains a single log entry in a table format:

Message
Processed: 8, inserts 8, updates 0, errors 0, empty and ignored 0, ignored errors 0 (0:00:00.136)

At the bottom left are 'Update' and 'Delete' buttons. On the right side, there are 'Related Links' and 'Show Log Entries' buttons.

## Transform map scripts

Transform Map scripts allow user to customizing and performing import operations using an automatic programming interface to including advanced logic.

A transform map script will execute as events fired while an import set is being transformed onto a Service Now table. Transform Map scripting is fully integrated into the Service Now scripting environment.

**There are two types of Transform Map scripts:**

1. Explicit Transform Map scripts, which explicitly define mapping relationships
2. Transformation Event scripts, which modify the processing of events at different stages of a transformation

## Types of Transform Map Script Events

1. **onStart**
2. **onComplete**
3. **onBefore**
4. **onAfter**
5. **onForeignInsert**
6. **onChoiceCreate**
7. **onReject**

## Transform Map Script Events

### 1. **onStart**

The **onStart** event script will execute at the start of an import run, before any data rows are read.

```
1 var info = "Starting Import Set Transformation Mapping operation using Data source, "
2 + map.table_source + " and Transform Map " + map.name + " on import set " + import_set.number;
3 log.info( info );
```

## 2. onComplete

The **onBefore** event script will be execute at the start of a row transformation, before the source row is transformed into the target row

```
1 // Create a myimport_completed event that can be reacted by an email notification or script action
2 // (there is already an import.finished event that the system will create at the end of an import)
3 var e = new GlideEvent("myimport_completed", import_set.sys_id, map.sys_id, "");
4 e.insert();
```

## 3. onBefore

The **onBefore** event script will be execute at the start of a row transformation, before the source row is transformed into the target row.

```
1 var is = source.u_name.toString();
2 var info = "Before the row is transformed, " + is;
3 log.info( info );
4
5 // Make sure a company name has been provided
6 var company = source.u_company.toString();
7 if(company.length == 0 ){
8     ignore = true;
9     info ="No company name, row ignored! " + is;
10    log.info( info );
11 }
```

## 4. onAfter

The **onAfter** event script will be execute at the end of a row transformation, after the source row has been transformed into the target row and saved.

```
1 ▼ if(source.new=="true"){
2     gs.include('Cart');
3     var bundle =new GlideRecord('sc_cat_item');
4     bundle.addQuery('name','CONTAINS','comp');
5     bundle.query();
6 ▼ if(bundle.next()){
7     var new_comp_cart = new Cart();
8     var cart = new Cart();
9     var item = cart.addItem(bundle);
10    var rc = cart.placeOrder();
11    log.info(rc.number);}}
```

## 5. onForeignInsert

The **onForeignInsert** event script will be execute at the start of the creation of a related, referenced record, before the record is created.

```
1 //Create an event.
2 var e = new GlideEvent("myimport_ForeignInsert", action, name, "");
3 e.insert();|
```

## 6. onChoiceCreate

The **onChoiceCreate** event script is processed at the start of a choice value creation, before the new choice value is created.

```
1 //Create an event
2 var e = new GlideEvent("myimport_ChoiceCreate", action, value, "");
3 e.insert();|
```

## 7. onReject

The **onReject** event script will be execute during the occurrence of a foreign record or choice creation, and the foreign record or choice is rejected, the entire transformation row is not saved.

```
1 //Create an event
2 var e = new GlideEvent("myimport_ChoiceCreate", action, value, "");
3 e.insert();|
```

## Exercise:2 Schedule a data import

We can schedule imports make it is possible to specify that certain import activity should occur at some regular interval.

Do not schedule multiple imports at the same time. Running multiple imports concurrently may negatively impact performance or cause an instance outage.

## Creating Data Source

We can create a data source record to describe what data an import set should import.

### Procedure

1. Navigate to System Import Sets > Administration > Data Sources.
2. Click New.

The screenshot shows the ServiceNow System Import Sets interface. On the left, a sidebar menu is visible with the following items:

- System Import Sets (highlighted with a red box)
- Load Data
- Create Transform Map
- Run Transform
- ▼ Administration (highlighted with a red box)
- Data Sources (highlighted with a red box)
- Transform Maps
- Scheduled Imports

On the right, the main content area displays a list of data sources. The top navigation bar includes "Data Sources", a "New" button (highlighted with a red box), "Search", "Updated ▾", and another "Search" button.

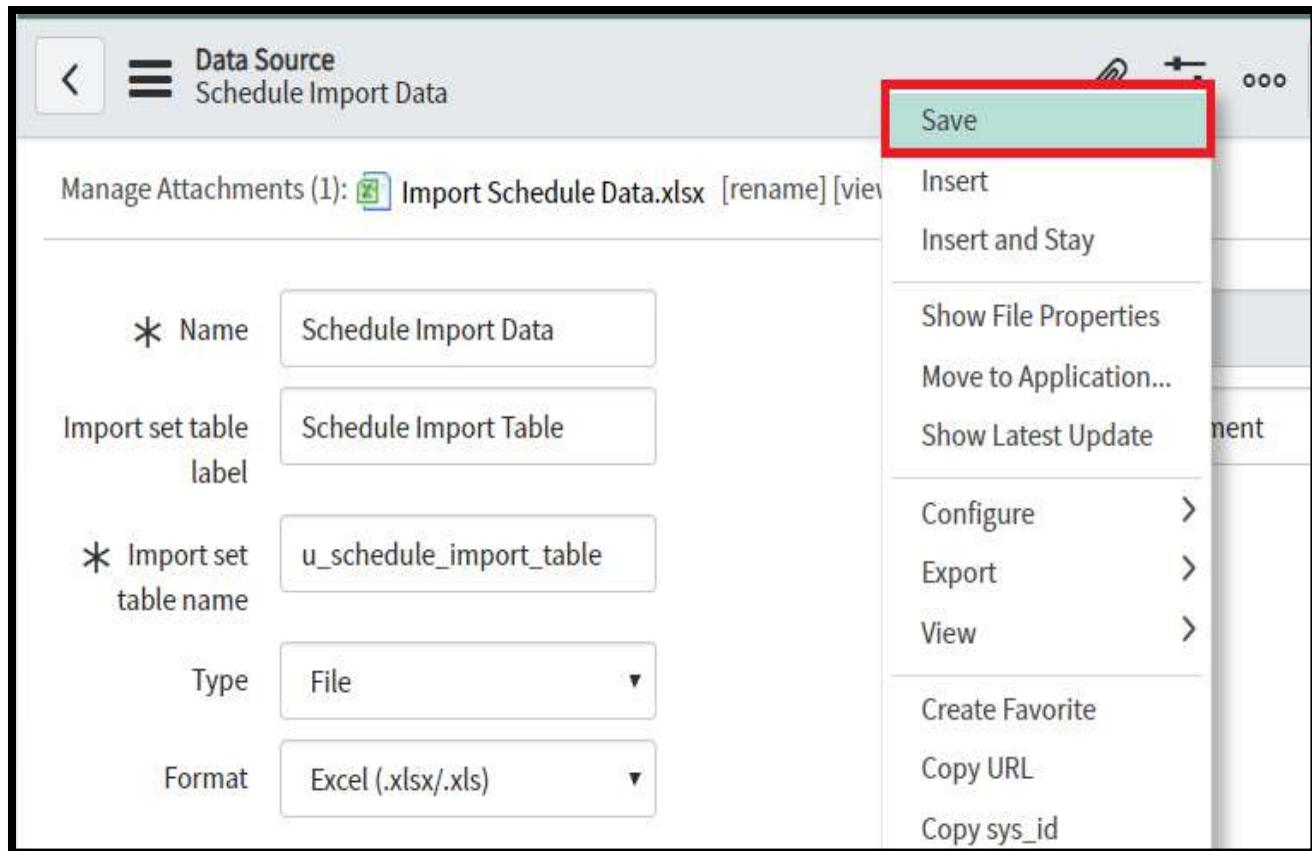
	All	Name
<input type="checkbox"/>	<i>(i)</i>	<a href="#">Schedule Import Data</a>
<input type="checkbox"/>	<i>(i)</i>	<a href="#">User Data Importing</a>
<input type="checkbox"/>	<i>(i)</i>	<a href="#">user records importing.xlsx (Uploaded)</a>
<input type="checkbox"/>	<i>(i)</i>	<a href="#">Example CSV FTP SSL test</a>
<input type="checkbox"/>	<i>(i)</i>	<a href="#">Example CSV Test Users on Path</a>
<input type="checkbox"/>	<i>(i)</i>	<a href="#">Example CSV TAB Test Users on Path</a>
<input type="checkbox"/>	<i>(i)</i>	<a href="#">Example CSV Test Users zipped on Path</a>

3. Fill Data Sources form

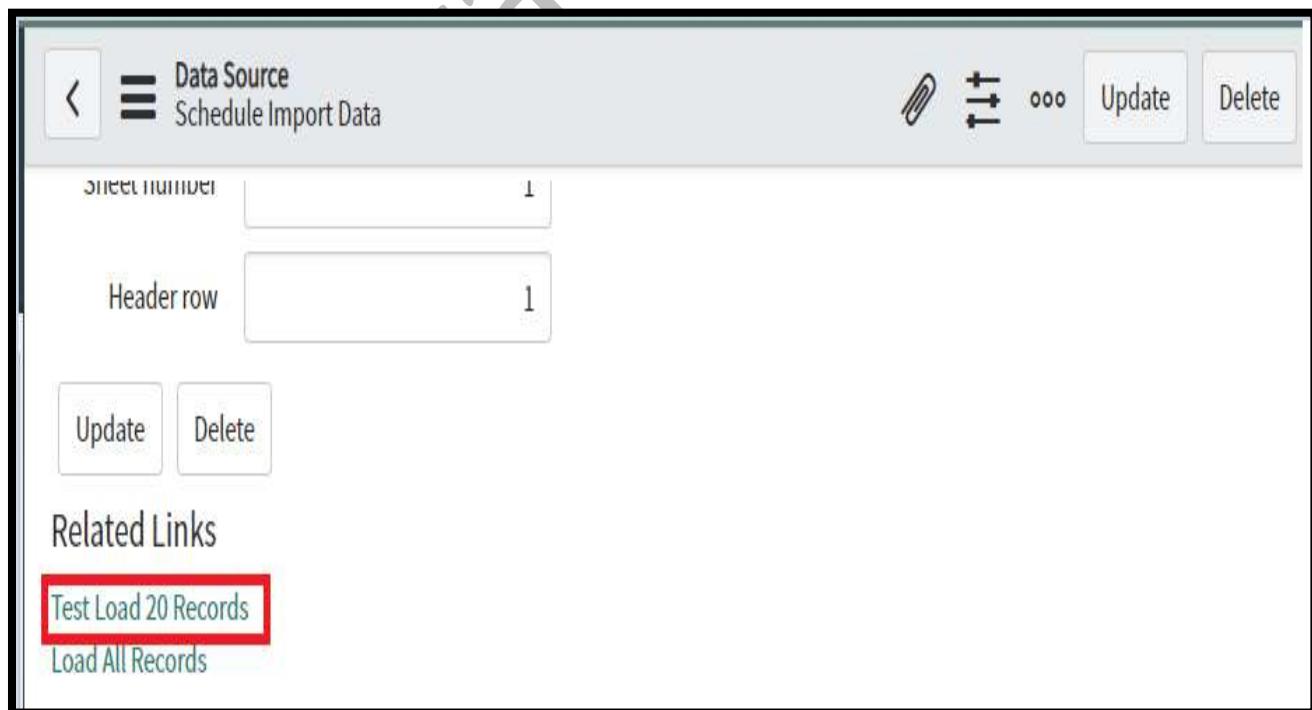
Manage Attachments (1): Import Schedule Data.xlsx [rename] [view]

* Name	Schedule Import Data	Application	Global
Import set table label	Schedule Import Table	File retrieval method	Attachment
* Import set table name	u_schedule_import_table		
Type	File		
Format	Excel (.xlsx/.xls)		
Zipped	<input type="checkbox"/>		
Sheet number	1		
Header row	1		

4. **Name:** Schedule Import Data
5. **Import set table label:** Schedule Import Table
6. **Import set table Name:** Auto Filled
7. **Type:** File
8. **Format:** Excel(.xls)
9. **Sheet Number:**1
10. **Header row :**1
11. **File Retrieval method:** Attachment
12. **Manage Attachment:** Import Schedule data attached here



13. Click on **Test Load 20 Records**



## 14. Create new transform map to load data into service now table

The screenshot shows the 'Import Progress' screen after a successful import. The progress bar is green, indicating 'Complete'. The message at the bottom states: 'Processed: 3, inserts 3, updates 0, errors 0, empty and ignored 0, ignored errors 0 (0:00:00.030)'. Below the progress bar, there is a section titled 'Next steps...' with several options:

- [Import sets](#) Go to the import sets
- [Loaded data](#) Go to the newly imported table: u\_schedule\_import\_table
- [Create transform map](#) A transform map links the imported data and fields (This option is highlighted with a red border)
- [Run Transform](#) Transform a loaded import set using an existing transform map
- [Import log](#) View the import log

## 15. Fill transform map form

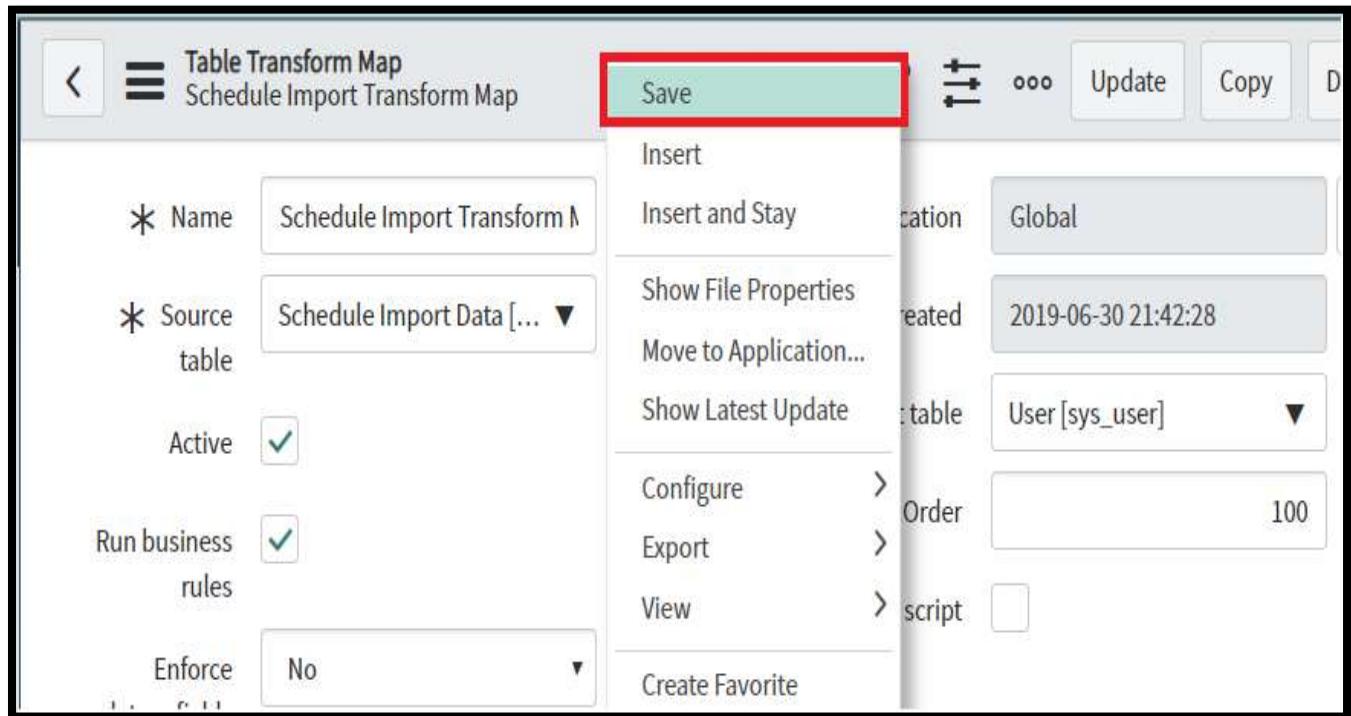
The screenshot shows the 'Table Transform Map' configuration screen for 'Schedule Import Transform Map'. The form includes the following fields:

* Name	Schedule Import Transform M	Application	Global
* Source table	Schedule Import Data [... ▾]	Created	2019-06-30 21:42:28
Active	<input checked="" type="checkbox"/>	* Target table	User [sys_user] ▾
Run business rules	<input checked="" type="checkbox"/>	Order	100
Enforce mandatory fields	No	Run script	<input type="checkbox"/>

**16. Name:** Schedule Import Transform Map

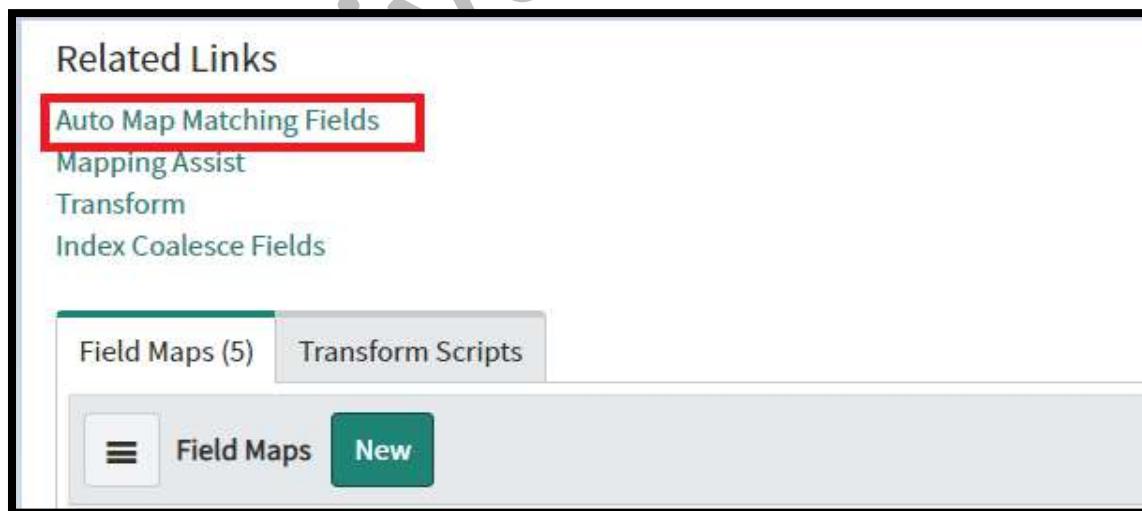
**17. Source Table:** Schedule Import Data

**18. Target Table:** sys\_user



**19. Right click on form header and click on Save**

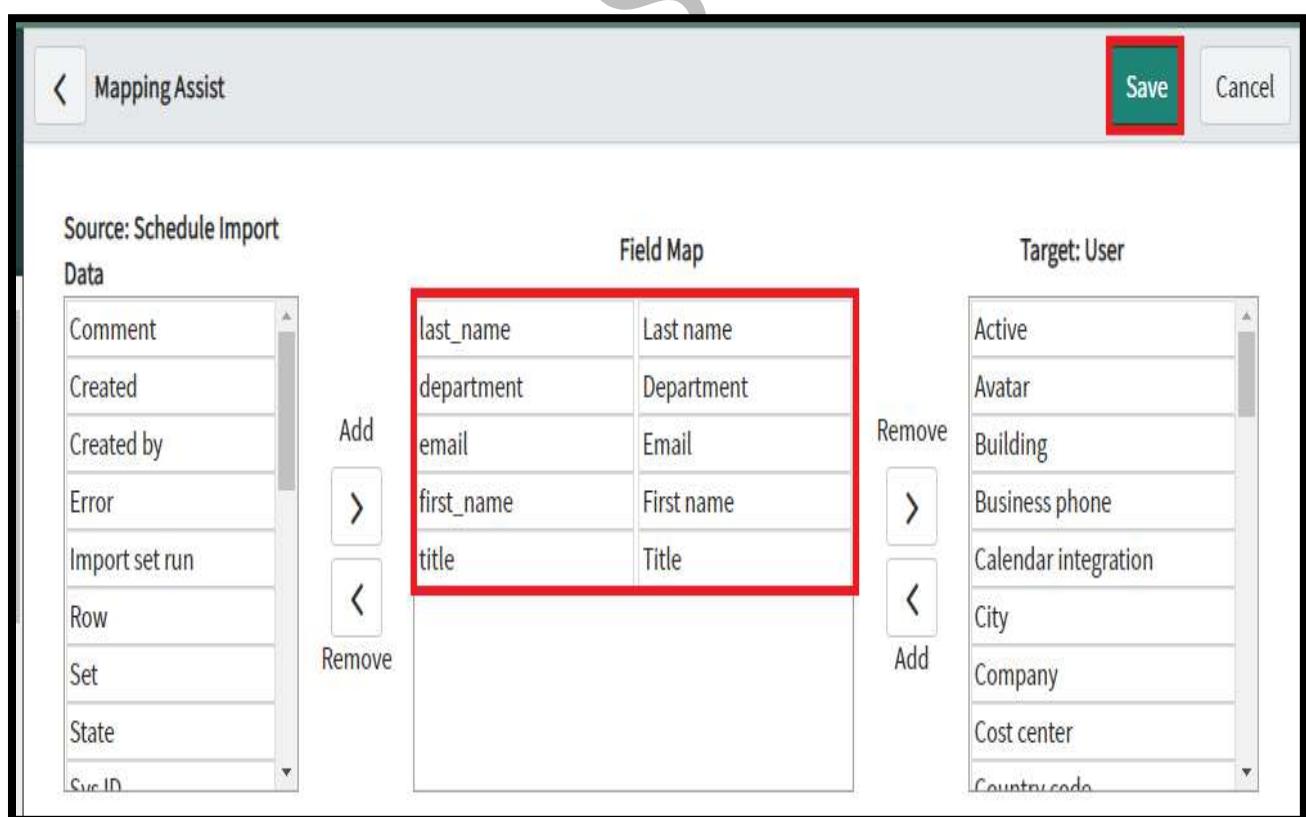
**20. Down the same form click on Auto Map Matching Field**



**21. Click on Mapping Assist**



## 22. Auto mapping fields from **Source** and **Target**



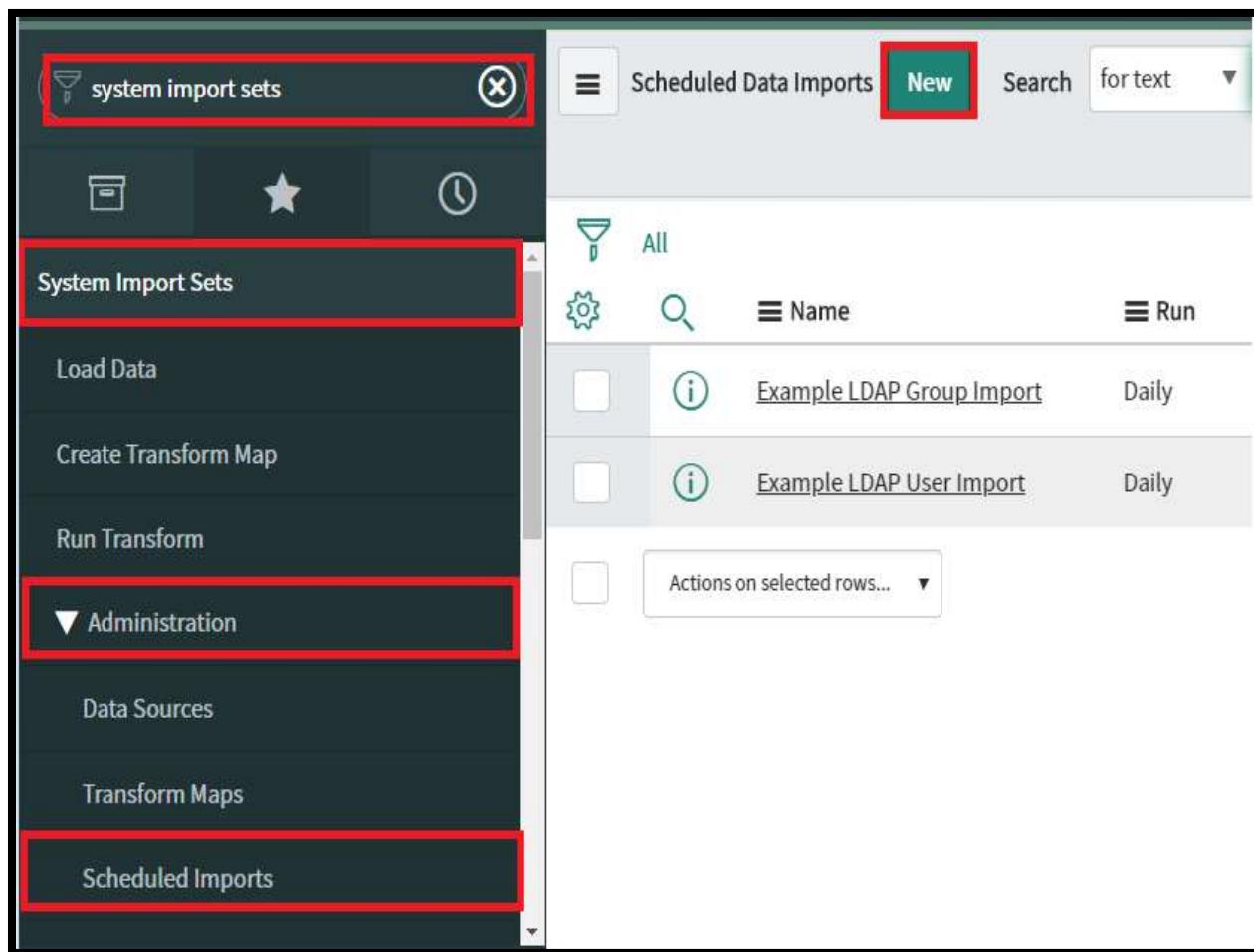
## 23. Click on **Save**

## Schedule a data import

After created a data source we can Scheduled imports make it is possible to specify that certain import operations based on client requirement

### Procedure

1. Navigate to **System Import Sets > Administration > Scheduled Imports**.
2. Click on **Scheduled Data Imports New**



3. Fill Data Import Form

Name: User Data Schedule Import

Data source: Schedule Import Data

Run as: System Administrator

Run: Daily

Time: Hours 09 00 00

Active:

Conditional:

Condition: answer=true;

4. **Name:** User Data Schedule Import
5. **Data Source:** Schedule Import Data (**Add Which you have created before**)
6. **Run as:** auto filled (**who logged in system already**)
7. **Run:** Daily
8. **Time:** 09:00:00
9. **Conditional:** Checked True
- 10. Condition:** answer = true;
- 11. Click on Submit**

	Name	Run	Data source	Active	Updated
<input type="checkbox"/>	Example LDAP Group Import	Daily	Example LDAP Groups	false	2008-05-22 13:50:07
<input type="checkbox"/>	Example LDAP User Import	Daily	Example LDAP Users	false	2008-05-22 13:58:36
<input type="checkbox"/>	User Data Schedule Import	Daily	Schedule Import Data	true	2019-07-01 05:50:02

- 12.** Selected record will execute daily at 9 am

**Chapter – 14**

asSunkara

# **Update Sets**

## What is Update Set

An **Update Set** is a group of configuration changes or customizations that can be used to track all individual developer changes and moving changes from one instance to another. This feature will allow administrators to group a series of changes into a particular set and then move them as a unit to other systems for **Testing or Deployment** purpose.

Update sets will track all our developer changes to applications and system platform features. This allows developers to create new functionality on a non-production instance and moving the changes to another instance.

**Note:** An update set is an XML file that contains:

1. Each set of record details that should be uniquely identify the update set.
2. Group of customization or Configuration changes in our instance.
3. A state that can be defining whether another instance can retrieve and apply configuration changes.

## Why use update sets

The **sys\_id**, the unique identifier that marks every Service Now record would be different. This can cause issues in certain scripting and configuration situations.

You may think you created that customization exactly the same as in development, but may have missed a few steps in **Test or Production**. You tested your customizations in development and they worked. Now in production they work differently. Trying to diagnose what is different can be pain-staking. If you would have used update sets to begin with, this issue would not have occurred.

## Developers have additional options with update sets such as:

1. We can create an update set for a specific version of an application.
2. Specify which application tables want to track in update sets.

## Update set tables

When we create an update in service now instance each update set is stored in the Update Set [**sys\_update\_set**] table, and the customizations that are associated with the update set, which are entries in the Customer Update [**sys\_update\_xml**] table, appear as a related list on the update set record.

When we want to tracked object is customized, a corresponding record is added or updated in the Customer Update [**sys\_update\_xml**] table and is associated with the user current update set. The associated application file properties are tracked and transferred along with the customized object in a single update record. A corresponding record is also added to the Versions [**sys\_update\_version**] table.

 Do not directly modify Customer Changes in [**sys\_update\_xml**] records. It is not best practice

## Customizations tracked by update sets

Update sets can track customizations to application tables, fields, and records.

### Update sets track customizations under these conditions:

1. Where the table has an [**update\_synch**] dictionary attribute.
  2. Where there is a special handler to track changes to multiple tables.
  3. Where the administrator has not excluded a field from updates.
- 
- ✓ In generaly, update sets capture configuration or customization information but not task or process data.
  - ✓ For example, update sets track service catalog item definitions and related configuration data like variables and variable choices.
  - ✓ However, if you test the service catalog by placing orders, update sets do not track order requests, items, and catalog tasks.
  - ✓ Update sets have a limited capacity to transfer data as application files.
  - ✓ For larger data transfers, export data and import it with an import set or web service.

## Special handlers

Some changes require special handlers because they represent information on multiple tables. These changes are packaged into one update set entry so that all records are properly updated when the customization is committed. The following changes are tracked with special handlers

- Workflows
- Form sections
- Lists
- Related lists
- Choice lists
- System dictionary entries
- Field labels

## What update set Captured

- Choice lists
- Reports
- Workflows
- Form sections
- Lists
- Related lists
- Choice lists
- System dictionary entries
- Field labels
- Tables
- Fields
- Form layout
- List layout
- Business rules, Client scripts, Script includes, UI Scripts, and other scripts
- System properties

## What it does NOT capture

- Incidents
- New Data Record
- Modified CI
- Users
- Groups
- Schedules
- Schedule Jobs

## Default update set

The new default update set has to do with your application scope. If your new custom application is a privately scope application (it probably is) it will automatically create a new default update set specific to that application. The reason for this is Service Now is always tracking changes to an update set, but you can't have global updates and privately scoped updates in the same update set. You should treat the new update set exactly like you treat the OOB global default update set and manipulate it at all.

## Global default Update Set

Use the global default update set to make changes to an instance without adding the changes to any user-created update sets. The global default update set is the set where **Default set = true** and application scope is global. The global default set (regardless of the Name of the set) provides system functionality and should not be **changed, deleted, or moved** between systems. Use this update set to make changes to an instance without adding the changes to any user-created update sets.

## Auto-generated default Update Set

At all times, to ensure that no updates to an instance are lost, the system ensures that there is a default set for the user's current scope. If the system finds that a default update set does not exist (**or is marked Ignored or Completed**) for the current scope, then the system auto-generates an update set and sets **Default set = true**.

**These are some common cases where the system auto-generates a default update set.**

1. The first time that an admin logs into service now instance, the system sets the system's global default update set as the administrator's update set. In addition, the application picker sets the administrator's application scope to global.
2. If a global default update set does not exist (or is marked **Ignored or Completed**), the system creates a new update set for the global application scope and performs the following actions:
  3. The system sets **Default set = true** for the new update set.
  4. When a user marks the default set for a scope as **Ignored or Completed** (not a recommended practice), the system immediately auto-generates a new default set for the scope.

## The system auto-generates a new default update set for a scope when all the following conditions meet:

1. When we change application scope.
2. When we preferred update set is **Complete or Ignored**.
3. There is no **In-Progress** default update set for the new scope

## Update set administration

Service now administrators can configure options for update sets, such as excluding certain fields from updates and controlling access to the update set picker.

Administrators have the following options with update sets:

- Create an update set to store local changes.
- Select the current update set to store local changes.
- Commit an update set to prepare it for distribution.
- Report on the contents of update sets.
- Compare update sets to determine what differences they contains.
- Merge separate update sets into a single update set.
- Create an external file from an update set.
- Retrieve update sets from remote instances.
- Apply retrieved update sets.
- Back out changes applied from an update set.
- Set system properties related to update sets

## Track an application table

Application developers can track application changes in an update set to save or distribute a particular version of an application. During table creation, set Extends Table to Application File **[sys\_metadata]**.

## Grant access to the update set picker

The update set picker allows users to choose an update set for making and tracking customizations. By default, only administrators can use the update set picker. You can grant access to additional users.

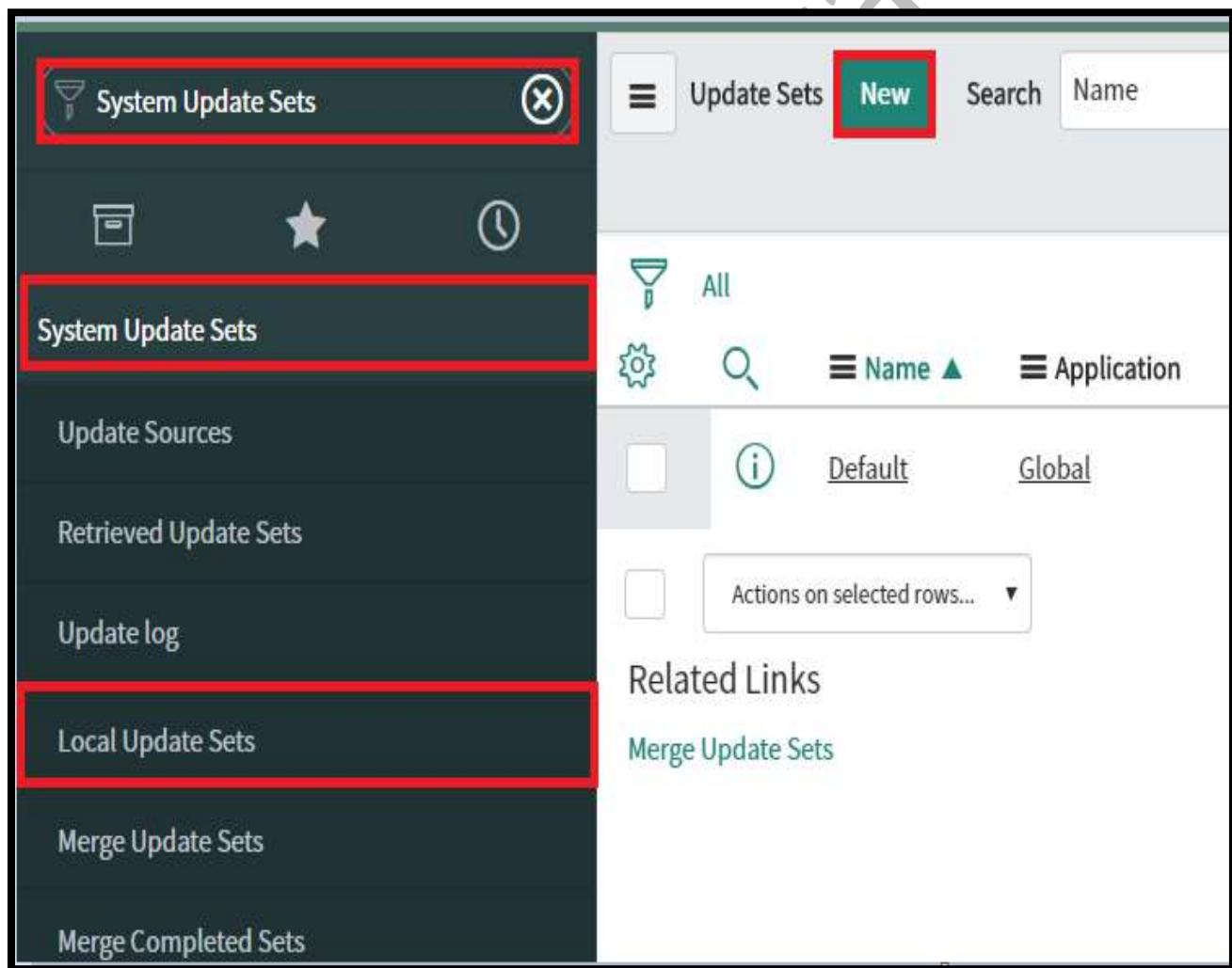
## Exercise 1: Create an Update Set

An update set is a group of customizations that can be used to move changes from one instance to another instance.

When we created an update set then it can be marked as the current update set to all changes are tracked in it.

### Procedure

1. Navigate to **System Update Sets > Local Update Sets**
2. Click on **New**.



3. Enter **Update Set** details as described in the table.

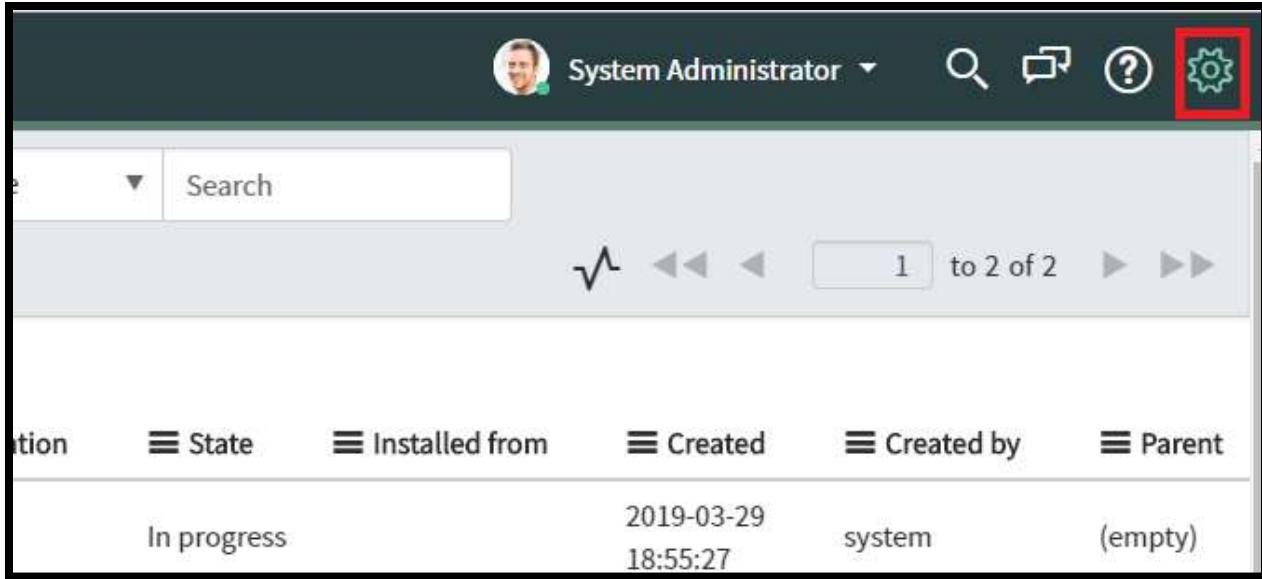
The screenshot shows the 'Update Set' creation screen in ServiceNow. The 'Name' field is set to 'Change Mgmt Sprint 1'. The 'State' dropdown is set to 'In progress'. The 'Application' is listed as 'Global'. The 'Created' date is '2019-07-02 05:20:57' and was created by 'admin'. The 'Description' field contains the text: 'These all changes are going to making in change management release sprint 1'. The 'Submit and Make Current' button at the top right is highlighted with a red box.

4. **Name:** Change Mgmt Sprint 1
5. **State:** In progress (**Default**)
6. **Release date:** Optional
7. **Description:** These all changes are going to making in **Change Mgmt** release sprint 1
8. Click on **Submit and Make Current**

The screenshot shows the 'Update Sets' list screen. A message at the top says: '(i) Your current update set has been changed to Incident Sprint 1 [Global]'. The list table shows one item: 'Default' (Global), State: 'In progress', Created: '2019-03-29 18:55:27' by 'system'. The 'New' button is highlighted with a red box.

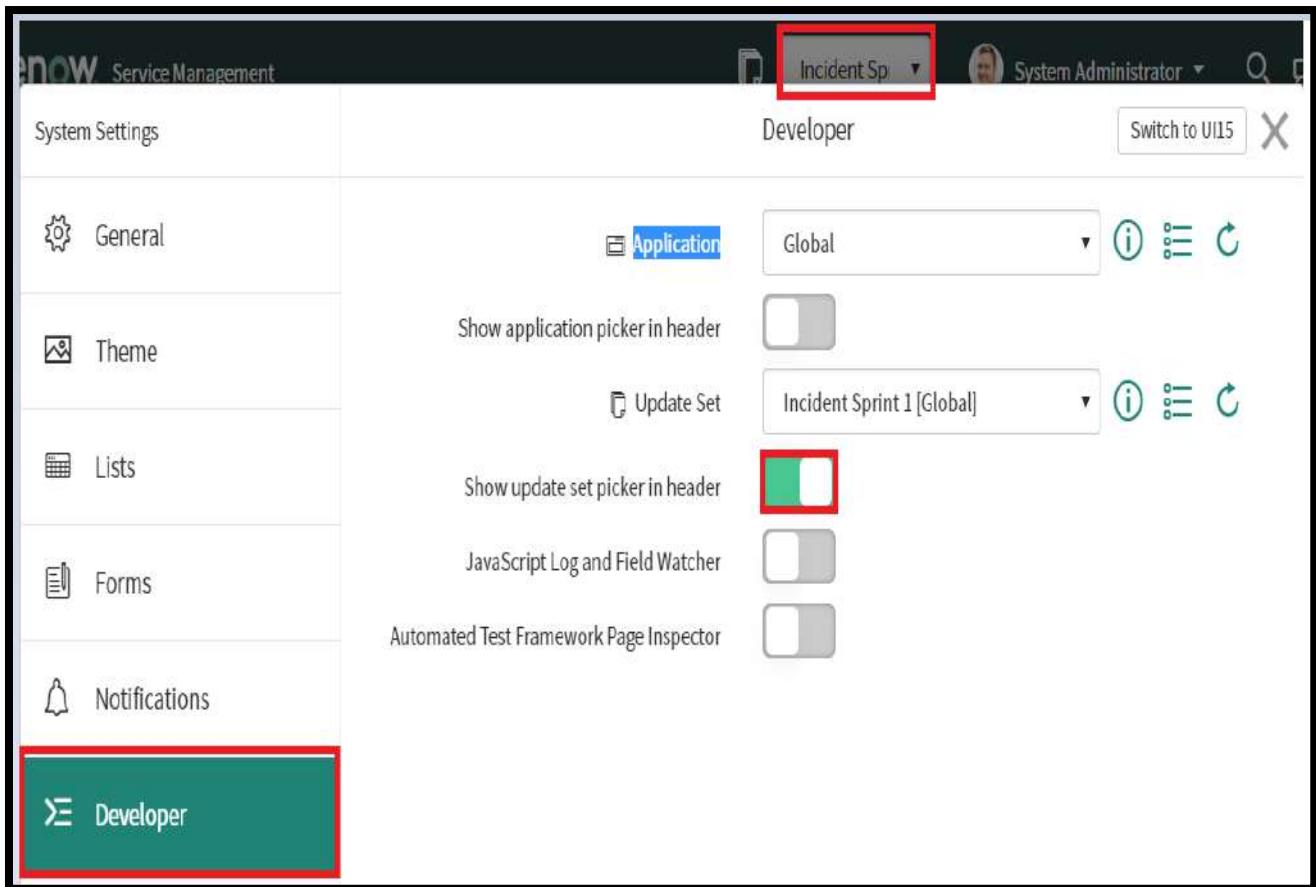
Update Sets	(X)	Update Sets	New	Search	Name	Search
All						

9. Find above screen shot for reference
10. Select the new Update Set in the Update Set picker in your instance.



A screenshot of the ServiceNow banner frame. At the top, there is a user profile picture, the role "System Administrator", a search bar, and several icons including a magnifying glass, a message bubble, a question mark, and a gear (Settings). The gear icon is highlighted with a red box. Below the banner, there is a navigation bar with links for "Search", "Home", "Logout", and "Help". The main content area shows a list of items with columns: "State", "Installed from", "Created", "Created by", and "Parent". One item is listed: "In progress" (State), "2019-03-29 18:55:27" (Created), "system" (Created by), and "(empty)" (Parent).

11. Go to Banner Frame click on Settings Icon



A screenshot of the System Settings page. On the left, there is a sidebar with links: "System Settings", "General", "Theme", "Lists", "Forms", "Notifications", and "Developer". The "Developer" link is highlighted with a red box. The main content area has a "Developer" tab selected, indicated by a blue background. Under the "Developer" tab, there are several configuration options: "Application" (set to "Global"), "Show application picker in header" (unchecked), "Update Set" (set to "Incident Sprint 1 [Global]"), "Show update set picker in header" (checked and highlighted with a red box), "JavaScript Log and Field Watcher" (unchecked), and "Automated Test Framework Page Inspector" (unchecked).

12. Select Developer tab

13. Show update set picker in header: Checked true

## Done Customizations in Change Management Application

We are going to making some changes in **Change Management Application** based on client requirement

### Expecting Changes

#### Story 1: Form validation and Restrictions

**Mandatory:** Short description, requested by, Requested by date, Change Plan

**Read Only:** Number Field

**Visibility:** In state “**Closed**” the fields Assigned to and Assignment group should not be seen

#### Story 2: Add Related List Affected Locations to

As a user, I want to see – as a list – which locations are affected by a change looking at its current form.

#### Story 3: Create Data Policy to restrict user from server side

When state is **Closed**, then **Assigned to** and **assignments group** fields should be hide

#### Story 4: Create New Section add some fields into that

Create **More Information section** and added some fields such as, **closed**, **closed by**, **created by**, **created**, **updated**, **updated by**

#### Story 5: Add one more choice to Category field

Add a choice to **Category** field that choice is **HR**

## Exercise :2 Working with Story 1

#### Story 1: Form validation and Restrictions

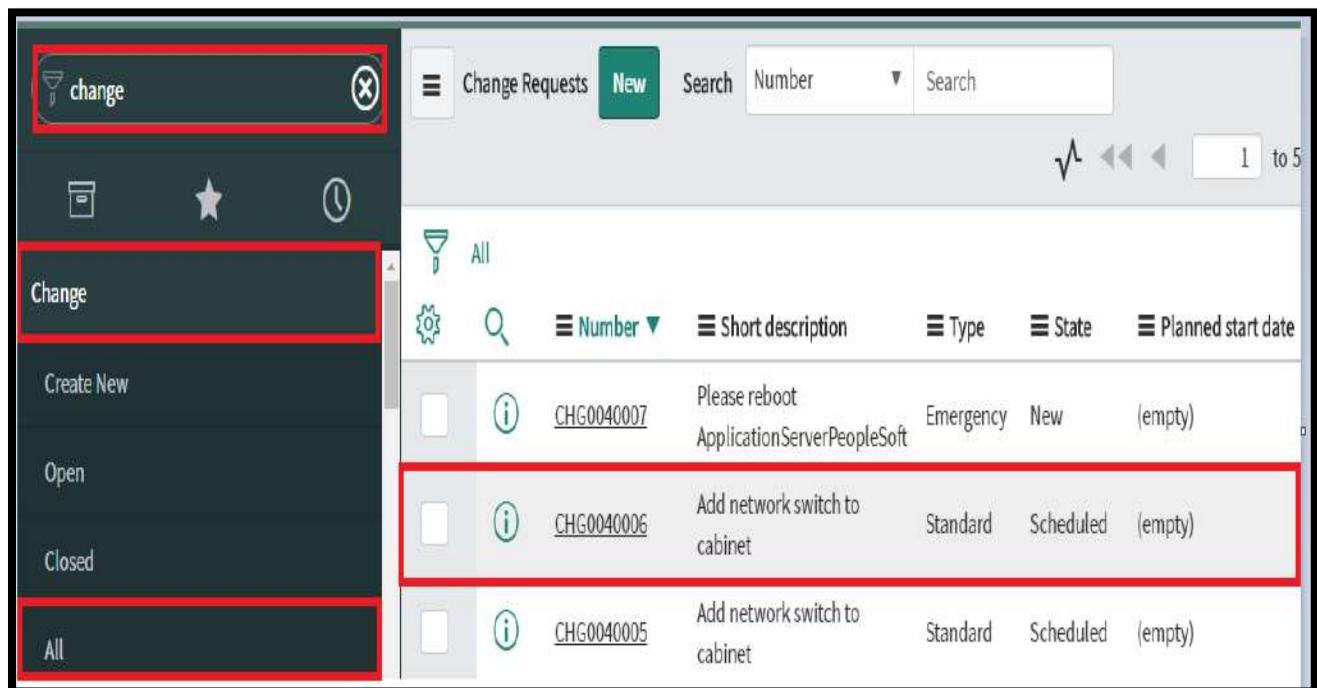
**Mandatory:** Short description, requested by, Requested by date, Change Plan

**Read Only: Number Field**

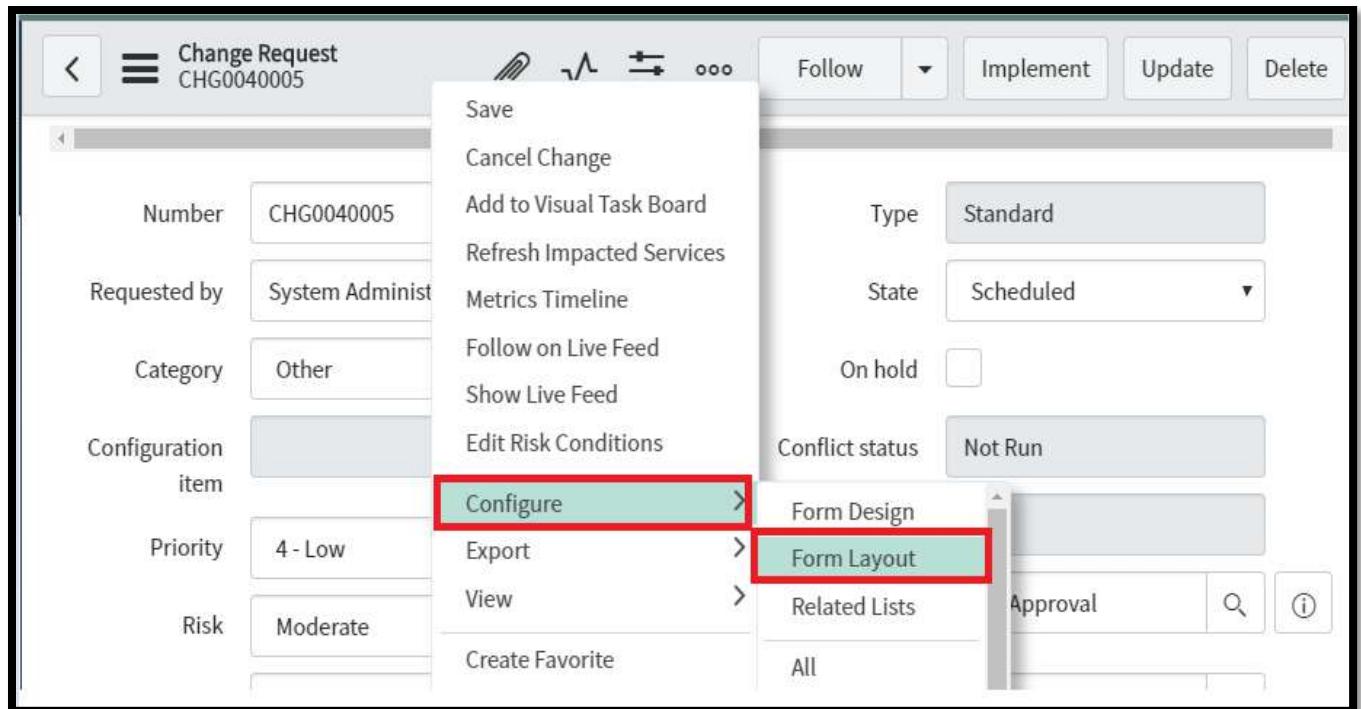
**Visibility:** In state “**Closed**” the fields Assigned to and Assignment group should not be seen

## Procedure

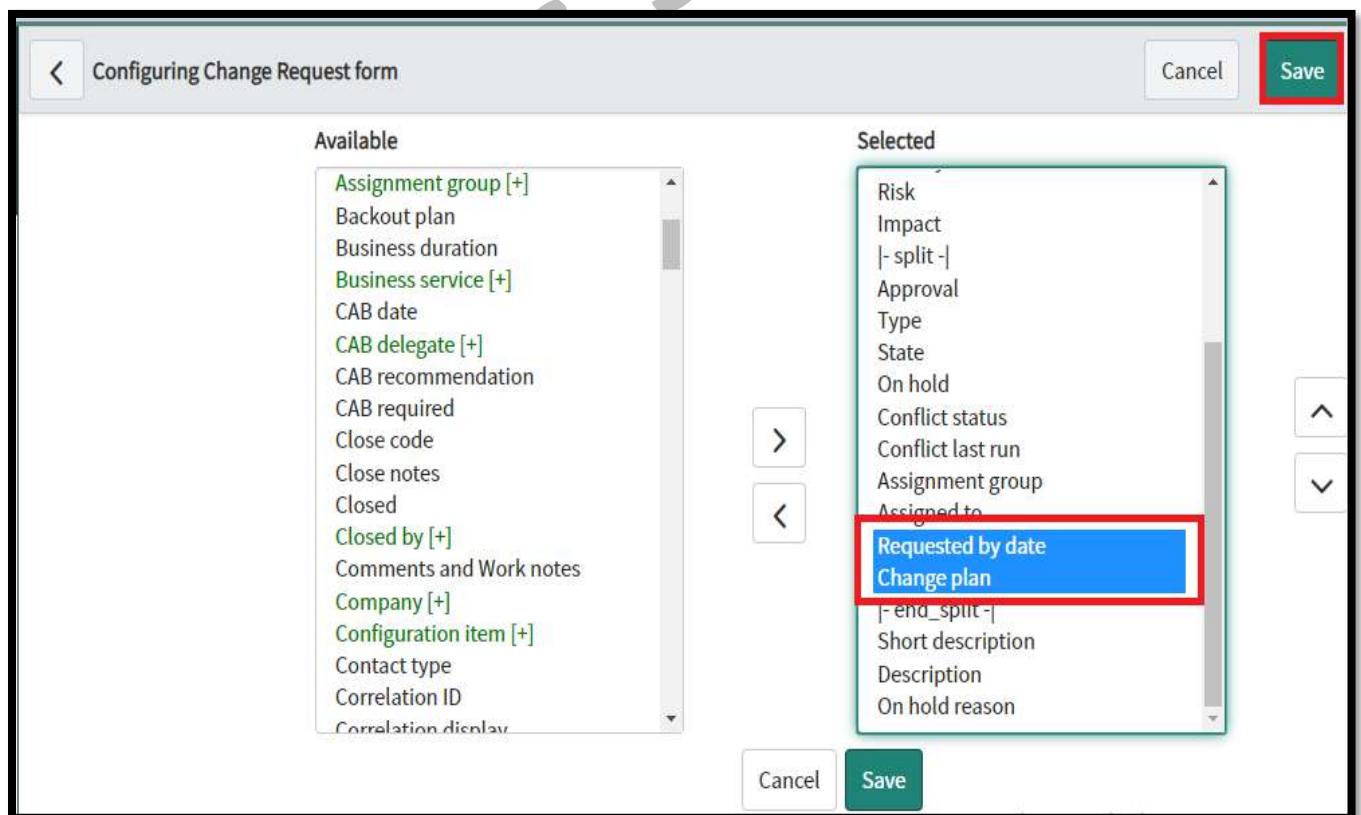
1. Navigate to **Change application > Open existing record**



2. First add **Requested by date** and **Change Plan** fields to your form
3. Right click on **Form Header**
4. Navigate to **Configure > Form Layout**



5. Add Selected fields to your form
6. Click on Save



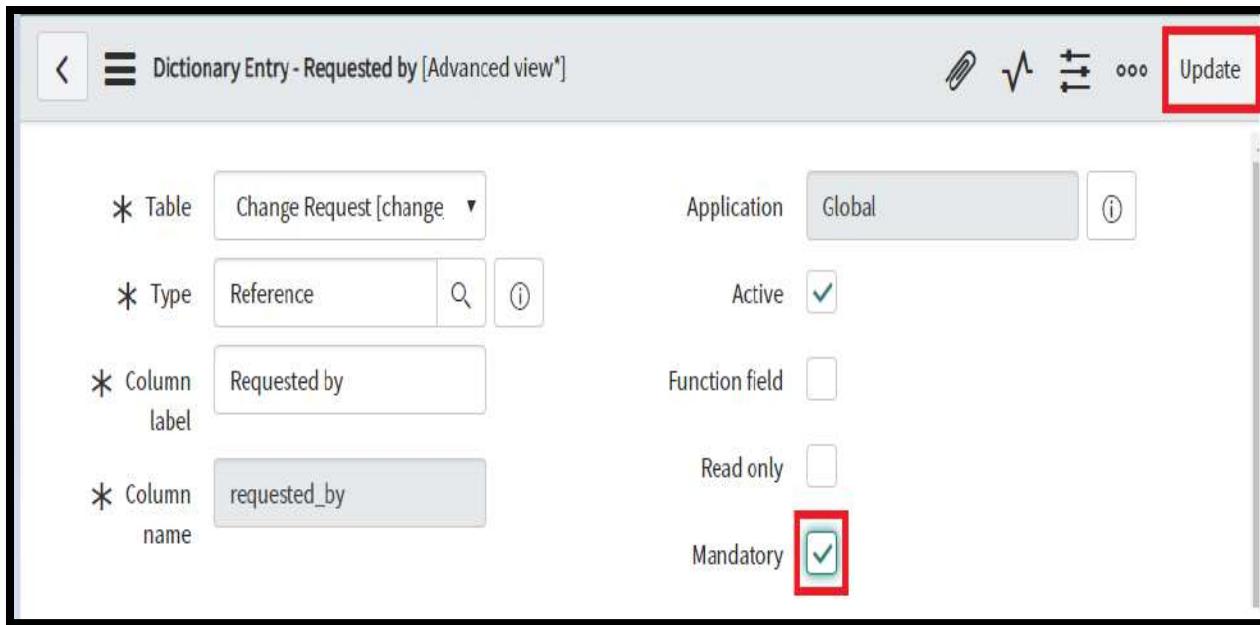
7. Check your form after added these fields

The screenshot shows the 'Change Request' form with the ID CHG0040005. It includes fields for Configuration item, Priority (4 - Low), Risk (Moderate), Impact (3 - Low), Conflict status (Not Run), Assignment group (CAB Approval), Assigned to, Requested by date, and Change plan. The 'Requested by date' field and the entire 'Change plan' section are highlighted with a red box.

8. Make Mandatory: Short description, requested by, Requested by date, Change Plan fields

9. Right Click on Requested by > Configure Dictionary

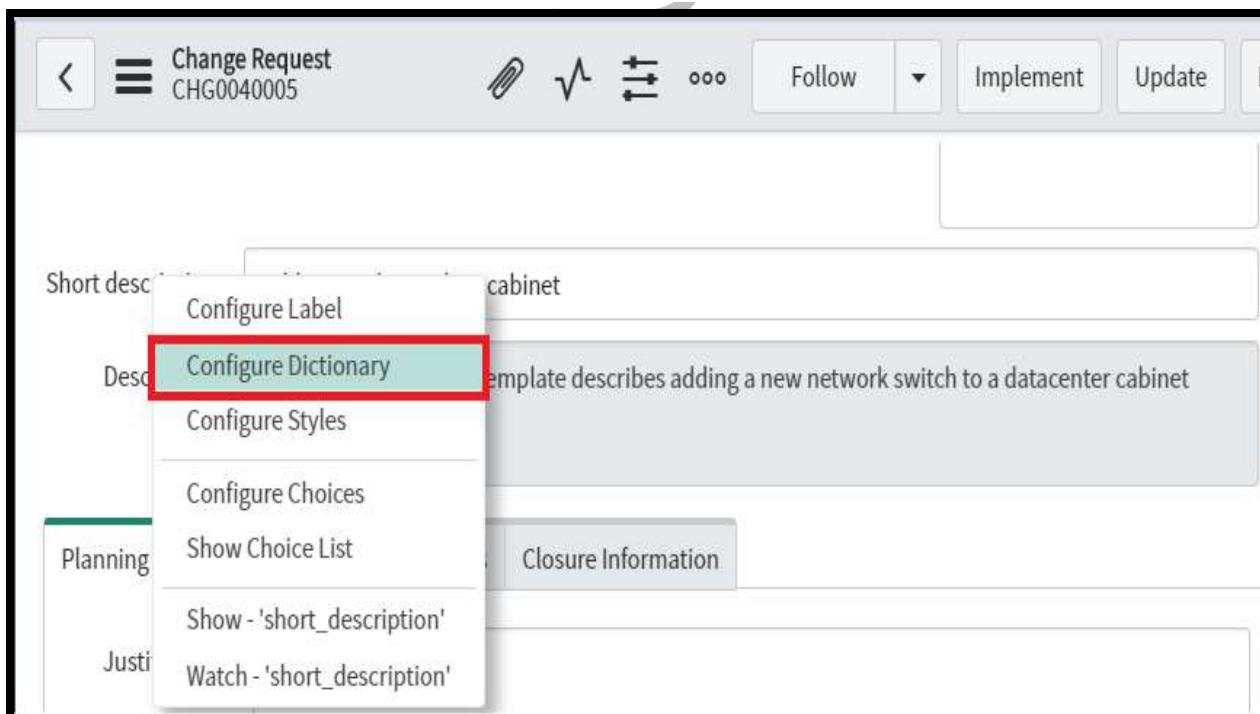
The screenshot shows the 'Change Request' form with the ID CHG0040005. A context menu is open over the 'Requested by' field, which contains options: 'Configure Label', 'Configure Dictionary' (highlighted with a red box), 'Configure Styles', 'Show - 'requested\_by'', and 'Watch - 'requested\_by''. The 'Configure Dictionary' option is the one being selected.



**10.** Enable **Mandatory** Checkbox

**11.** Click on **Update**

**12.** Right Click on **Short Description** > **Configure Dictionary**



**13.** Enable **Mandatory** Checkbox

**14.** Click on **Update**

The screenshot shows the 'Dictionary Entry' configuration page for a column named 'Short description'. The 'Table' is set to 'Task [task]'. The 'Type' is 'String'. The 'Column label' is 'Short description' and the 'Column name' is 'short\_description'. The 'Mandatory' checkbox is checked and highlighted with a red box. Other settings include 'Application: Global', 'Active: checked', 'Function field: unchecked', 'Read only: unchecked', and 'Conflict status: -- None --'.

### 15. Right Click on Requested by date > Configure Dictionary

The screenshot shows the configuration item 'FileServerFloor2' with fields for 'Priority: 3 - Moderate', 'Risk: Moderate', and 'Impact: 3 - Low'. A right-click context menu is open over the 'Requested by date' field, showing options: 'Configure Label', 'Configure Dictionary' (which is highlighted with a red box), 'Configure Styles', 'Show - 'requested\_by\_date'', and 'Watch - 'requested\_by\_date''. The 'Assigned to' field is set to 'ITIL User'.

### 16. Enable Mandatory Checkbox

17. Click on Update

A dictionary entry manages how ServiceNow stores data in tables and fields (columns). For new dictionary entries, select a Table and the field Type of the new column. Also enter a column label, which becomes the field label, and the column name. If necessary, set a Max length for text String type fields, make the field Mandatory to save a record, and make the field a Display Value for reference fields so it appears on records that reference this table. [More Info](#)

* Table	Change Request [chang.. ▼]	Application	Global
* Type	Date/Time	Active	<input checked="" type="checkbox"/>
* Column label	Requested by date	Function field	<input type="checkbox"/>
* Column name	requested_by_date	Read only	<input type="checkbox"/>
		Mandatory	<input checked="" type="checkbox"/>
		Display	<input type="checkbox"/>

## 18. Right Click on Change Plan > Configure Dictionary

Impact 3 - Low

\* Requested by date 2017-02-04 16:00:00

\* Short description Put another 100 Gb drive on the 2nd Floor Server

Description We're going to put another 100 GB drive on the floor 2

## 19. Enable Mandatory Checkbox

20. Click on Update

The screenshot shows the 'Dictionary Entry' screen for a column named 'Change plan'. The 'Table' is set to 'Change Request [chang..]' and the 'Type' is 'String'. The 'Column label' is 'Change plan' and the 'Column name' is 'change\_plan'. The 'Application' is 'Global' and the 'Active' status is checked. The 'Mandatory' checkbox is checked and highlighted with a red box. The 'Function field' and 'Read only' options are unchecked.

Table	Type	Column label	Column name	Application	Active	Function field	Read only	Mandatory
Change Request [chang..]	String	Change plan	change_plan	Global	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

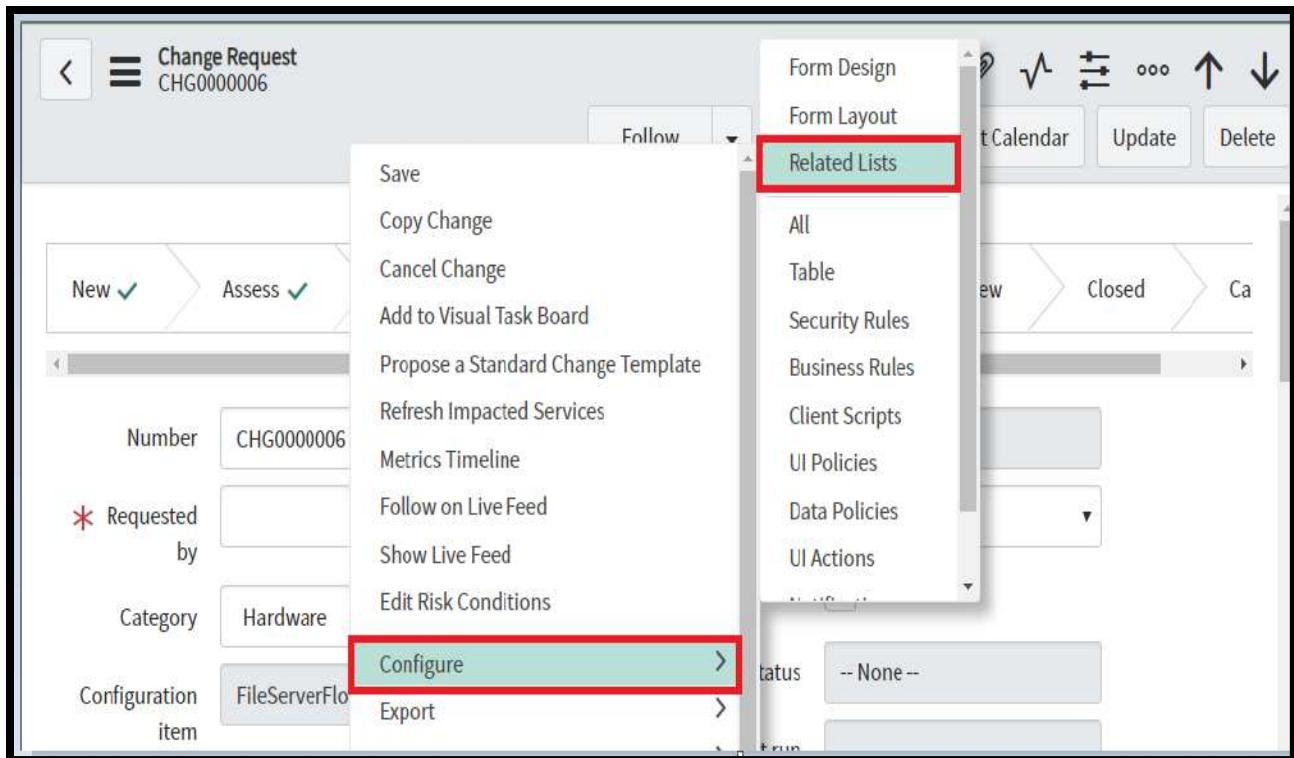
## Exercise :3 Working with Story 2

### Story 2: Add Affected Locations Related List to Change Application

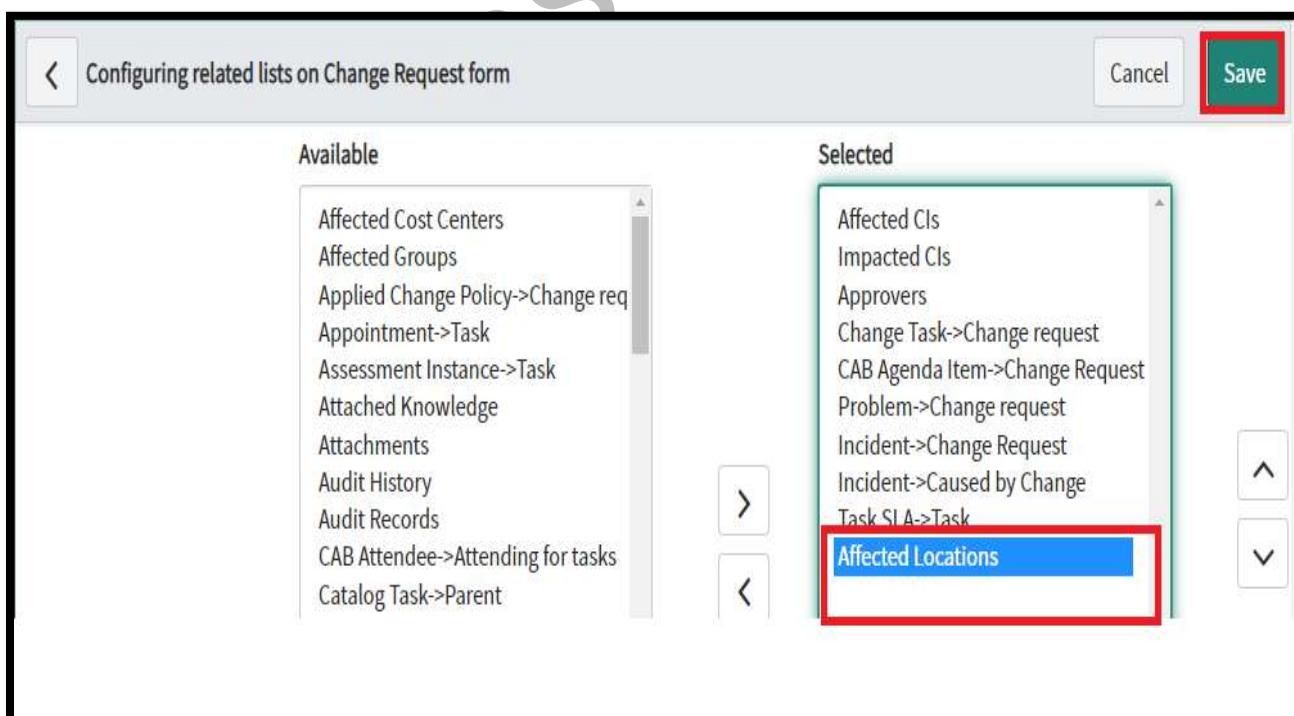
As a user, I want to see – as a list – which locations are affected by a change looking at its current record form.

#### Procedure

1. Navigate to **Change Application > Open Existing Record**
2. Right click on **Form Header**
3. Configure
4. Related Lists



5. Add **Effected Location** as selected
6. Click on **Save**



7. After Added related list check like below screen shot

The screenshot shows a ServiceNow list view titled 'Affected Locations'. The top navigation bar includes tabs for 'Affected Cls (1)', 'Impacted Services/Clis', 'Approvers', 'Change Tasks', 'Problems', and 'Incidents Fixed By Change'. Below the tabs, there are two buttons: 'Incidents Caused By Change' and 'Task SLAs', followed by a red-bordered button labeled 'Affected Locations'. The main content area displays search and filter controls: 'Affected Locations' (with a 'New' button), 'Edit...', 'Search', 'Location ▾', and another 'Search' input. Below these are icons for 'Task = CHG0000006' and 'Location'. A message 'No records to display' is centered at the bottom.

## Exercise :4 Working with Story 3

### Story 3: Create Data Policy to restrict user from server side

When state is **Closed**, then **Assigned to** and **assignments group** fields should be Read only

#### Procedure

1. Navigate to System Policy > Rules > Data Policies
2. Click on New

The screenshot shows the 'Data Policies' screen. On the left, a sidebar menu is open, showing 'System Diagnostics' and 'Session Debug' under 'Debug Data Policies', and 'System Policy' and 'Rules' under 'Data Policies'. The 'Data Policies' section is highlighted with a red box. On the right, the main panel shows a table of existing data policies. A new row is being added, indicated by a red-bordered 'New' button. The table columns include 'Mandatory Fields' (Number [sys\_number]), 'Semaphore mandatory fields' (Semaphore [sys\_semaphore]), and a note: 'Assigned to is required when state is one of'. The note also lists 'All' and 'Short description' filters.

### 3. Fill Data Policy form

The screenshot shows the 'Data Policy' configuration screen for the 'Change Request [change\_req...]' table. Key fields highlighted with red boxes are:

- Table:** Change Request [change\_req...]
- Short description:** When state is Closed, then Assigned to and assignments group fields should be Read only
- Conditions:** State is Closed

Other visible settings include:

- Inherit:
- Reverse if false:
- Active:
- Application: Global
- Checkboxes for 'Apply to import sets', 'Apply to SOAP', and 'Use as UI Policy on client' are all checked.

4. **Table:** change\_request
5. **Apply to import sets:** Auto Filled
6. **Apply to SOAP:** Auto Filled
7. **Use as UI Policy on client:** Auto Filled
8. **Reverse if false:** Auto Filled
9. **Active:** check box auto filled
10. **Short\_description:** When state is **Closed**, then **Assigned to** and **assignments group** fields should be read only
11. **Condition:** [State] [is] [Closed]
12. Right click on **Data Policy form** header and click on **Save**

**13.** Come down in the same form

**14.** Click on Data Policy Rules **New**

The screenshot shows the 'Data Policy' screen. At the top, there is a header with the title 'Data Policy' and a note: 'When state is Closed, then Assigned to and assignments group fields should be hide'. Below the header are 'Update' and 'Delete' buttons. A 'Related Links' section contains a link 'Convert this to UI Policy'. In the center, there is a search bar with 'Search for text' and a 'Search' button. Below the search bar, there is a 'Data Policy Rules' button, which is highlighted with a red box. To the right of the search bar are buttons for 'Mandatory' and 'Read only'. At the bottom of the screen, there is a note: 'Data Policy = When state is Closed, then Assigned to and assignments group fields should be hide'.

**15.** Field Name: Assigned to

**16.** Read Only: True

**17.** Click on Submit

The screenshot shows the 'Data Policy Rule' screen. At the top, there is a header with the title 'Data Policy Rule' and a note: 'New record'. Below the header are 'Submit' and 'Global' buttons. The main area contains a table with two rows. The first row has columns for 'Table' (Change Request) and 'Field name' (Assigned to). The second row has columns for 'Application' (Global), 'Read only' (True), and 'Mandatory' (Leave alone). The 'Read only' dropdown is highlighted with a red box. At the bottom left is a 'Submit' button.

**18. Click on Data Policy Rules **New****

The screenshot shows the 'Data Policy Rules' list view. At the top, there is a search bar with 'for text' and a search button, followed by a 'Search' button. Below the header, there are navigation buttons for pages 1 to 1 of 1. A large green 'New' button is highlighted with a red border. The main table has columns: 'Field name', 'Mandatory', and 'Read only'. One row is visible for the 'assigned\_to' field, which is set to 'Leave alone' under 'Mandatory' and 'True' under 'Read only'. There is also a 'Actions on selected rows...' button.

- 1. Field Name:** Assignment Group
- 2. Read Only:** True
- 3. Click on Submit**

The screenshot shows the 'Data Policy Rule' creation form. The 'Table' is set to 'Change Request [change\_request]'. The 'Field name' is 'Assignment group'. The 'Application' is 'Global'. The 'Read only' setting is 'True', which is highlighted with a red box. The 'Mandatory' setting is 'Leave alone'. At the bottom, there is a 'Submit' button.

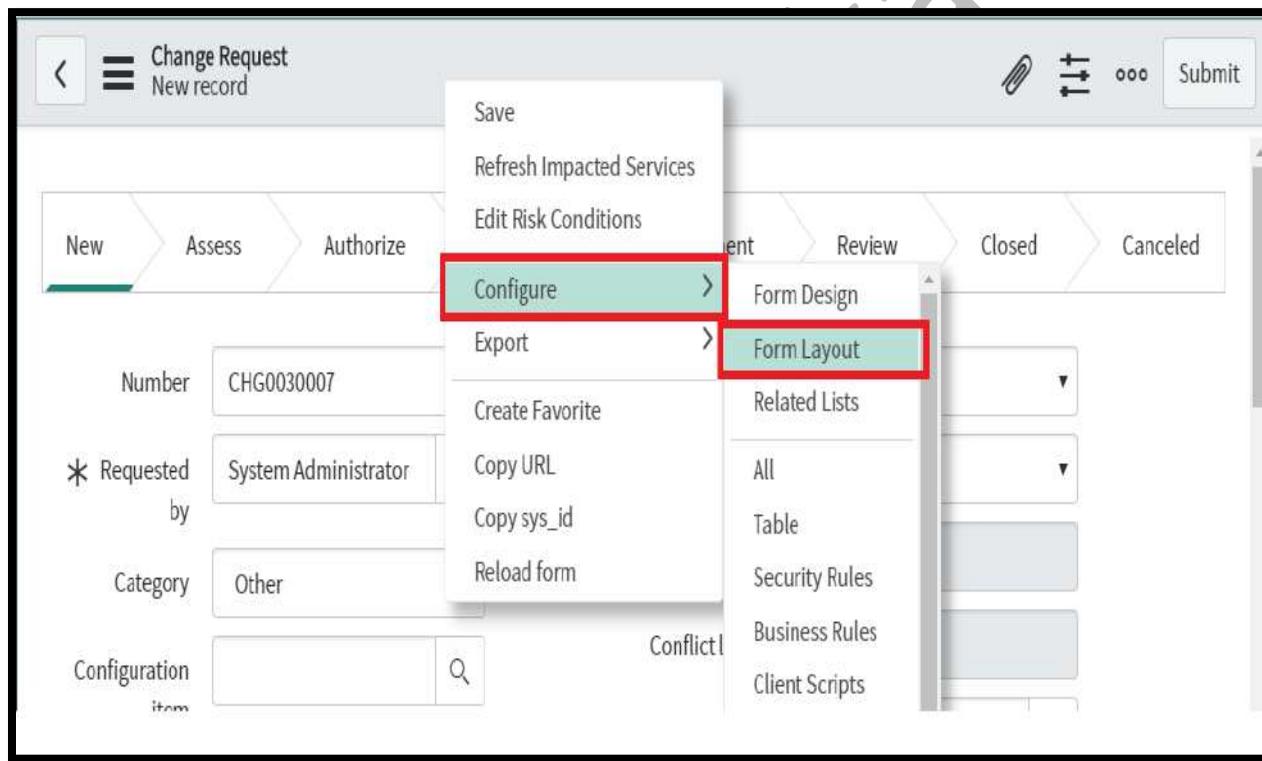
## Exercise :5 Working with Story 4

### Story 4: Create New Section add some fields into that

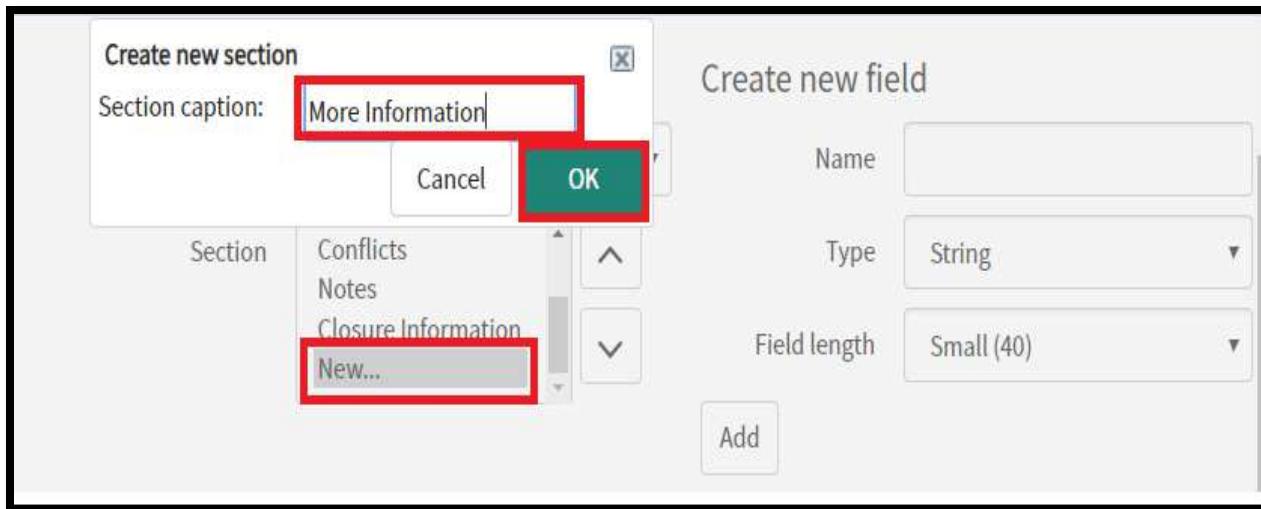
Create **More Information** section and added some fields such as, **closed**, **closed by**, **created by**, **created**, **updated**, **updated by**

#### Procedure

4. Navigate to **Change Application > Open existing change record**
5. Right click on **Form Header**
6. **Configure > Form Layout**



7. Go to section tab and click on **New**
8. **Section Caption:** More Information
9. Click on **New**
10. Click on **OK**



**11. Add these all Selected fields**

This screenshot shows three main components. On the left is a list of 'Available' fields: Active, Activity due, Actual end date, Actual start date, Additional assignee list, Additional comments, Affected CIs, Affected Cost Centers, Affected Groups, Affected Locations, Applied Change Policy->Change req, Appointment->Task, Approval, Approval history, Approval set, Approvers, and Assessment Instance->Task. On the right is a list of 'Selected' fields: Created, Created by, |- split -|, Updated, Updated by, Closed, and Closed by. A red box highlights the 'Selected' list. Below these are two buttons: '>' and '<'. At the bottom are 'Cancel' and 'Save' buttons. The middle part of the screenshot shows 'Form view and section' settings with 'View name' set to 'Default view' and 'Section' set to 'More Information'. The bottom part shows 'Create new field' settings with 'Name' (empty), 'Type' (String), and 'Field length' (Small (40)). A red box highlights the 'More Information' section in the 'Form view and section' list.

**12. Click on Save**

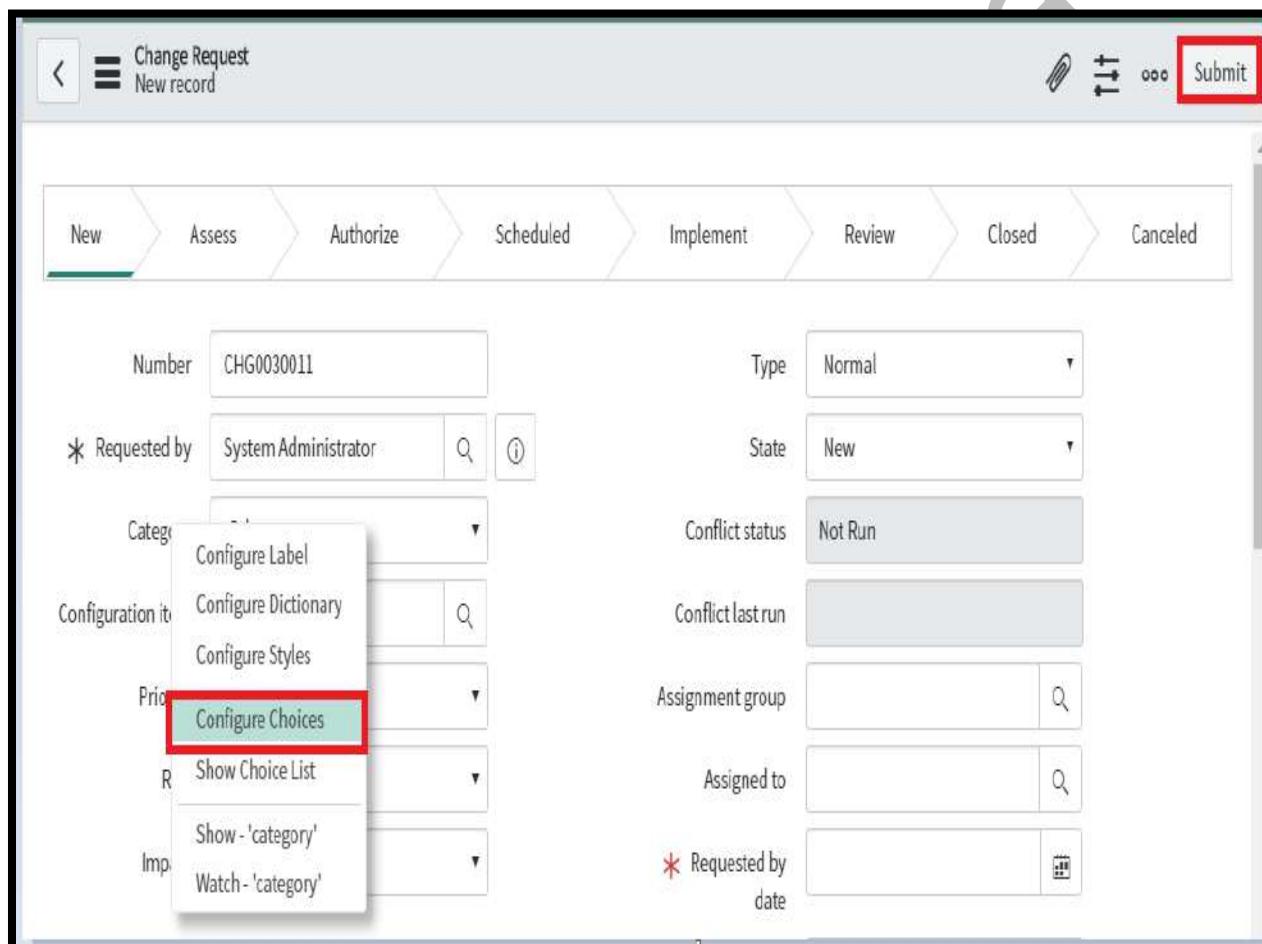
## Exercise :6 Working with Story 5

### Story 5: Add one more choices to Category field

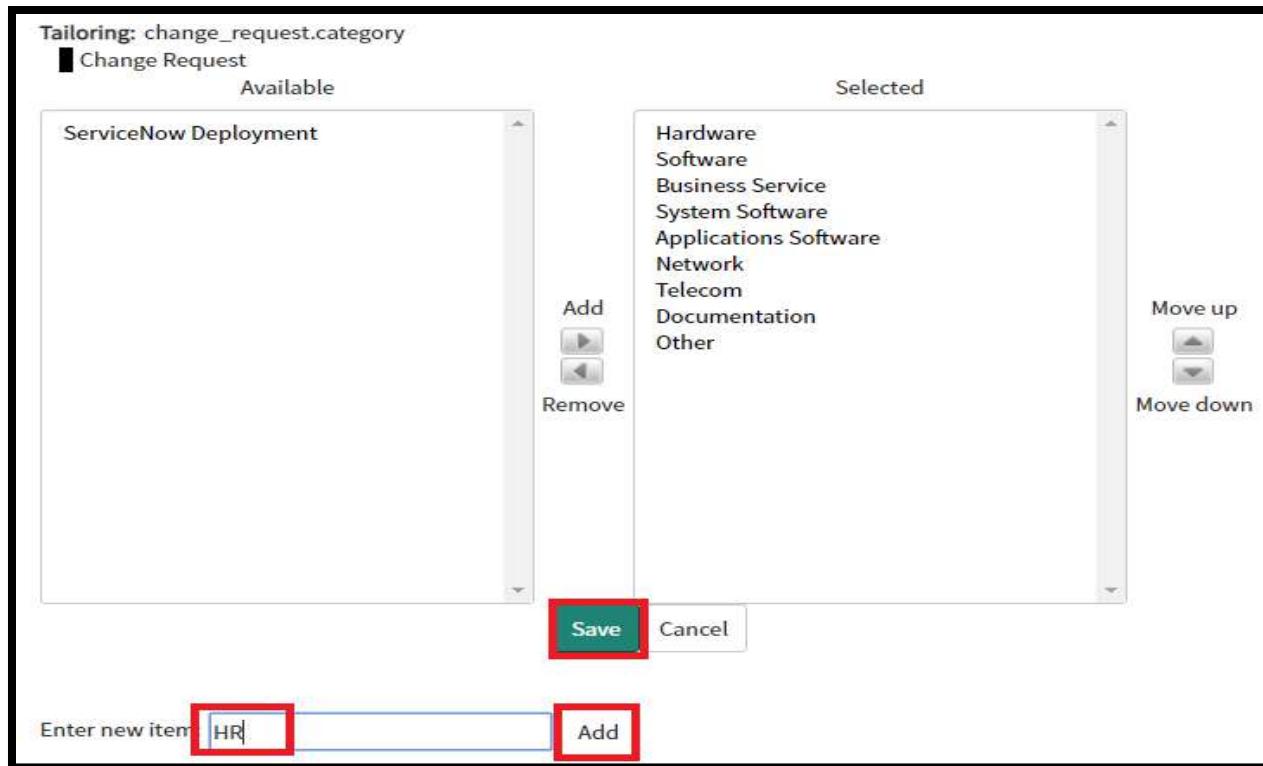
Add a choice to **Category** field that choice is **HR**

#### Procedure

1. Navigate to **Change Application > Open existing change record**
2. Right click on **Category** field
3. Click on **Configure Choices**



4. Enter New Item: HR
5. Click on Add
6. Again click on Save



## Exercise :7 Export all your changes into XML

After completed all our changes in **Development Instance** then we can move these changes to **Test Instance**

### Procedure

1. Navigate to **System Update Sets > Local Update Sets**
2. Open our **Local Update Sets** record > **Change Mgmt Sprint 1**

The screenshot shows the 'System Update Sets' list view in ServiceNow. The left sidebar contains links for 'System Update Sets', 'Update Sources', 'Retrieved Update Sets', 'Update log', 'Local Update Sets', 'Merge Update Sets', 'Merge Completed Sets', and 'Update Sets to Commit'. The main area displays a table of update sets with columns: Name, Application, State, Created, and Created by. One row is selected, showing 'Change Mgmt Sprint 1' as the name, 'Global' as the application, 'In progress' as the state, '2019-07-08 03:01:05' as the creation time, and 'admin' as the creator. A red box highlights the 'Local Update Sets' link in the sidebar and the selected row in the table.

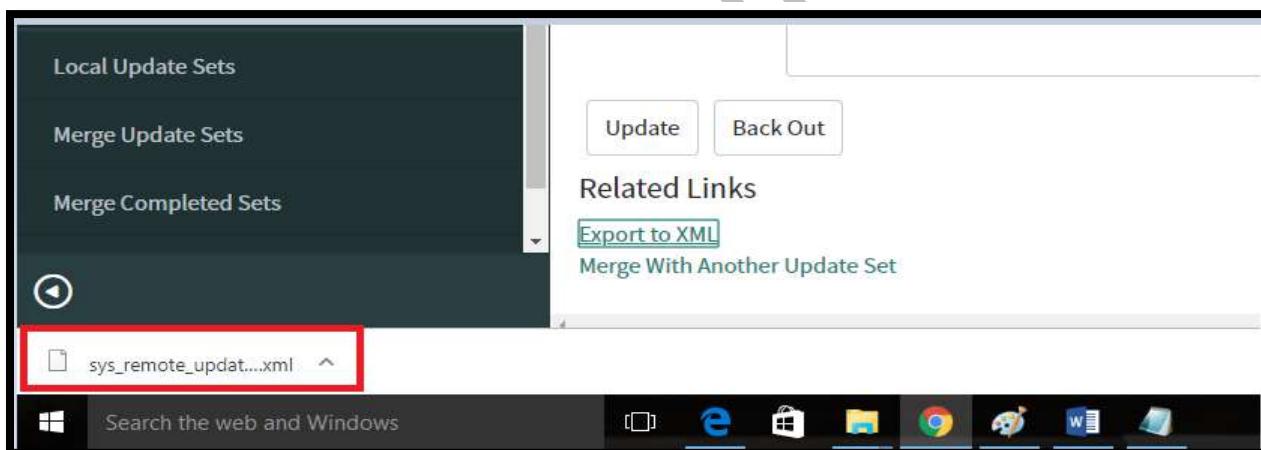
3. Change State value from **In progress** to **Complete**
4. Click on **Update**

The screenshot shows the 'Update Set' details page for 'Change Mgmt Sprint 1'. The top bar includes back, list, and update buttons. The main form has fields for Name (Change Mgmt Sprint 1), Application (Global), State (Complete, highlighted with a red box), Parent, Release date, Install date, Installed from, and Description (These all changes are going to making in Change Mgmt release sprint 1). The 'Update' button is highlighted with a red box in the top right corner.

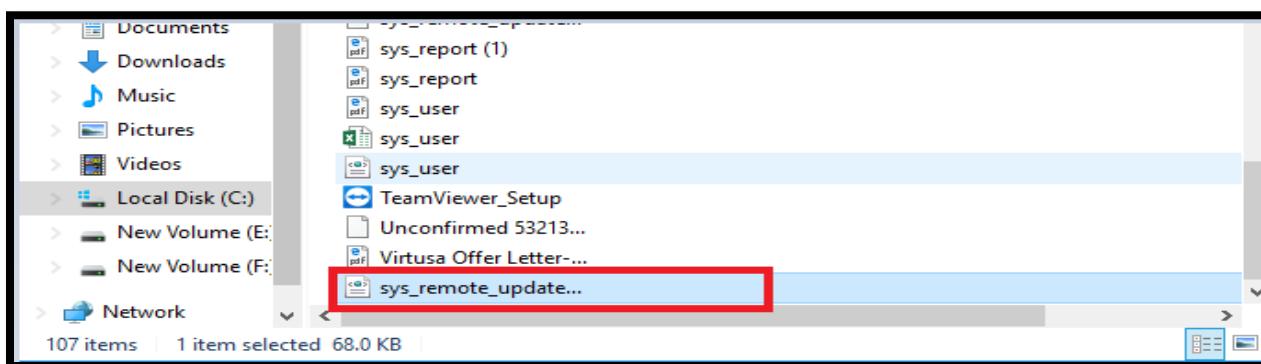
5. Again Open Same record



6. Click on Export to XML (Exporting Changes)



7. After downloaded XML file then take that file and keep on your desktop



8. Change name of your **Local Update Set** like below



## Exercise :8 Migrating changes to Target Instance (Test)

We are going to move these all changes into testing instance for testing purpose

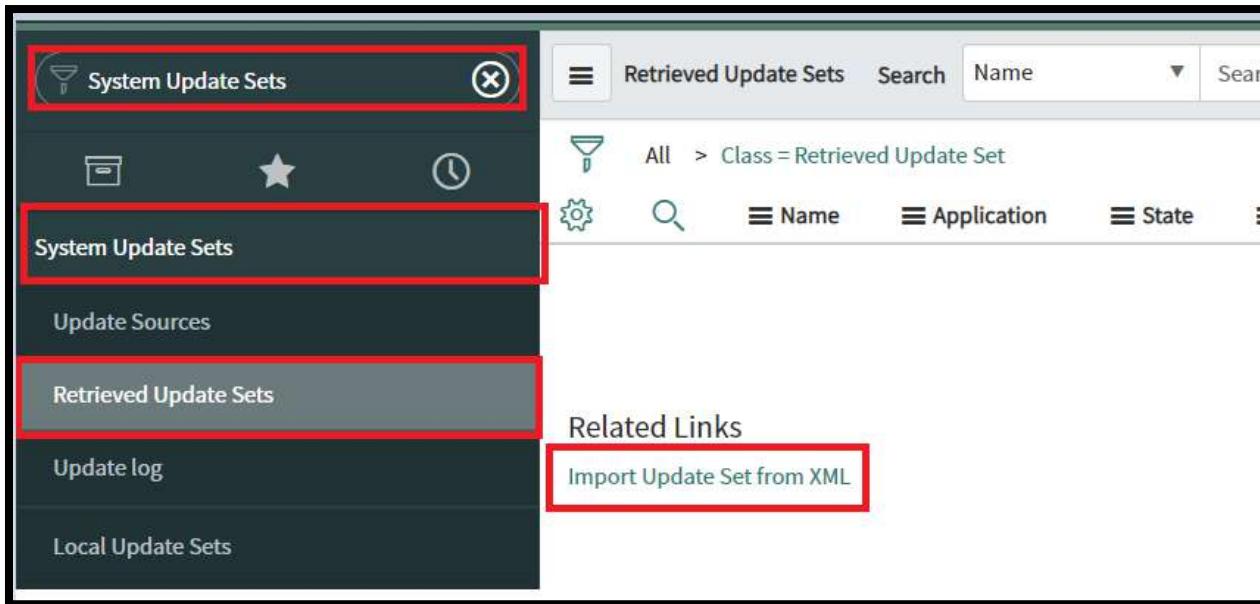
### Procedure

1. Open Target Instance URL > <https://dev50890.service-now.com/>

A screenshot of a web browser displaying the ServiceNow homepage. The address bar shows the URL "https://dev50890.service-now.com/". A red box highlights the "Test Instance" label in the top left corner of the header. The header also includes the ServiceNow logo and a user profile for "System Administrator". The left sidebar contains navigation links for "Self-Service", "Homepage", "Business Applications", and "Dashboards". The main content area is titled "System Administration".

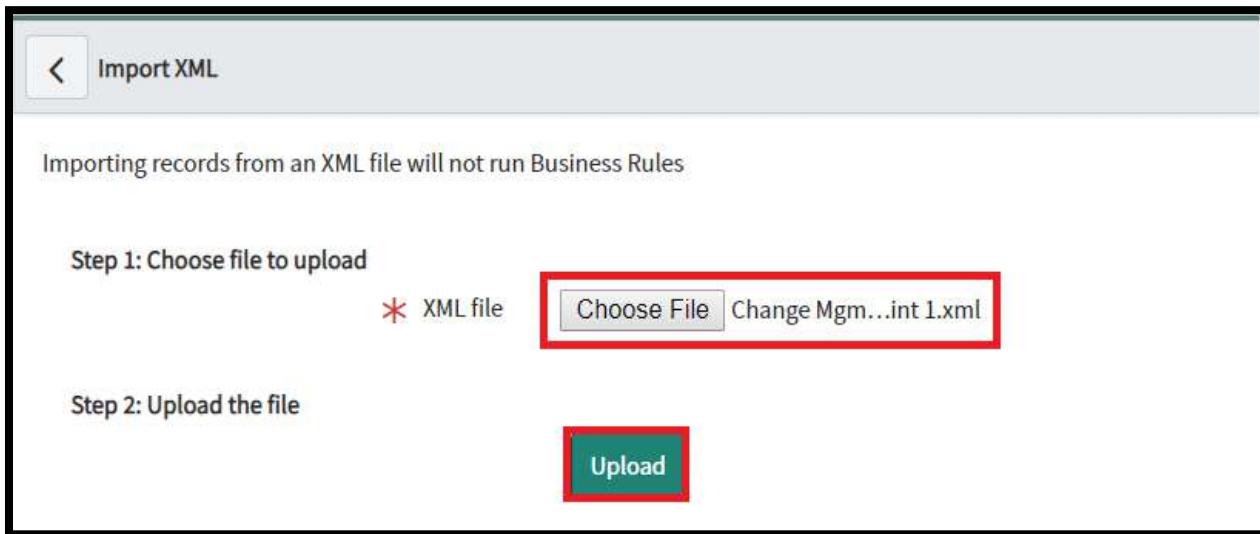
2. Navigate to System Update Sets > Retrieved Update Sets

3. Click on **Import Update Set from XML**



4. Click on **Choose File** > Your exported file

5. Click on **Upload**



6. After imported your file look like below screen shot

The screenshot shows a list of retrieved update sets. A single record is selected and highlighted with a red border. The record details are as follows:

Name	Application	State	Update source	Description	Loaded
Change Mgmt Sprint 1	Global	Loaded	(empty)	These all changes are going to making in...	2019-07-10 05:40:50

7. Open **Change Mgmt Sprint 1** record
8. Click on **Preview Update Set**

The screenshot shows the detail view for the selected update set. The 'Preview Update Set' button is highlighted with a red border.

9. We will get below message after clicked on **Preview Update Sets** Button
10. **Succeeded** can define no errors in our XML file
11. Click on **Close**

The screenshot shows a modal dialog titled 'Update Set Preview'. It displays the message 'Success! - Succeeded in 1 Second' and a progress bar indicating 'Succeeded 100%'. There is a 'Close' button in the bottom right corner.

12. Click on **Commit Update Set**

- 13. Inserted:** Inserted Changes (4)
- 14. Updated:** Updated Changes (8)
- 15. Deleted:** No Changes Deleted (0)
- 16. Collision:** No Collision (0)
- 17. Total:** Total Changes (12)

The screenshot shows the 'Retrieved Update Set' screen for 'Change Mgmt Sprint 1'. The top navigation bar includes 'Update', 'Delete', 'Run Preview Again', and 'Commit Update Set' buttons, with 'Commit Update Set' highlighted by a red box. Below the navigation is a table of update statistics:

Category	Value
Committed	
Inserted	4
Updated	8
Deleted	0
Collisions	0
Total	12

Below the statistics, there is a 'Description' field containing the text: 'These all changes are going to making in Change Mgmt release sprint 1'. At the bottom of the screen are 'Update', 'Delete', 'Run Preview Again', and 'Commit Update Set' buttons, along with a watermark for 'Activate Windows'.

- 18. Customer Updates**

The screenshot shows a list of 'Customer Updates' with a red box highlighting the first item. The list includes columns for Name, Type, Target name, and Table.

Name	Type	Target name	Table
sys_choice_change_request_category	Choice list	Change Request Category	Change Request [change_request]
sys_data_policy2 2863cce5dbae330001e4863239961945	Data Policy	When state is Closed, then Assigned to and assignments group fields should be Read only	Activate Windows Go to Settings to activate

19. After committed changes into target instance get this success message

20. Click on **Close**

The dialog box displays a green progress bar at 100% completion. The message 'Succeeded 100%' is shown above the progress bar, and 'Update set committed - Succeeded in 22 Seconds' is displayed below it. A 'Close' button is located in the bottom right corner.

21. Click on **Show Commit Logs** to check update logs

The screenshot shows the 'Customer Updates' list view. At the top, there are 'Related Links' with 'Show Commit Log' and 'Show All Preview Records'. Below this is a search bar with 'Customer Updates' and a dropdown for 'Name'. The main list area shows a single entry: 'Remote update set = Change Mgmt Sprint 1'. The list is sorted by 'Name'.

22. Check update logs like below

The screenshot shows the 'Update Set Logs' list view for the 'Change Mgmt Sprint 1' update set. It displays a table of log entries with columns for Status, Update set, and Update source. The logs show various system updates such as field changes and section loading.

	Status	Update set	Update source
<input type="checkbox"/>	Info	Change Mgmt Sprint 1	(empty)
<input type="checkbox"/>	Info	Change Mgmt Sprint 1	(empty)
<input type="checkbox"/>	Info	Change Mgmt Sprint 1	(empty)
<input type="checkbox"/>	Info	Change Mgmt Sprint 1	(empty)
<input type="checkbox"/>	Info	Change Mgmt Sprint 1	(empty)
<input type="checkbox"/>	Info	Change Mgmt Sprint 1	(empty)

23. Click on Show All Preview Record (Inserted or Updated)

The screenshot shows a 'Customer Updates' preview screen. At the top, there are two buttons: 'Show Commit Log' and 'Show All Preview Records'. The 'Show All Preview Records' button is highlighted with a red box. Below this is a navigation bar with 'Customer Updates (12)' and 'Child Update Sets'. The main area displays a list of records with columns for 'Name', 'Type', 'Target name', and 'Table'. A filter icon indicates 'Remote update set = Change Mgmt Sprint 1'. The records listed are:

Name	Type	Target name	Table
Change Request	Form Layout	Change Mgmt Sprint 1	Commit
Change Request.Change plan	Dictionary	Change Mgmt Sprint 1	Commit
assigned_to	Data Policy Rule	Change Mgmt Sprint 1	Commit
Change Request.Requested by date	Dictionary	Change Mgmt Sprint 1	Commit

## 24. Check update sets previews

The screenshot shows an 'Update Set Previews' list. The top navigation bar includes 'Update Set Previews', 'Search', and a dropdown for 'Disposition'. The main area displays a list of records with columns for 'Disposition', 'Target name', 'Type', 'Remote update set', 'Problem Type', and 'Proposed act'. A filter icon indicates 'All > Remote update Remote update set = Change Mgmt Sprint 1'. The records listed are:

Disposition	Target name	Type	Remote update set	Problem Type	Proposed act
Update	Change Request	Form Layout	Change Mgmt Sprint 1		Commit
Update	Change Request.Change plan	Dictionary	Change Mgmt Sprint 1		Commit
Insert	assigned_to	Data Policy Rule	Change Mgmt Sprint 1		Commit
Update	Change Request.Requested by date	Dictionary	Change Mgmt Sprint 1		Commit

## Working with Merge Update Sets

We can merge multiple update sets into a single update set. The newer batch update sets feature accomplishes the same outcome with a more predictable and fast solution moving changes from one instance to another.

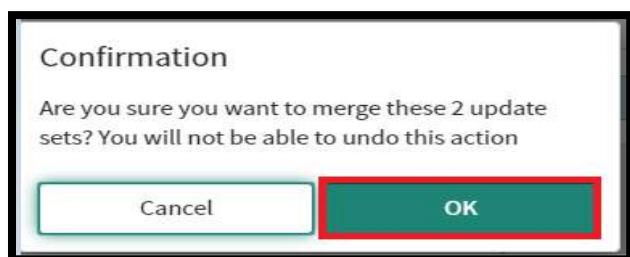
**Note:** You cannot "unmerge" update sets once they have been merged.

### Procedure

1. Navigate to System Update Sets > Merge Update Sets.

The screenshot shows the ServiceNow 'Merge Update Sets' interface. On the left, the 'System Update Sets' sidebar is open, with 'Merge Update Sets' selected. The main pane displays a list of update sets under the heading 'Merge Update Sets'. A search bar at the top has 'July Sprints' entered. Below the search bar, there are several filter and search buttons. The list contains two items: 'July\_Sprint\_1' and 'July\_Sprint\_2', both marked as 'In progress' and created by 'admin' on July 13, 2019. The 'Merge' button is highlighted with a red box at the bottom of the list.

2. Name: July Sprints
3. Select your update sets to merging
4. Click on Merge
5. Click on Save



- Again open **Merged Sets** record

The screenshot shows the 'Update Set' record for 'July Sprints'. The 'State' field is set to 'Complete' (highlighted with a red box). The 'Update' button at the top right is also highlighted with a red box.

* Name	July Sprints	* Application	Global
State	Complete	Created	2019-07-13 04:52:15
Parent		Created by	admin
Release date		Merged to	
Install date			
Installed from			

- Change State to **Complete**

- Click on **Update**

The screenshot shows the 'Related Links' section of the update set record. The 'Export to XML' link is highlighted with a red box.

Related Links:

- Export to XML
- Merge With Another Update Set

Customer Updates (4)    Update Set Logs    Merged Update Sets (2)    Child Update Sets

Customer Updates    Search    Created    Search

1 to 4 of 4

- Again open same record

- Click on **Export to XML**

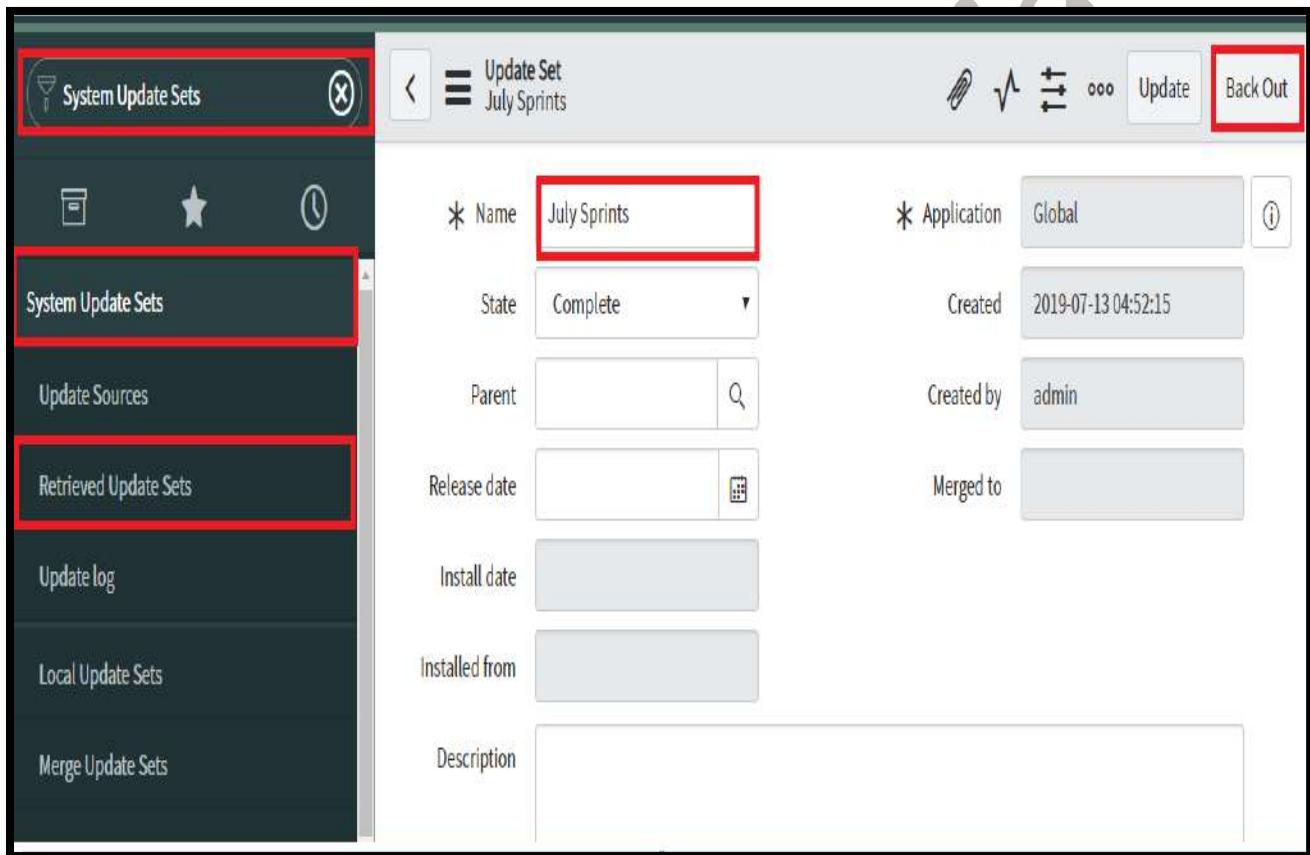
- Once exported XML file then the file can move to target instance as followed above steps

## Back out changes from an Update Set

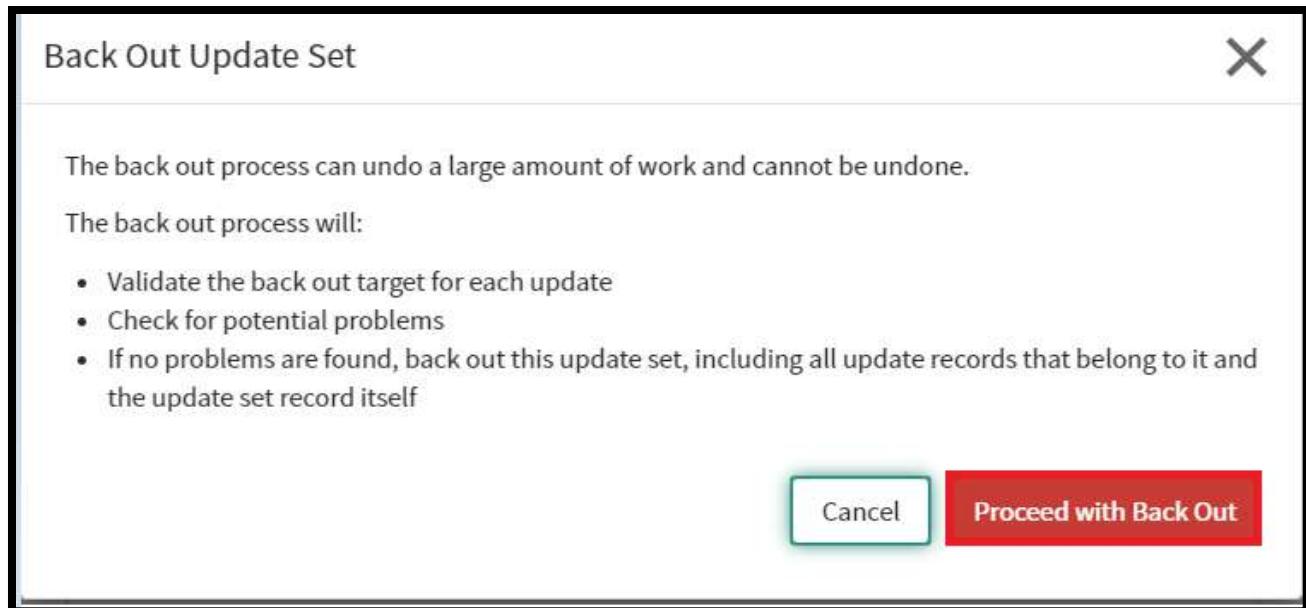
We can be able to back out changes to existing records for any committed update set. If the changes are not working

### Procedure

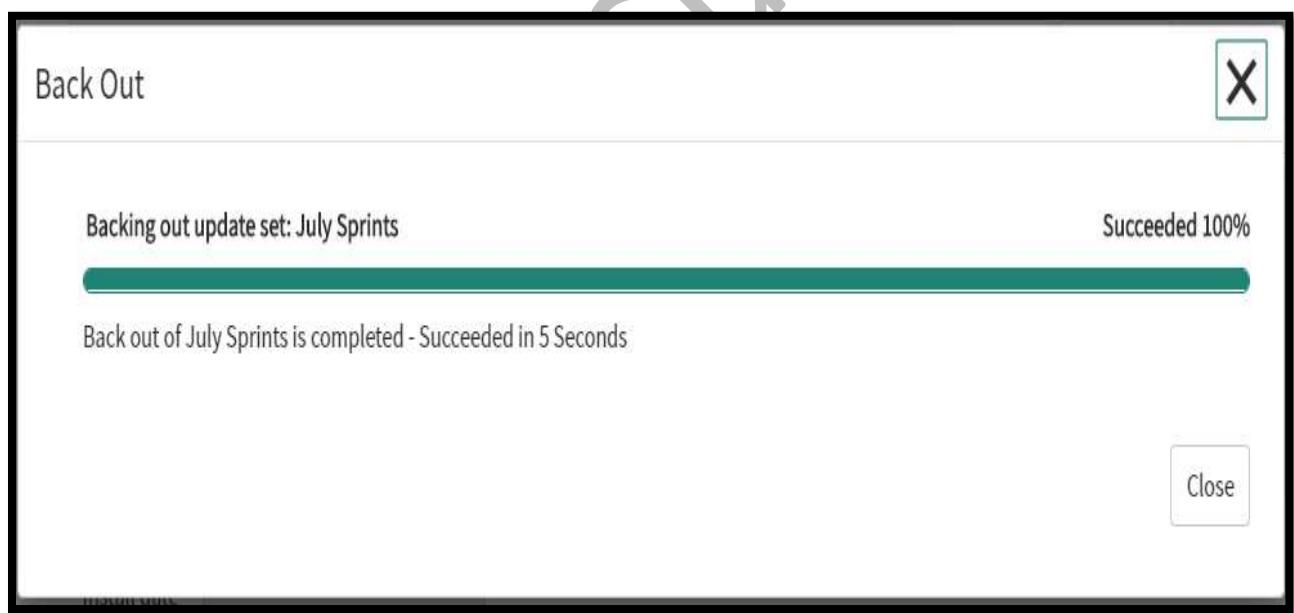
1. Navigate to **System Update Sets > Retrieved Update Sets** or **System Update Sets > Local Update Sets**.
2. Open the **Update Set** record.



3. Click on **Back Out**



- Click on **Proceed with Back Out**
- Successfully **Black Out** the changes from expected instance



- Click on **Close**
- Whether successfully **back Out or not**

## Taking some precautions working with Update Sets

Because Update Sets make changes to an instance, review the following best practice information to avoid errors and performance issues.

1. Do not delete Update Sets. If an Update Set is deleted, any updated records may be overwritten in the next update.
2. Do not include the **system\_id** field from the **ldap\_server\_config** record in an Update Set. An Update Set from a working configuration points to the wrong system\_id node for the target instance and does not work.
3. Do not back out the Default Update Set. This action causes damage to the system.
4. Never change the Update Set field value (**update\_set**) in a Customer Update record (**sys\_update\_xml**). If a customization is made in the wrong Update Set, take the following action:
  5. Switch to the desired **Update Set**.
  6. Modify the object (record) that was originally changed. You can make a trivial change, such as adding a field.
  7. **Save** the record
  8. Back out the change just performed, and then save the record again.
  9. Always preview an Update Set before committing it.
10. Set completed Update Sets on the production instance to **ignore**. This state ensures the Update Set is not reapplied when cloning the instance.
11. Keep a to-do list of manual changes and data loads that need to be completed after an Update Set is applied.
12. Do not make too many changes at one time. Verify that the correct changes have been made incrementally.

Chapter – 16

# Service Catalog

## What is Service Catalog?

1. **Service Catalog** is an application with in platform
2. Create service catalogs that provide your customers with **self-service** opportunities.
3. Customize portals where your customers can request catalog items such as service and product offerings.
4. The Service Catalogue is the only part of the ITIL Service Portfolio published to Customers,
5. It is used to support the **Sale and Delivery** of IT Services.
6. The Service Catalogue includes information about **deliverables, prices, contact points, ordering and request Processes**.
7. With the Service Catalog application, you can create one or more multiple catalogs of products and shared services
8. Catalog items are goods or services available to order from the service catalog. Items can be anything from **Software, Hardware, like Tablets and Phones, Software Applications, Furniture and Office Supplies**.



## Service Catalog offers to

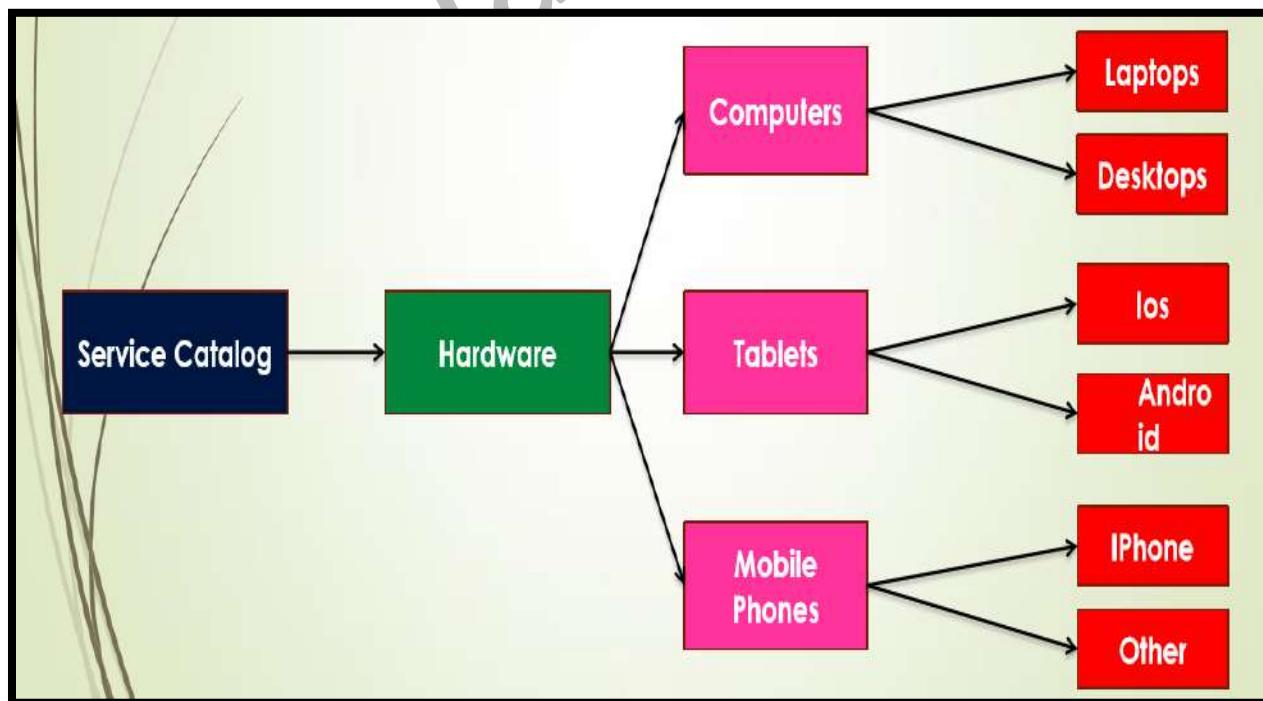
### Service Catalog contain almost anything

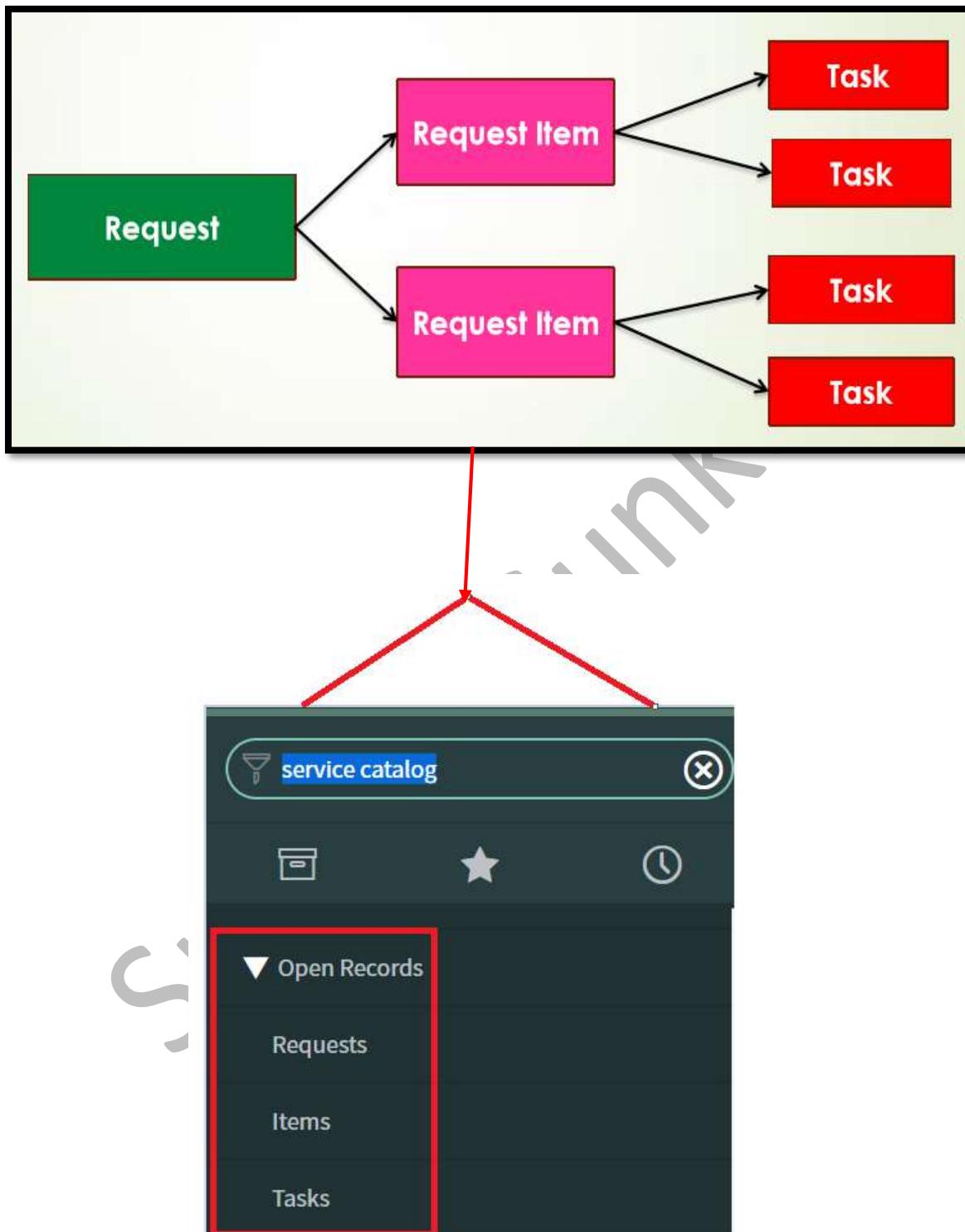
- ✓ Products like computer equipment,
- ✓ Software,
- ✓ Furniture
- ✓ Office supplies
- ✓ Service like work requests,
- ✓ Password reset
- ✓ Support to resolve incidents
- ✓ Record producers
- ✓ Order guides
- ✓ Workflows



## Service Catalog Architecture

1. The products and services in a catalog are organized into categories and sub categories
2. The base system includes several useful categories, and you can define your own





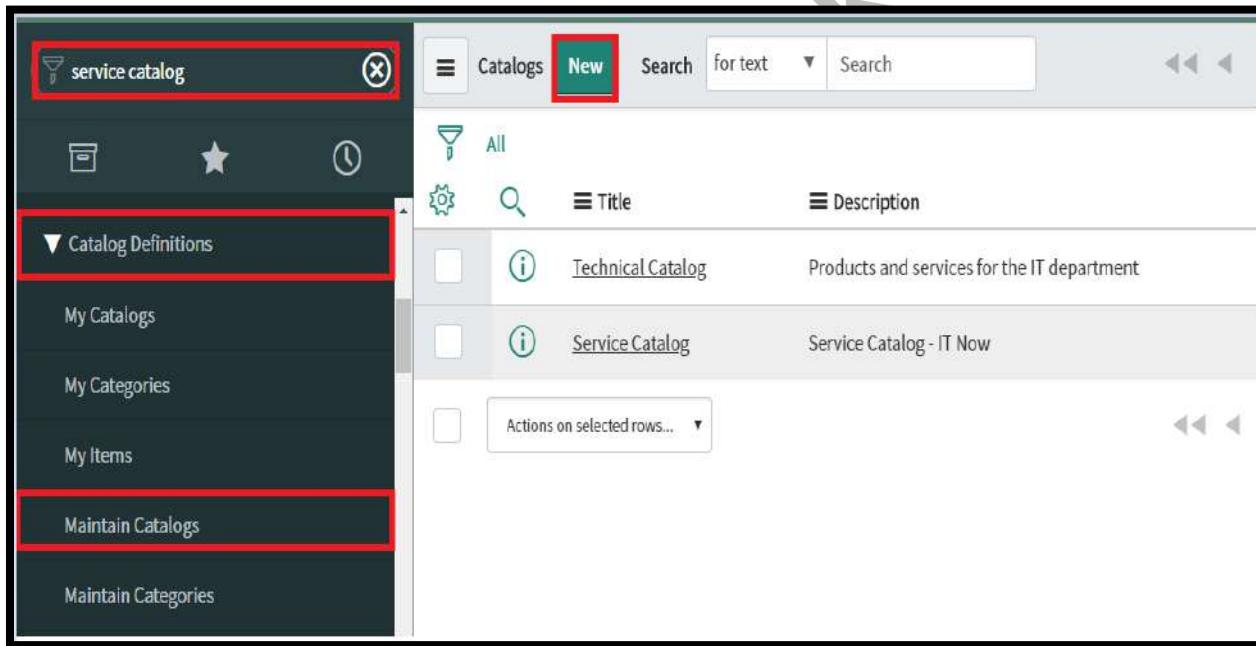
## Exercise: 1 Configure Service Catalog

Service Catalog provide the opportunities to users with the Catalog Administrators role (**catalog\_admin**) to configure service catalog with in instance

Service Catalog Application will help us to configure one or more service catalogs and **provides self-service opportunities** and better user interface (**Self-Service**). We can organize our catalog offerings by using the ability to publish multiple catalogs targeted to specific users.

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Maintain Catalog
2. Click on New
3. Fill the Service Catalog Form



4. **Title:** Wood Accessories
5. **Manager:** Select Manager (A catalog manager can define and maintain a single catalog)
6. **Enable Wish List:** Check True
7. **Description:** This catalog is using to requesting wood accessories item
8. **Background Colour:** Default (White)
9. **Active:** True (This Catalog Visible to all user)
10. **Desktop Image:** Add your desktop mage (Based on our requirement)
11. **Editors:** Empty (Who can edit and modified this catalog)
12. Click on Submit

The screenshot shows the configuration of a new catalog named 'Wood Acceseries'. The 'Title' field is set to 'Wood Acceseries' and the 'Description' field contains the text 'This catalog is using to requesting wood accessories item'. Both fields are highlighted with a red box. Other settings include 'Application: Global', 'Manager: Beth Anglin', 'Active: checked', 'Editors: locked', and 'Background Color: white'. A desktop image of a wooden surface is attached.

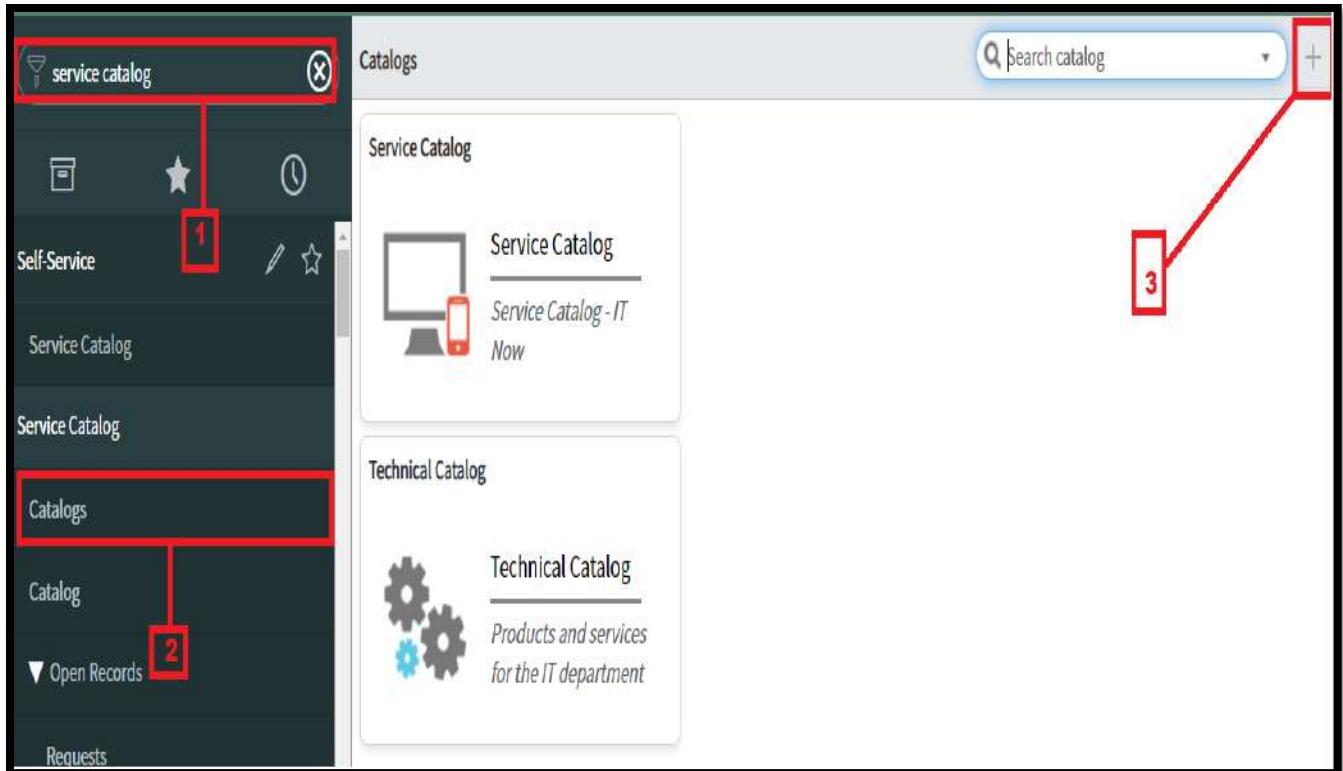
13. Successfully configured new **Catalog** into list of Catalog

	Title	Description	Active
<input type="checkbox"/>	<a href="#">Wood Accesories</a>	This catalog is using to requesting wood...	true
<input type="checkbox"/>	<a href="#">Technical Catalog</a>	Products and services for the IT department	true
<input type="checkbox"/>	<a href="#">Service Catalog</a>	Service Catalog - IT Now	true

14. Add this new catalog to catalog **Home Page**

15. Navigate to **Service Catalog > Catalogs**

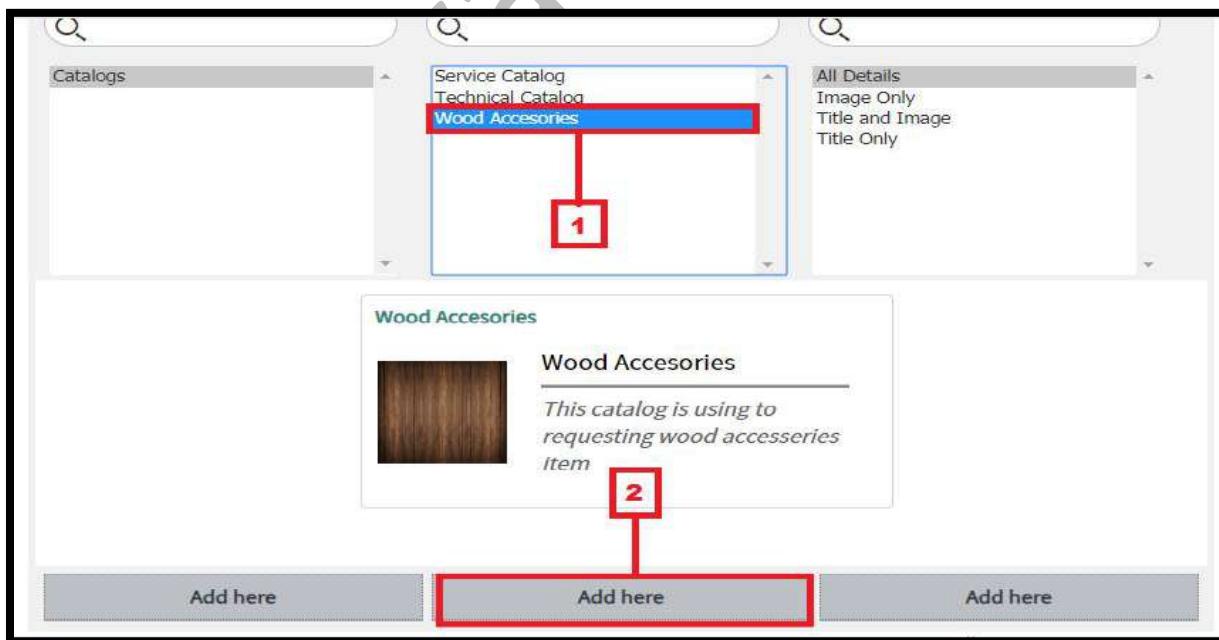
16. Click on **+** icon



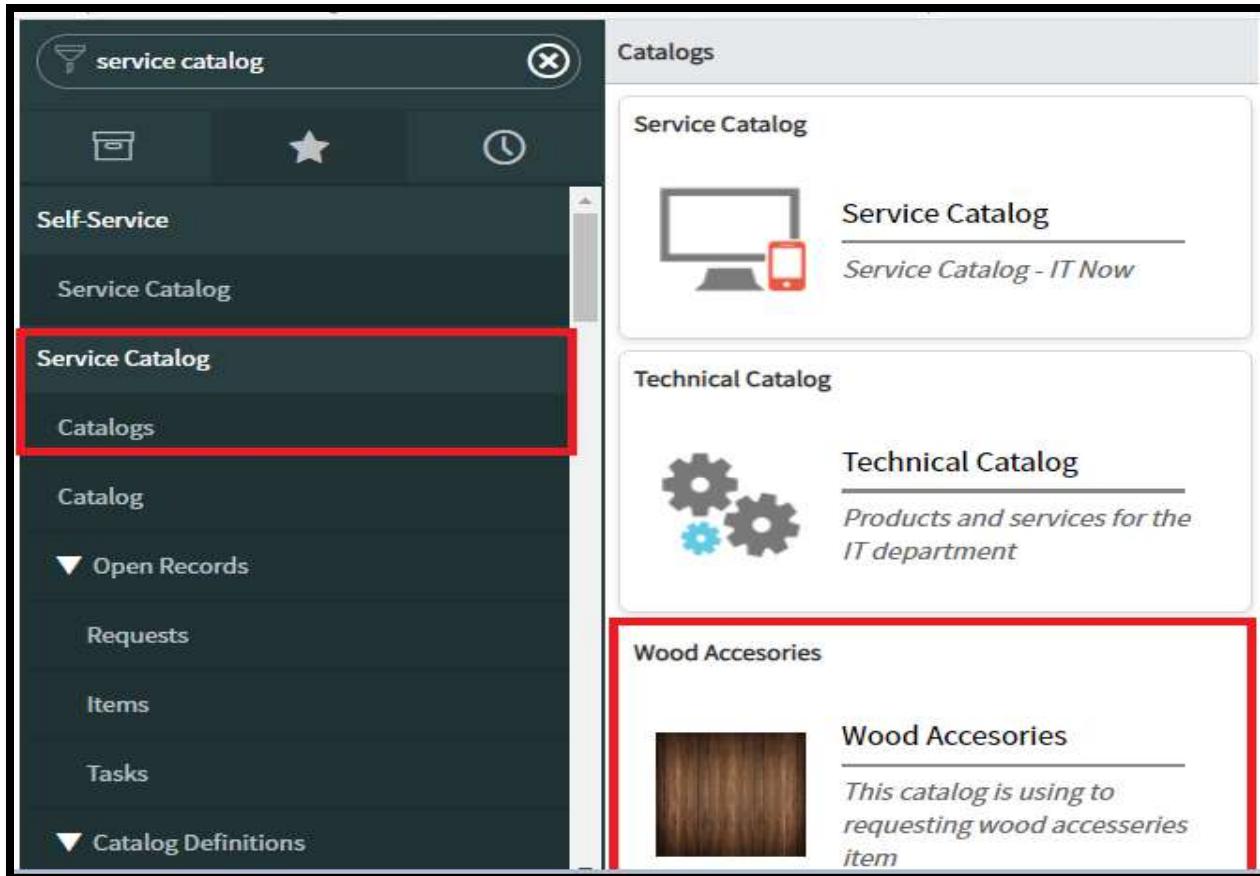
**17. Select Wood Accessories Service Catalog**

**18. Click on Add Here**

**19. Click on Close Icon**



**20. Successfully added new Service Catalog (Like - Below screenshot)**



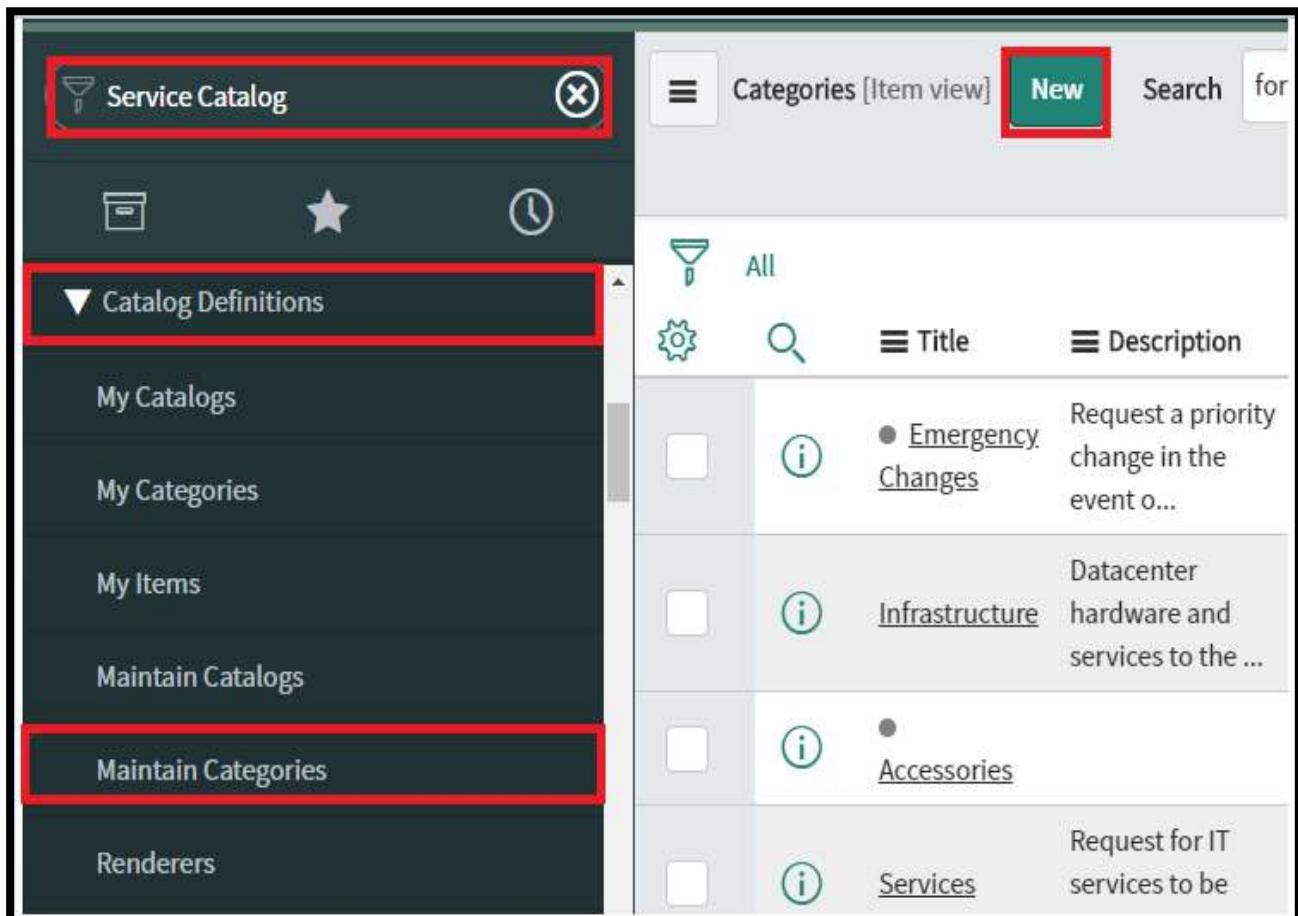
## Exercise: 2 Configure Service Catalog Category (Wood Chair)

**Service Catalog Categories** can manage service catalog items into different sub groups. Administrators and catalog administrators can create and configure categories, defining their characteristics and adding content such as catalog items to them based on our client requirement.

Categories may contain a parent-child relationship, for example, **Finance** and **IT** and **Laptops**. A child category is a subcategory of its parent category. Each **Catalog Item**, **Order Guide**, **Record Producer**, **Content Item**, and subcategory appears as a single item within the category. A catalog item can exist in multiple categories, giving you the flexibility to offer the same service from multiple places within your catalog.

## Procedure

1. Navigate to Service Catalog > Catalog Definition > Maintain Categories
2. Click on New
3. Fill the Service Catalog Categories Form



Category  
Wood Chair [Item view]

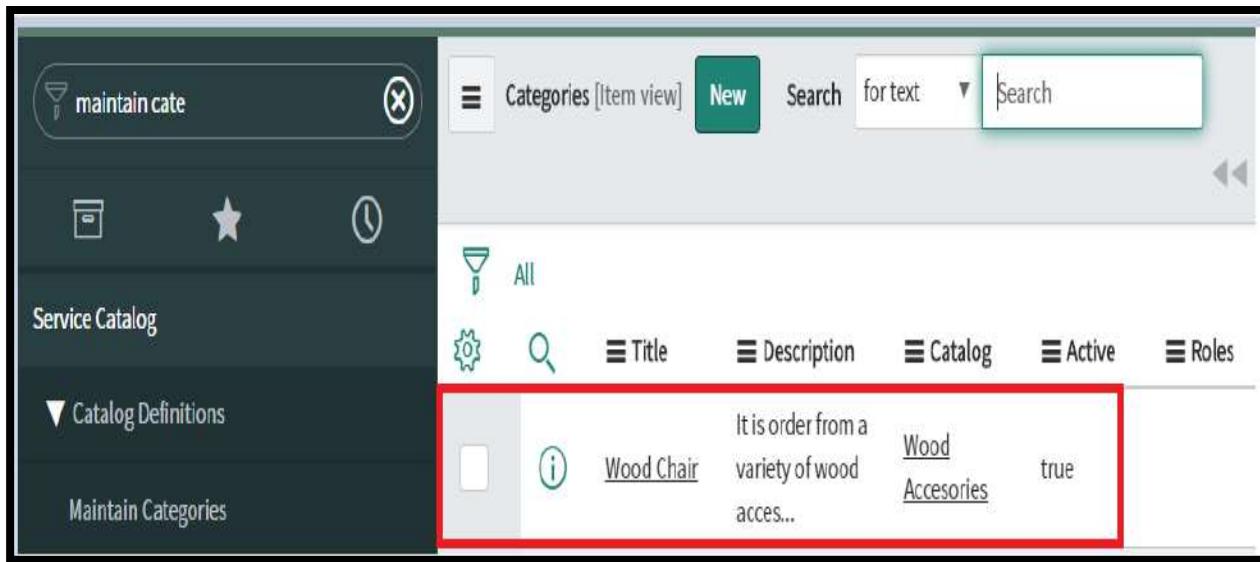
Application Global

Update Delete

* Title	Wood Chair	Application	Global	(i)
Catalog	Wood Accesories	Active	<input checked="" type="checkbox"/>	Search (i)
Location	Emea	Parent	Search (i)	Search (i)
Description	It is order from a variety of wood accessories items to meet your business requirement, including wood chairs, wood tables.			
Icon	[Update][Delete]	Header icon	[Update][Delete]	Add (-)



4. **Title:** Wood Chair
5. **Catalog:** Wood Accessories
6. **Location:** Optional
7. **Description:** It is order from a variety of wood accessories items to meet your business requirement, including **wood chairs, wood tables**.
8. **Icon:** Add
9. **Header Icon:** Add
10. Click on **Submit**



11. Successfully configured new **Category** into list of list of **Categories**
12. Add this new **Category** to category **Home Page**
13. Navigate to **Service Catalog > Catalogs > Wood Accessories**

1

2

3

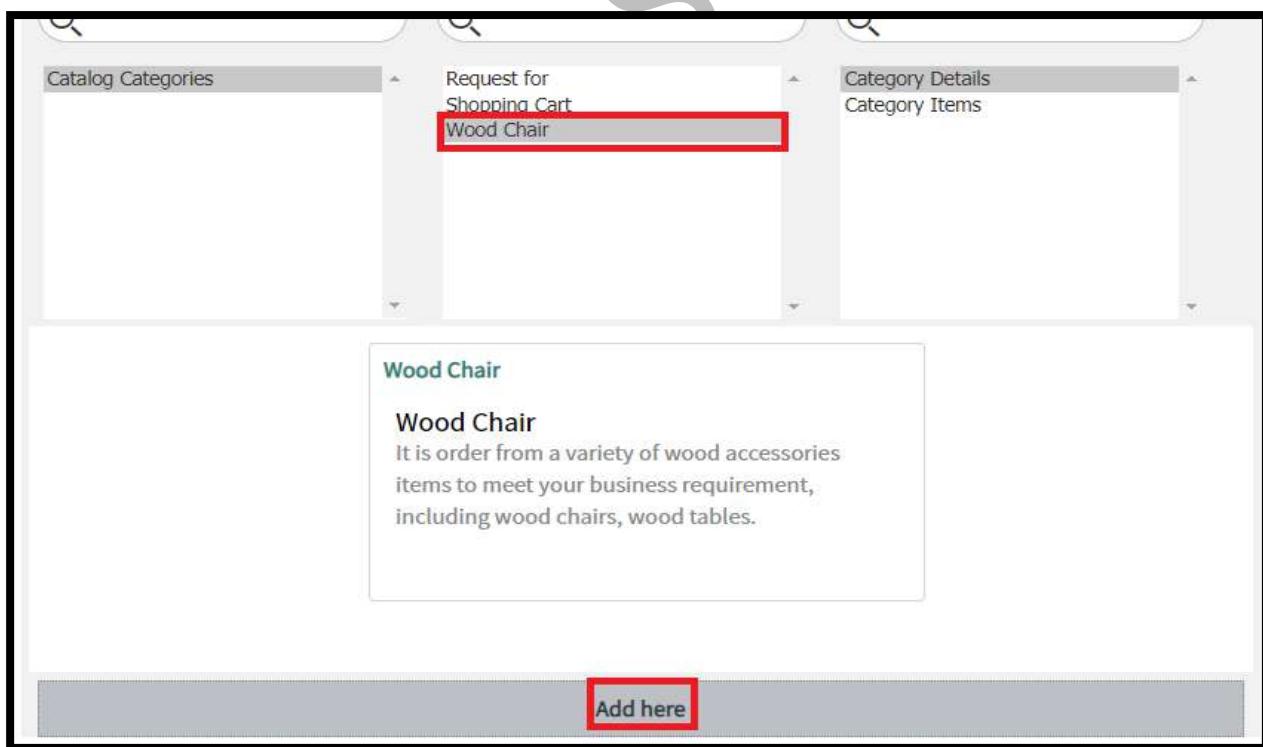
Clic on this

14. Click on + icon

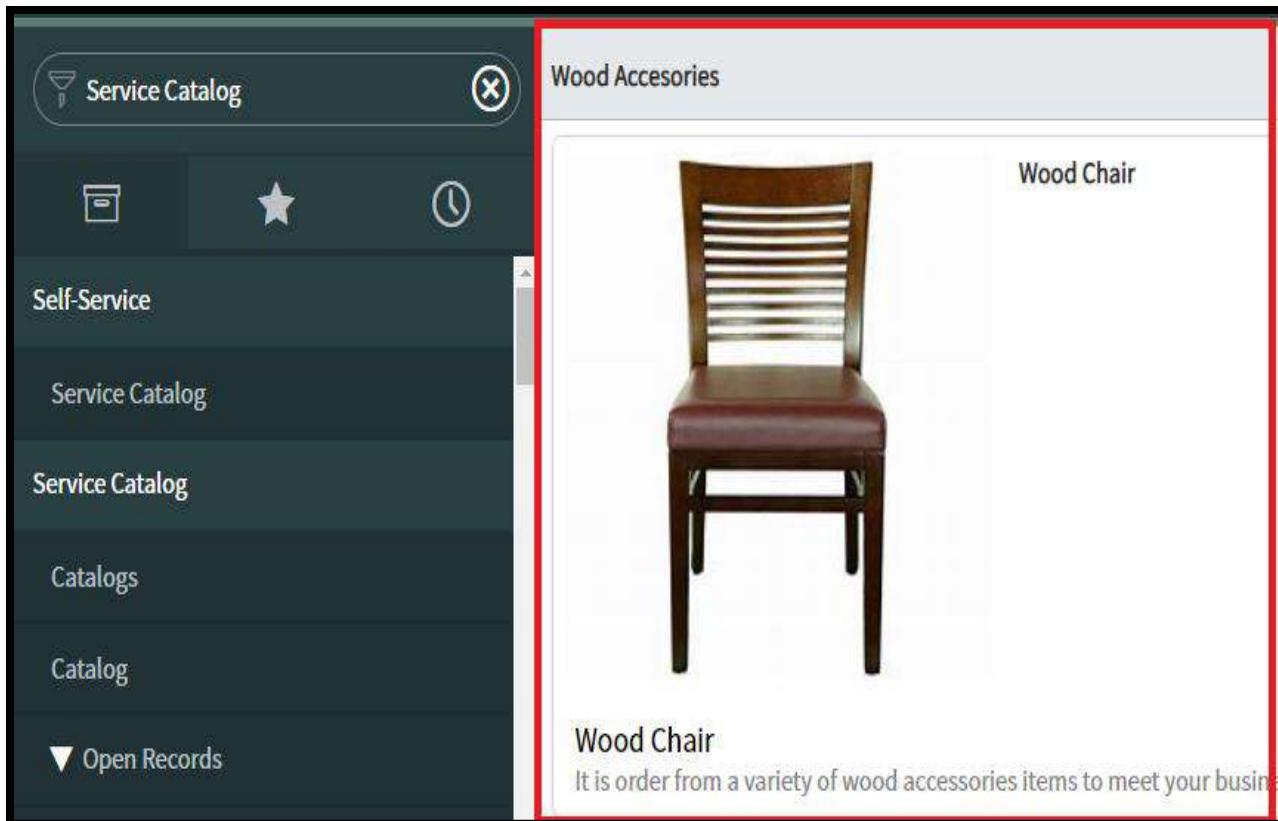


**15. Select Wood Chair**

**16. Click on Add here**



**17. Successfully added new Service Category (Like - Below screenshot)**



## Exercise: 3 Configure Service Catalog Category (Wood Table)

Configuring new Service Catalog Category

Category: Wood Table

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Maintain Categories
2. Click on New
3. Fill the Service Catalog Categories Form

The screenshot shows the ServiceNow Categories [Item view] interface. On the left, a sidebar lists navigation options: Service Catalog, Catalog Definitions, My Catalogs, My Categories, My Items, Maintain Catalogs, Maintain Categories, and Renderers. The 'Catalog Definitions' and 'Maintain Categories' items are highlighted with red boxes. On the right, the main area displays a list of categories with columns for Title, Description, and a checkbox. A green 'New' button is located at the top right of the main area. The list includes:

	Title	Description
<input type="checkbox"/>	<a href="#">Emergency Changes</a>	Request a priority change in the event o...
<input type="checkbox"/>	<a href="#">Infrastructure</a>	Datacenter hardware and services to the ...
<input type="checkbox"/>	<a href="#">Accessories</a>	Request for IT services to be
<input type="checkbox"/>	<a href="#">Services</a>	Request for IT services to be

4. **Title:** Wood Table
5. **Catalog:** Wood Accessories
6. **Location:** Optional
7. **Description:** It is order from a variety of wood accessories items to meet your business requirement, **wood tables**.
8. **Icon:** Add
9. **Header Icon:** Add
10. Click on **Submit**

The screenshot shows the 'Category' item view for 'Wood Table'. The 'Title' field is 'Wood Table', 'Catalog' is 'Wood Accessories', 'Location' is empty, 'Parent' is empty, 'Description' is 'It is order from a variety of wood accessories items to meet your business requirement, wood tables.', 'Icon' is '[Update][Delete]', and 'Header icon' is '[Update][Delete]'. Two images of a wooden table are displayed below the form.

Field	Value
Title	Wood Table
Catalog	Wood Accessories
Description	It is order from a variety of wood accessories items to meet your business requirement, wood tables.
Icon	[Update][Delete]
Header icon	[Update][Delete]

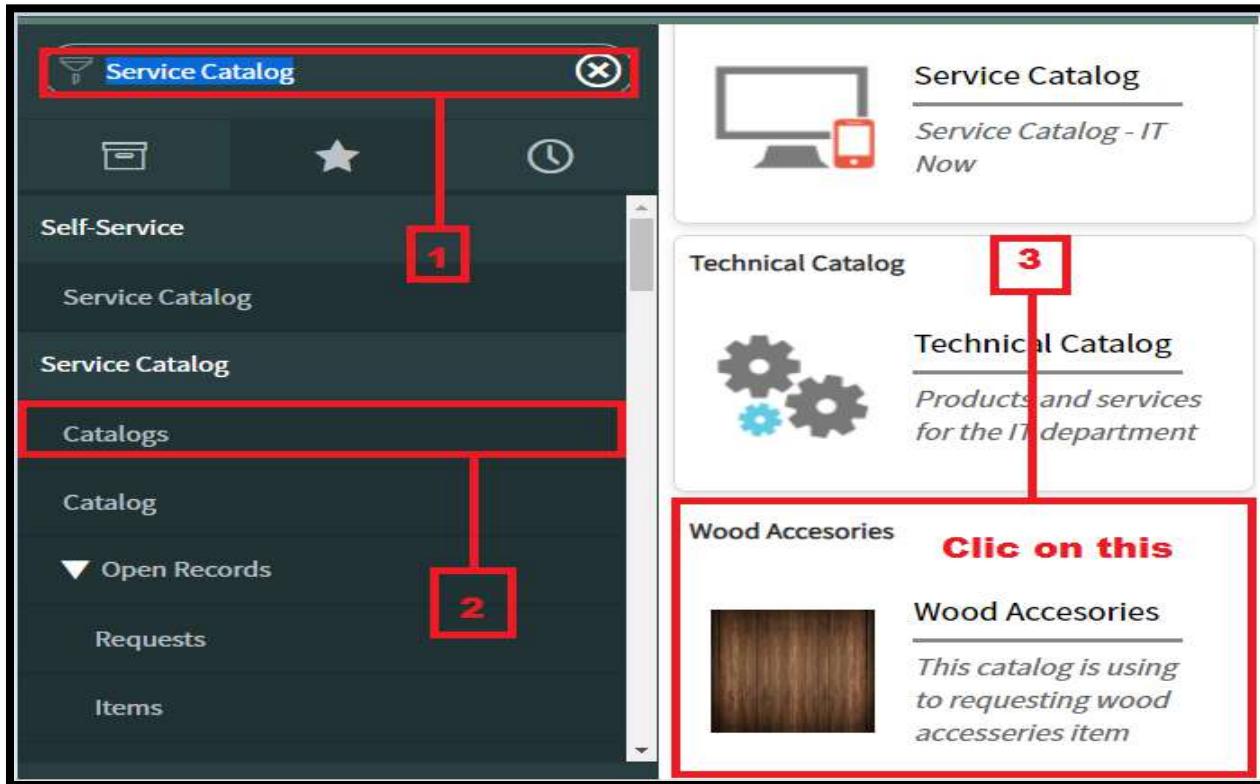
**11.** Successfully configured new **Category** into list of list of **Categories**

The screenshot shows the 'Categories' item view. A new category 'Wood Table' has been added, highlighted with a red box. The table includes columns for Title, Description, Catalog, Active, and Roles.

Category	Description	Catalog	Active
Wood Table	It is order from a variety of wood accessories items to meet your business requirement, wood tables.	Wood Accessories	true
Wood Chair	It is order from a variety of wood accessories items to meet your business requirement, wood tables.	Wood Accessories	true

**12.** Add this new **Category** to category **Home Page**

**13. Navigate to Service Catalog > Catalogs > Wood Accessories**

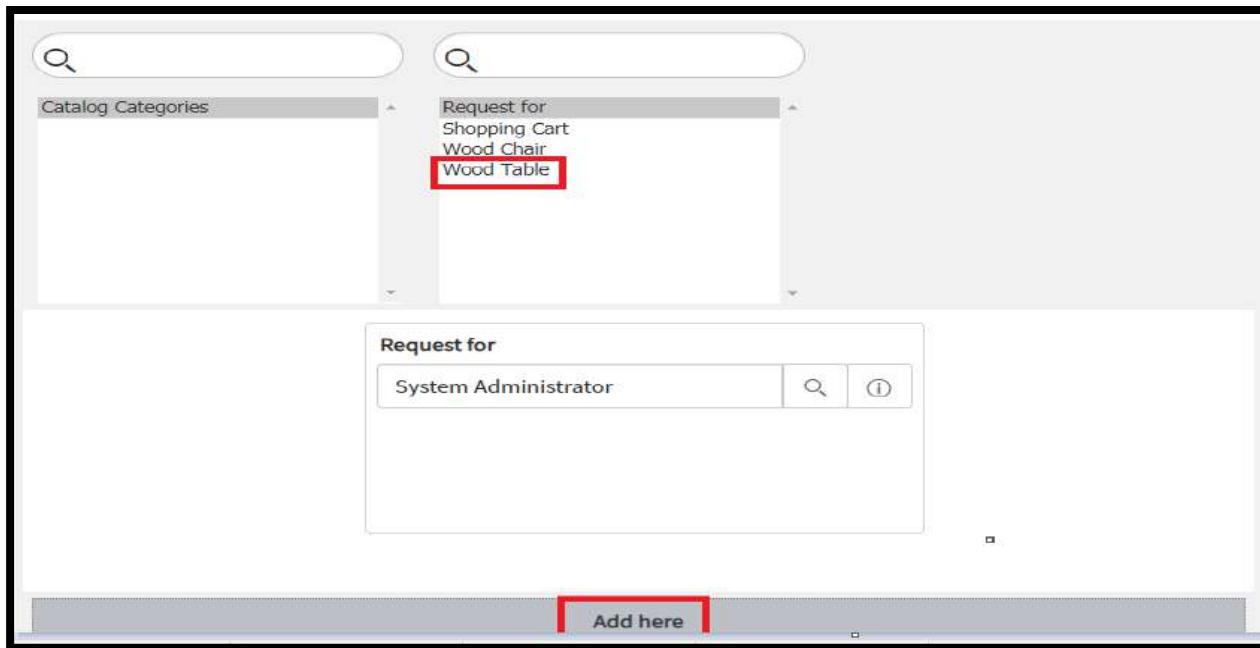


**14. Click on + icon**

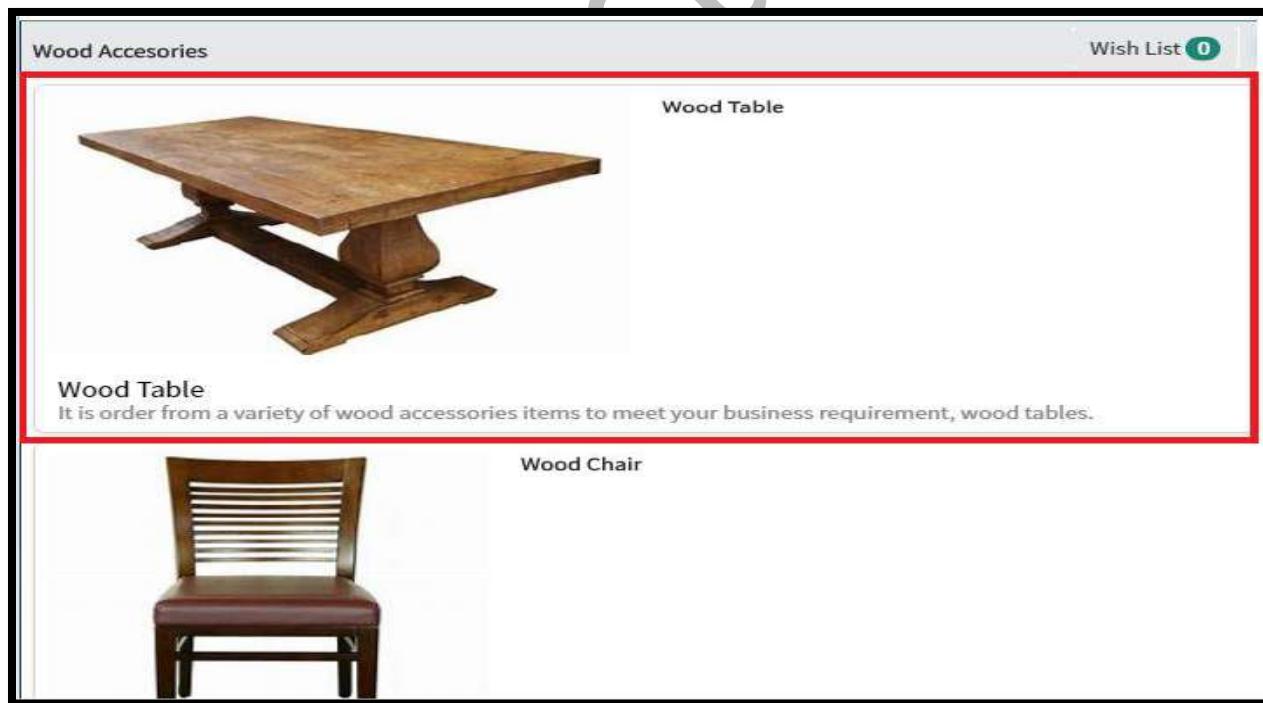


**15. Select Wood Chair**

**16. Click on Add here**



17. Successfully added new **Service Category** (Like - Below screenshot)

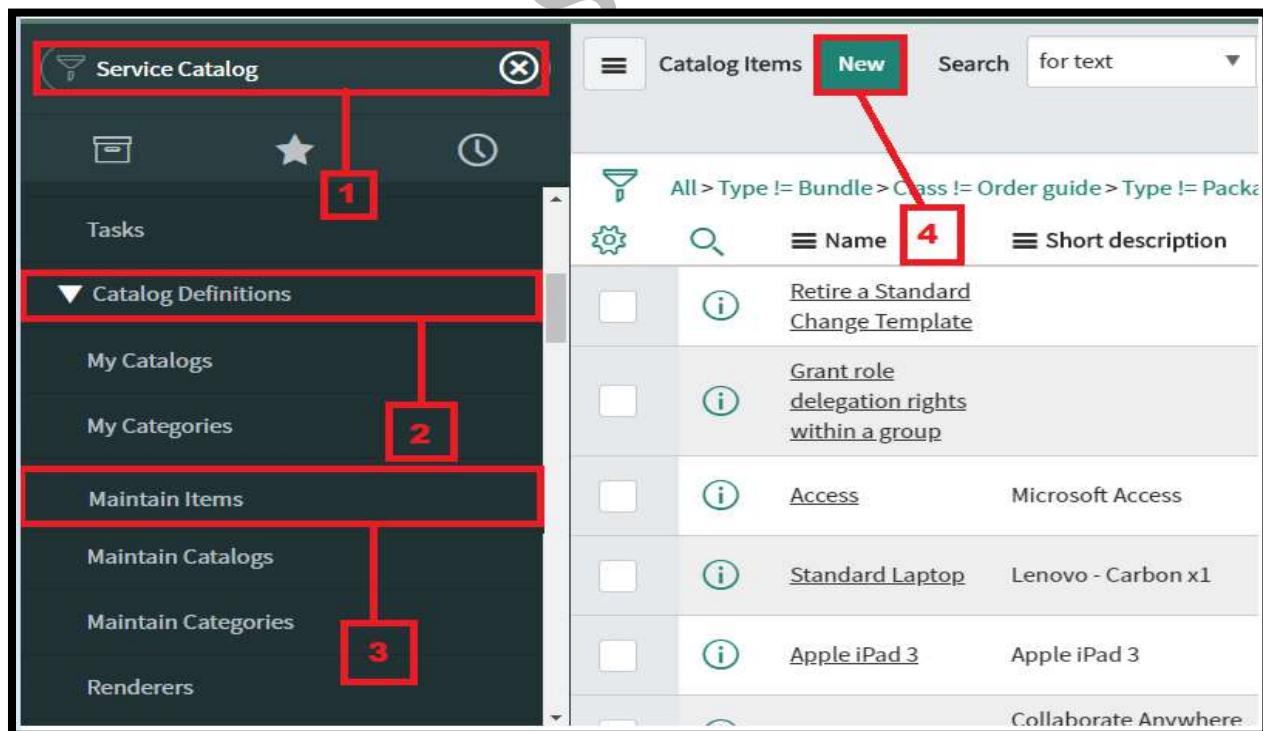


## Exercise: 4 Configure Service Catalog Item

1. Service Catalog Item can be defining an **Item or service**. If any customer something can be ordered by itself, it is a catalog item.
2. Ex: **Apple Macpro 15** is a catalog item, that can be requested by delegates
3. It can be used to publish a service to all our internal users in organization. Then we can add more details about item like. an **Item description, images, workflow engine, Price details, recurring price** to determine the approval and fulfillment processes for the catalog items.
4. We can use different type Variables in service catalog item to present and get more information from the users.
5. Catalog **UI Policies** and **Catalog Client Scripts** can also be added to control the item behavior based on user input.
6. And we can configure **User Criteria** to display item to respective users

## Procedure

1. Navigate to **Service Catalog > Catalog Definition > Maintain Item**
2. Click on **New**
3. Fill the **Service Catalog Item Form**



The screenshot shows the ServiceNow Catalog Item creation interface. At the top, there are buttons for 'Catalog Item' and 'New record', and a toolbar with icons for edit, delete, and submit. A note below the toolbar states: 'Catalog items are goods or services available to order from the service catalog. Items can be anything from hardware, like tablets and phones, to software applications, to furniture and office supplies.' Below this, instructions say: 'Enter a Name and Short description to display for the item.' and 'Enter a Price, approvals, variables, and other information as needed.'

Form fields shown:

- Name: German Wood Chair
- Application: Global
- Catalogs: Wood Accessories
- Active: checked
- Category: Wood Chair
- Availability: Desktop and Mobile

Below the main form, a tab bar includes 'Item Details' (which is selected), Process Engine, Picture, Mobile, Pricing, and Portal Settings.

In the 'Item Details' section, the 'Short description' field contains: 'German wood chair requesting for personal purpose'. The 'Description' field uses a rich text editor with various formatting options like bold, italic, underline, and alignment.

A red box highlights the 'German Wood Chair Features' section, which contains:

- 1) The chair that grows with the child.
- 2) The Trip Trap is an ingenious highchair that revolutionized the children's chair category back in 1972 when it was first launched.

The 'Meta' field at the bottom contains: German Wood.

Note at the bottom: 'Add relevant tags to the Meta field using comma-separated list of tags. These tags will be used while searching the item, Click here'.

#### 4. Name: German Wood Chair

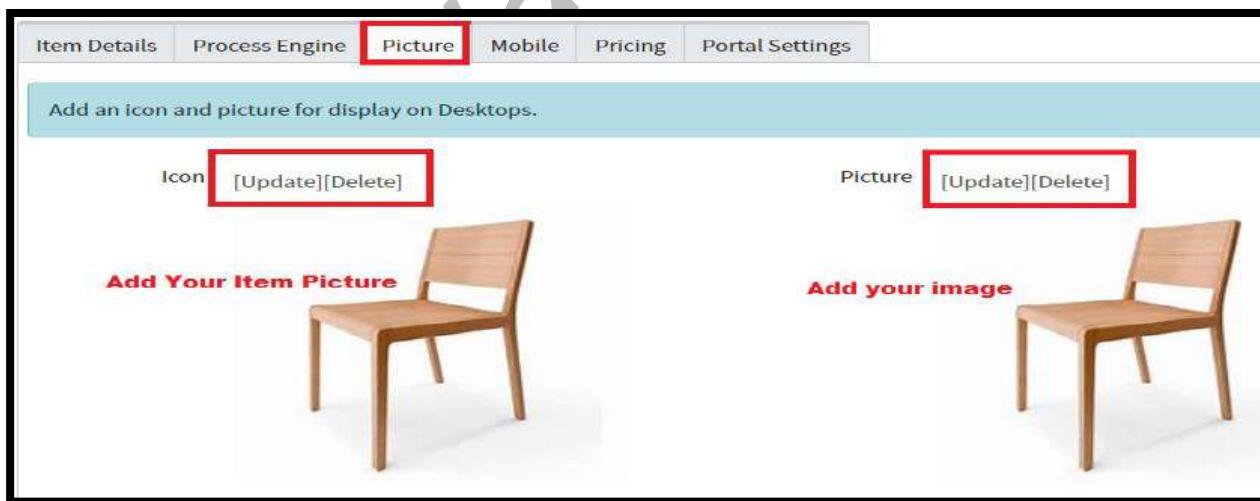
5. **Catalog:** Wood Accessories
6. **Category:** Wood Chair
7. **Availability:** Desktop and Mobile
8. **Short Description:** German wood chair requesting for personal purpose
9. **Meta:** German Wood

The screenshot shows the 'Catalog Item' screen for 'German Wood Chair'. The top navigation bar includes icons for back, forward, refresh, and search, followed by 'Update', 'Copy', 'Try It', and 'Delete' buttons. Below the navigation is a tabs bar with 'Item Details' (selected), 'Process Engine' (highlighted with a red box), 'Picture', 'Mobile', 'Pricing', and 'Portal Settings'. A main content area displays a message: 'Select the appropriate process engine for the catalog item. Only one engine can be selected.' Below this are two input fields: 'Workflow' (empty) and 'Execution Plan' (set to 'DEFAULT'). At the bottom are 'Update', 'Copy', 'Try It', and 'Delete' buttons.

10. Open: Process Engine Tab

11. Workflow: Left blank

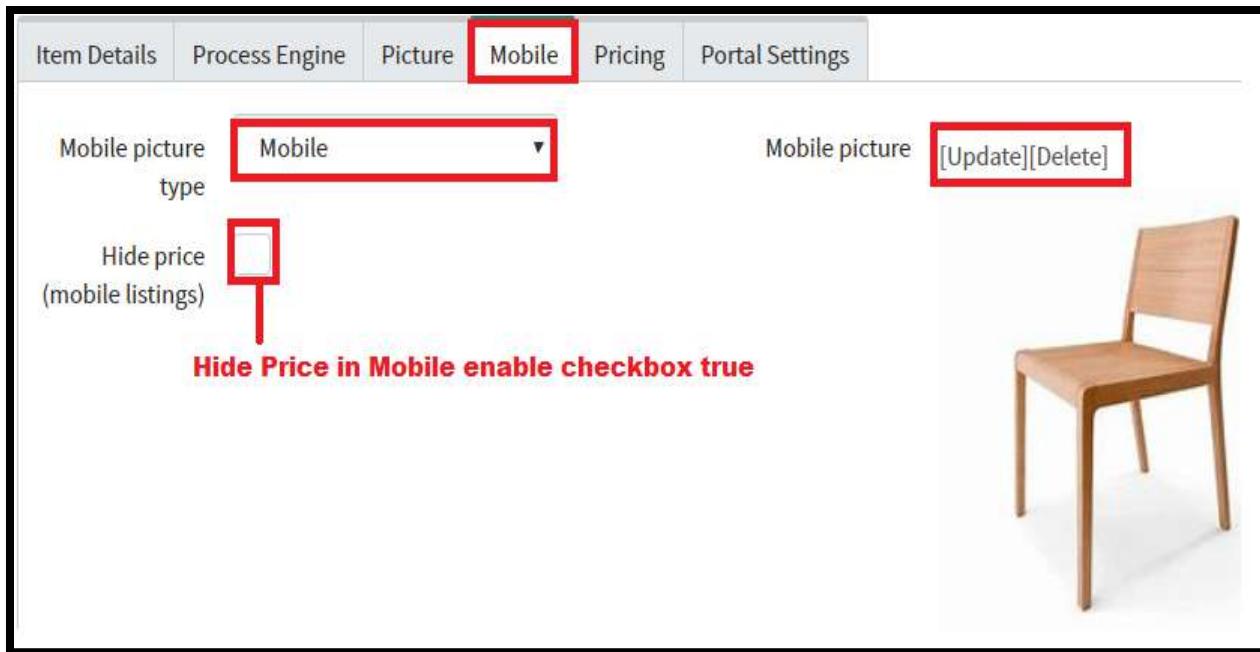
12. Execution Plan: DEFAULT



13. Open: Picture Tab

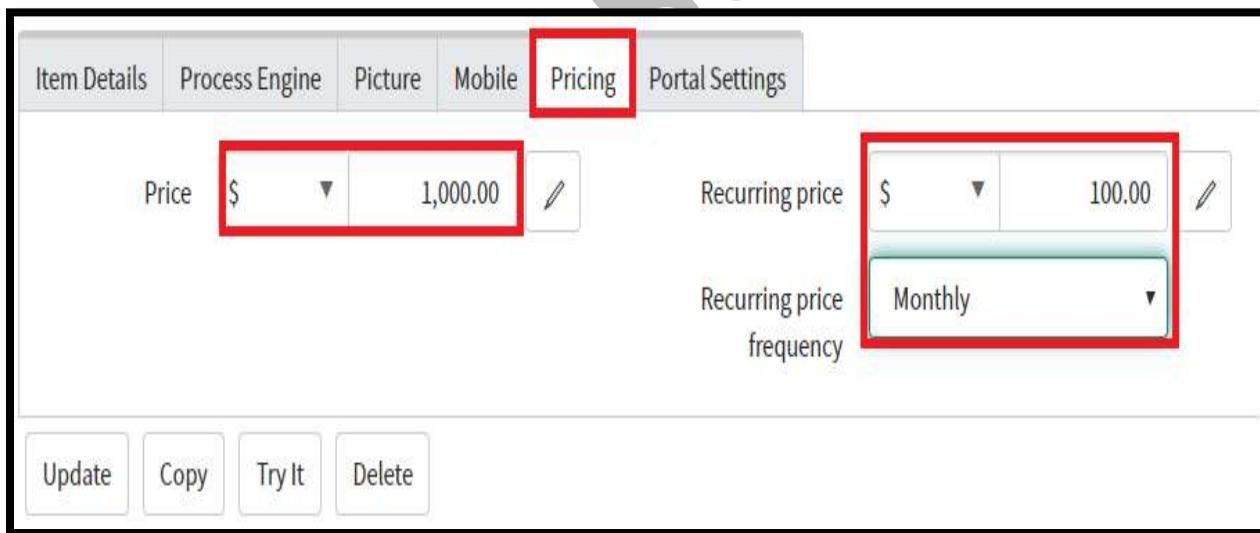
14. Icon: Add

15. Picture: Add



**16. Open:** Mobile Tab

**17. Mobile Picture Type:** Mobile

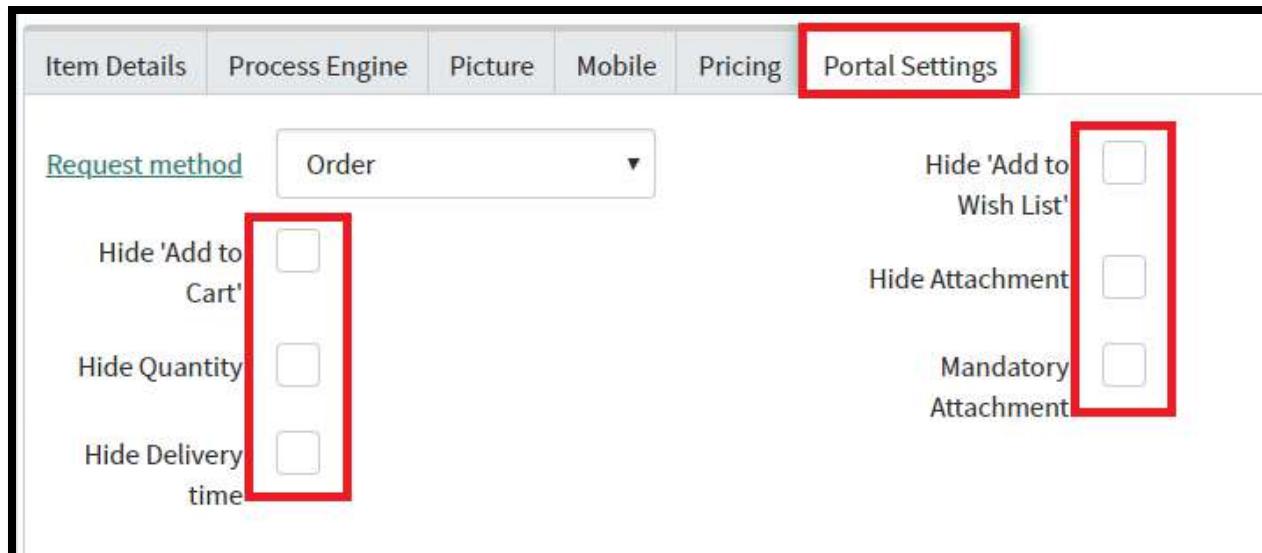


**18. Open:** Pricing Tab

**19. Price:** 1,000 \$

**20. Recurring Price:** 100\$

**21. Recurring Price Frequency:** Monthly



## 22. Open: Portal Settings

**Note:** Based on Our client requirement we need to enable these all checkboxes

## Types of Catalog Items

### Service Catalog Application offering different types of catalog items

Record producers:	✓ Creating <b>Task Based</b> record instead of creating incident
Order guide	✓ To requesting bulk of items in <b>Single Request</b>
Content Items:	✓ <b>Service Catalog Items</b> provide the information instead of <b>Goods or Services</b> .

## What Record Producer

A record producer is a kind of catalog item that can allows end users to create task-based records, such as incident records, from the service catalog. It is alternate way create incident record

Record Producer can provide better **Customer** experience instead of following the regular task-based form for creating records. The look and feel of a record producer is similar to that of a catalog item. But the record producer **generates a task record such as incident, instead of a requested item.**

## Exercise :5 Crete Record Producer

We can create a record producer for tables and database views that are in the same scope as the record producer. Also for tables that allow create access from applications in other scopes.

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Record Producers.
2. Click on New
3. Fill the Record Producer form.

The screenshot shows the ServiceNow interface for managing Catalog Definitions. On the left, there's a sidebar with options like My Catalogs, My Categories, My Items, and Record Producers. The 'Record Producers' option is highlighted with a red box. The main area displays a list of existing record producers. Each entry includes a checkbox, an info icon, the title, and the internal name. The first entry is 'Personal Details' with 'personal\_details' as the internal name. The second entry is 'Standard Employee Questions' with 'standard\_employee\_questions' as the internal name. The third entry is 'Mobile Devices Set' with 'mobile\_devices\_set' as the internal name. At the top right of the main area, there are buttons for 'Variable Sets', 'New', 'Search', and 'Order'. The 'New' button is highlighted with a red box.

	Title	Internal name
<input type="checkbox"/>	Personal Details	personal_details
<input type="checkbox"/>	Standard Employee Questions	standard_employee_questions
<input type="checkbox"/>	Mobile Devices Set	mobile_devices_set

The screenshot shows the ServiceNow Record Producer interface for creating a new record. The form has the following fields:

- Name:** Flight Booking Request (highlighted with a red box)
- Application:** Global
- Table name:** Incident [incident] (highlighted with a red box)
- Active:**
- Model:** (empty input field)
- Expand help for all questions:**  (highlighted with a red box)

Below the form, there are three tabs: "What it will contain" (highlighted with a red box), "Accessibility", and "Generated Record Data". The "What it will contain" tab contains a text area with placeholder text: "Add a short description and a full description". Under this tab, there is a "Short description" field containing the text: "It is used to requesting for book a flight ticket" (highlighted with a red box).

4. **Name:** Flight Booking Request
5. **Table Name:** Incident
6. **Expand help for all questions:** True
7. **Short Description:** It is used to requesting for book a flight ticket

The screenshot shows the ServiceNow Record Producer interface for creating a new record, specifically focusing on the Accessibility section. The form has the following fields:

- Name:** Flight Booking Request
- Application:** Global
- Table name:** Incident [incident]
- Active:**
- Model:** (empty input field)
- Expand help for all questions:**

Below the form, there are three tabs: "What it will contain" (highlighted with a red box), "Accessibility" (highlighted with a red box), and "Generated Record Data". The "Accessibility" tab contains the following settings:

- Catalogs:** Service Catalog (highlighted with a red box)
- Category:** Can We Help You? (highlighted with a red box)
- View:** (empty input field)

On the right side of the Accessibility tab, there are two more settings:

- Availability:** Desktop and Mobile (highlighted with a red box)
- Can cancel:**  (highlighted with a red box)

8. Open **Accessibility** Section
9. **Catalogs:** Service Catalog
10. **Category:** Can we help you?

**11. Availability:** Desktop and Mobile

**12. Can Cancel:** Check true

**13. Click on Submit**

The screenshot shows the ServiceNow interface for managing Record Producers. On the left, there's a sidebar with options like Service Catalog, Catalog Definitions, My Record Producers, and Record Producers. The 'Record Producers' option is highlighted with a red box. The main area displays a list of record producers with columns for Name, Short description, and Active status. Two entries are visible: 'Service Category Request' and 'Flight Booking Request'. The 'Flight Booking Request' entry has its row highlighted with a red box. The 'Active' column for both entries shows 'true'.

Name	Short description	Active
Service Category Request	Start managing your own service requests	true
Flight Booking Request	It is used to requestiong for book a fli...	true

**14. Consider above screenshot after created Record Producer**

## Working with Variable

### What is Variable

**Service Catalog Variables** can be collecting and passing the information about the customer makes when ordering a particular catalog item or raise a request through record producer. Variables can help define the structure of a catalog item form that is displayed to the customer about the order and status.

**For example,** any customer requested an **I Phone** mobile, customer can be able to select more options like **Mobile Color, Extra memory, accessories**

**Note:** Based on your business requirement the service now developer or admin can be able to configure variables

## Types of service catalog variables

Service Catalog offering several types of variables, which are also referred to as questions. Variables can be stored, accessed from multiple places, and passed between tasks in a process when fulfilling a request. They can be displayed on the Requested Item and Catalog Task forms after an item has been ordered.

Service Catalog Variables	
✓ Break	✓ List Collector
✓ Container Start	✓ Check Box
✓ Container Split	✓ Reference
✓ Container End	✓ Select Box
✓ Duration	✓ Lookup Multiple Choice
✓ Yes/No	✓ Macro
✓ Numeric Scale	✓ Wide Single line text
✓ Email	✓ Macro with Label
✓ HTML	✓ Masked
✓ Label	✓ Multiple Choice
✓ Multi Line Text	✓ UI Page
✓ Single Line Text	✓ Lookup Select Box
✓ URL	✓ Date
	✓ Date and Time

## Exercise: 6 Create Variables in Record Producers

Create variables in our existing record producer (**Flight Booking Request**)

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Record Producers
2. Open **Flight Booking Request** Record Producer

The screenshot shows the Service Catalog interface. On the left, a sidebar lists 'Catalog Definitions', 'Record Producers' (which is selected and highlighted with a red box), and other catalog-related options. The main area displays a list of record producers. One record, 'Flight Booking Request', is highlighted with a red box and has a red box over it with the text 'Open This Record'. The list includes:

Name	Description	Active
Service Category Request	Start managing your own service requests	true
Flight Booking Request	It is used to requestiong for book a fli...	true
Add network switch to datacenter cabinet	This standard change template describes ...	true
New LDAP Server	Create a new LDAP server record	true

3. Open **Variable Tab** from Related List
4. Click on **New**
5. Fill the **Reference Variable** form

The screenshot shows the Variables list interface. The top navigation bar has 'Variables (4)' selected (highlighted with a red box). The main area displays a list of variables. One variable, 'Catalog item = Flight Booking Request', is highlighted with a red box. The list includes:

Question	Field	Type	Order
Catalog item = Flight Booking Request			▲

The screenshot shows the 'Variable' configuration page in ServiceNow. A red box highlights the 'Field' dropdown set to 'Caller'. Another red box highlights the 'Type' dropdown set to 'Reference'. A third red box highlights the 'Question' tab, which is currently selected. A fourth red box highlights the 'Value' input field containing 'Flight Booking Request'. A fifth red box highlights the 'Order' input field containing '100'.

Setting	Value
Map to field	<input checked="" type="checkbox"/>
Field	Caller
Record producer table	incident
Type	Reference
Catalog item	Flight Booking Request
Application	Global
Mandatory	<input checked="" type="checkbox"/>
Active	<input checked="" type="checkbox"/>
Order	100

Question Tab:

Specify the Question that explains the options available to the end user when ordering the item

\* Question: Flight Booking For

Tooltip:

6. **Map to field:** Check True (**This variable value can store in caller field in incident table**)
7. **Record Producer Table:** Incident (**Records in store in Incident table**)
8. **Field:** Caller
9. **Mandatory:** Check True (**customer must fill the value**)
10. **Variable Type:** Reference (**Data type**)
11. **Order:** 100
12. **Question:** Flight Boking For

**Note:** Reference Variable is used to get the records from reference table like `sys_user`

The screenshot shows the 'Type Specifications' tab selected in a list of tabs. Below it, a section titled 'Values specific to this variable Type' contains a 'Variable Width' dropdown set to 'System Default Width (5l)'. A note says 'Not honored in 2 column container'. Under 'Reference', there is a dropdown menu with 'User [sys\_user]' highlighted and surrounded by a red box. Below it, 'Use reference qualifier' is set to 'Simple'.

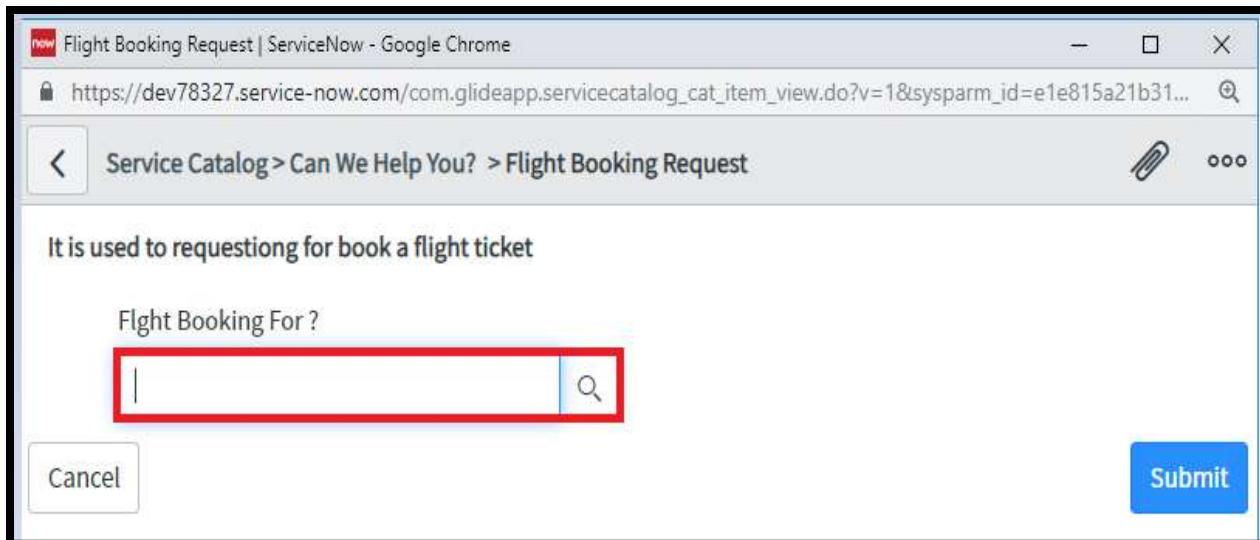
**13. Open Type Specifications tab from related list**

**14. Reference: [sys\_user]**

**15. Click on Submit**

**16. Click on Preview Item or Try It to preview the record producer**

The screenshot shows the 'Record Producer' screen for 'Flight Booking Request'. The top bar includes 'Record Producer', 'Flight Booking Request', and buttons for 'Update', 'Copy', 'Try It' (which is highlighted with a red box), and 'Delete'. The main form has fields for 'Name' (Flight Booking Request), 'Application' (Global), 'Table name' (Incident [incident]), 'Active' (checked), 'Model' (empty), 'Preview link' (with a blue 'Preview Item' link highlighted with a red box), and 'Expand help for all questions' (unchecked). At the bottom, tabs for 'What it will contain' (selected), 'Accessibility', and 'Generated Record Data' are visible, along with 'Short description' (It is used to request for book a flight ticket) and 'Description' (with minus and plus icons).



## 17. Preview of Record Producer Variable

### Working with Yes/No variable

The Yes or No variable creates a choice list or boolean with Yes / No as options. Include None also if required

#### Procedure

1. Open Flight Booking Request Record Producer

The screenshot shows the Service Catalog interface. The left sidebar has a red box around the 'Record Producers' tab. The main area shows a list of catalog definitions:

Name	Description	Active
<a href="#">Service Category Request</a>	Start managing your own service requests	true
<a href="#">Flight Booking Request</a>	It is used to requestiong for book a fli...	true
<a href="#">Add network switch to datacenter cabinet</a>	This standard change template describes ...	true
<a href="#">New LDAP Server</a>	Create a new LDAP server record	true

A red box highlights the 'Flight Booking Request' row, and another red box highlights the 'Open This Record' button next to it.

2. Open **Variable Tab** from Related List
3. Click on **New**
4. Fill the **Yes/No Variable** form

The screenshot shows the Variables screen. The top navigation bar has a red box around the 'Variables (4)' tab. The main area shows a list of variables:

Question	Field	Type	Order
<a href="#">Flight Booking For ?</a>	caller_id	Reference	100

A red box highlights the 'New' button in the top navigation bar.

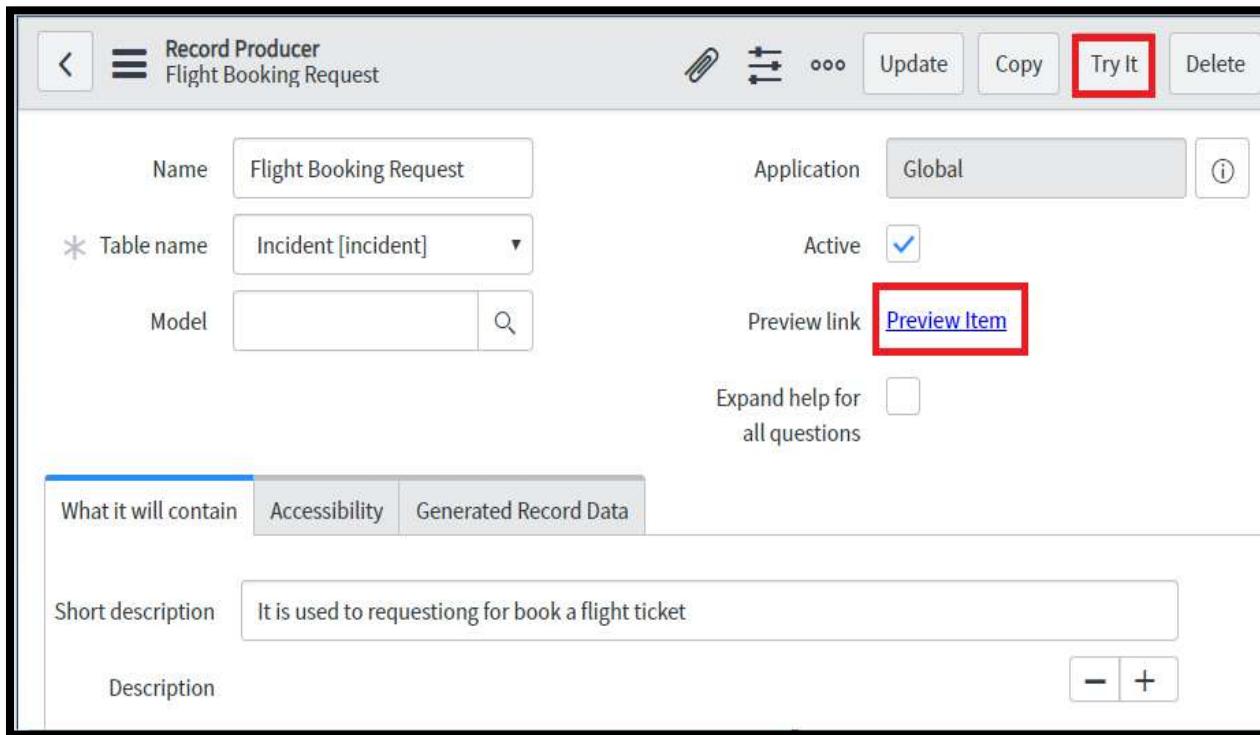
The screenshot shows the 'Variable' creation screen in ServiceNow. The 'Type' is set to 'Yes / No'. The 'Mandatory' checkbox is checked. The 'Order' is set to 200. The 'Question' tab is selected, showing the question 'Are you travelling first time' and its name 'are\_you\_travelling\_first\_time'. The 'Type Specifications' tab is also visible.

5. **Type:** Yes/No
6. **Mandatory:** Check True
7. **Order:** 200
8. **Question:** Are you travelling first time

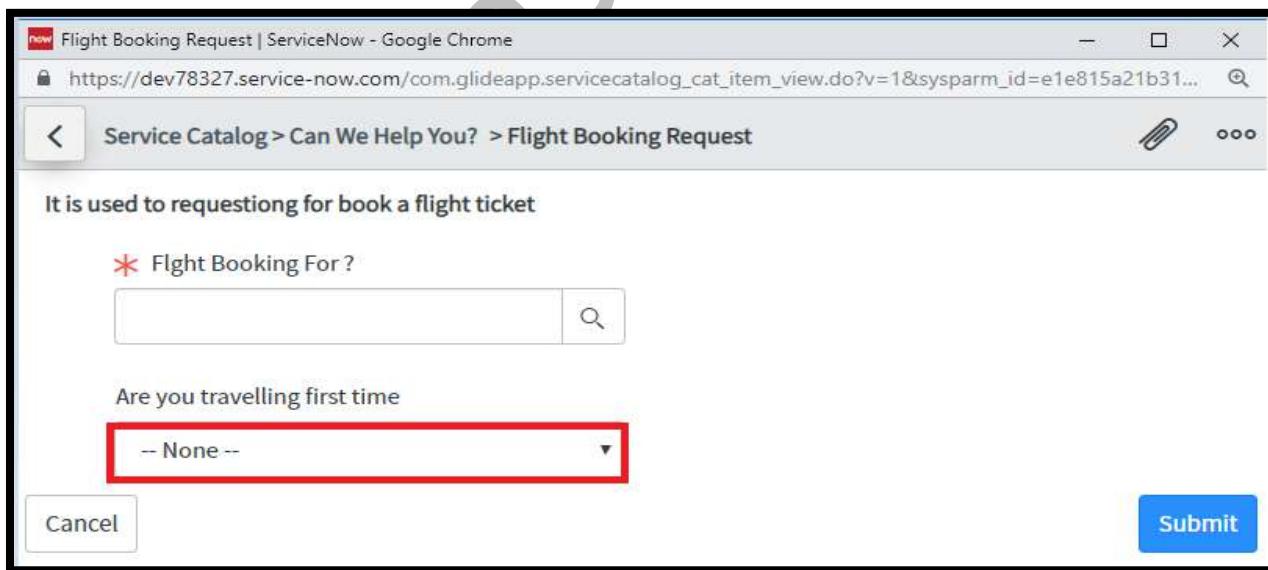
The screenshot shows the 'Type Specifications' tab in the ServiceNow Variable configuration. It includes settings for 'Variable Width' (System Default Width (5)), 'Not honored in 2 column container', and 'Include none' (which is checked).

9. **Type Specification Tab**
10. **Include none:** checked True

**11. Click on Submit**



**12. Click on Preview Item or Try It to preview the record producer**



**13. Preview of Record Producer Variable**

## Working with Lookup Select Box Variable

We can get choice list using data queried from a table. Functionality is similar to **lookup multiple choice variable**, which creates radio buttons from queried data.

### Procedure

1. Open Flight Booking Request Record Producer

The screenshot shows the ServiceNow interface for managing record producers. On the left, there's a sidebar with options like 'Service Catalog', 'Catalog Definitions' (which is expanded), 'Record Producers' (which is selected and highlighted with a red box), and 'My Items', 'Maintain Catalogs', and 'Maintain Categories'. The main area is titled 'Record Producers' with a 'New' button. It lists several record producers:

Name	Short description	Active
Service Category Request	Start managing your own service requests	true
Flight Booking Request	It is used to requestong for book a fli...	true
Add network switch to datacenter cabinet	This standard change template describes ...	true
New LDAP Server	Create a new LDAP server record	true

A red box highlights the 'Flight Booking Request' row. A red callout box points to the 'Open This Record' button next to it.

2. Open Variable Tab from Related List
3. Click on New
4. Fill the **Lookup Select Box** Variable form

The screenshot shows the ServiceNow Catalog UI with the 'Variables' tab selected. A new variable, 'Flight Booking For?', has been created and is highlighted with a red box. The variable details are as follows:

Field	Type	Order
Flight Booking For?	Reference	100

The screenshot shows the 'Variable' creation form for the 'Flight Booking For?' variable. The configuration details are:

- Type:** Lookup Select Box (highlighted with a red box)
- Mandatory:** Checked True (highlighted with a red box)
- Order:** 300 (highlighted with a red box)
- Question:** Employee Department (highlighted with a red box)

1. **Variable Type:** Lookup Select Box
2. **Mandatory:** Checked True
3. **Order:** 300
4. **Question:** Employee Department

The screenshot shows the 'Type Specifications' tab selected in the top navigation bar. The configuration pane displays settings for a variable type:

- Variable Width:** Set to 'System Default Width (51)'.
- Not honored in 2 column container:** This note is displayed below the width setting.
- Lookup from table:** Set to 'User [sys\_user]'.
- Lookup value field:** Set to 'Department'.
- Include none:** Checked (indicated by a checked checkbox).
- Unique values only:** Checked (indicated by a checked checkbox).
- Reference qualifier:** An empty input field.

5. Open Type Specification Tab
6. **Lookup from table:** User [sys\_user]
7. **Lookup value field:** Department
8. **Include none:** Checked True
9. **Unique values only:** Checked True
10. Click on Submit

The screenshot shows the 'Record Producer' configuration screen for 'Flight Booking Request':

- Name:** Flight Booking Request
- Application:** Global
- Table name:** Incident [incident] (marked with a red box)
- Model:** An empty input field.
- Active:** Checked (indicated by a checked checkbox).
- Preview link:** A blue link labeled 'Preview Item' (marked with a red box).
- Expand help for all questions:** An unchecked checkbox.
- What it will contain:** A tabbed section with 'What it will contain' (selected), 'Accessibility', and 'Generated Record Data'.
- Short description:** It is used to request for book a flight ticket.
- Description:** An input field with minus and plus buttons for expanding the description.

11. Click on **Preview Item** or **Try It** to preview the record producer

The screenshot shows a ServiceNow form titled "Flight Booking Request". It includes fields for "Flight Booking For?", "Are you travelling first time?", and "Employee Department". The "Employee Department" field has a dropdown menu with "-- None --" selected, which is highlighted with a red box. A watermark "SivasSunkar" is diagonally across the form.

## 12. Preview of Record Producer Variable

### Working with Email Variable

Use to get Email id from customer through record producer

#### Procedure

##### 1. Open Flight Booking Request Record Producer

The screenshot shows the "Record Producers" section under "Catalog Definitions" in the left sidebar. The "Flight Booking Request" record producer is selected and highlighted with a red box. A button labeled "Open This Record" is also highlighted with a red box. The table lists other record producers like "Service Category Request" and "Add network switch to datacenter cabinet".

Name	Description	Active
Service Category Request	Start managing your own service requests	true
Flight Booking Request	It is used to requestiong for book a fli...	true
Add network switch to datacenter cabinet	This standard change template describes...	true
New LDAP Server	Create a new LDAP server record	true

2. Open **Variable Tab** from Related List
3. Click on **New**

	Question	Field	Type	Order
<input type="checkbox"/>	<a href="#">Flight Booking For?</a>	caller_id	Reference	100
<input type="checkbox"/>	<a href="#">Are you travelling first time</a>		Yes / No	200
<input type="checkbox"/>	<a href="#">Employee Department</a>		Lookup Select Box	300

4. Fill the **Email Variable** form

Map to field

Application: Global

Type: Email

Mandatory:

Catalog item: Flight Booking Request

Active:

Order: 400

Question tab selected.

Specify the Question that explains the options available to the end user when ordering the item

\* Question: Employee Email ?

\* Name: employee\_email

Tooltip: Provide Valid Email ID

Example Text: srinivas.sunkara@example.com

5. Variable type: Email

6. **Mandatory:** Checked True
7. **Order:** 400
8. **Question:** Employee Email?
9. **Tooltip:** Provide Valid Email ID
10. **Example Text:** srinivas.sunkara@example.com
11. Click on **Submit**

Record Producer  
Flight Booking Request

Name: Flight Booking Request Application: Global

Table name: Incident [incident] Active:

Model:  Preview link: [Preview Item](#)

Expand help for all questions:

What it will contain: Accessibility Generated Record Data

Short description: It is used to request for book a flight ticket

Description: - +

12. Click on **Preview Item** or **Try It** to preview the record producer

Flight Booking Request | ServiceNow - Google Chrome  
https://dev78327.service-now.com/com.glideapp.servicecatalog\_cat\_item\_view.do?v=1&sysparm\_id=e1e8

Service Catalog > Can We Help You? > Flight Booking Request

It is used to request for book a flight ticket

\* Flight Booking For ?

\* Are you travelling first time?

\* Employee Department

\* Employee Email ?

Cancel

### 13. Preview of Record Producer Variable

## Working with Date&Time variable

Get date and time to display both **date and time** values. Time value is stored in **Greenwich Mean Time (GMT)** and displayed in the time zone of the current user.

### Procedure

#### 1. Open Flight Booking Request Record Producer

The screenshot shows the Service Catalog interface. The left sidebar has sections for Catalog Definitions, My Catalogs, Record Producers, My Items, Maintain Catalogs, and Maintain Categories. The 'Record Producers' section is highlighted with a red box. The main area displays a list of record producers. One record, 'Flight Booking Request', is selected and highlighted with a red box. A tooltip 'Open This Record' points to the selected row. The list includes:

Name	Short description	Active
Service Category Request	Start managing your own service requests	true
<b>Flight Booking Request</b>	It is used to requestiong for book a fli...	true
Add network switch to datacenter cabinet	This standard change template describes ...	true
New LDAP Server	Create a new LDAP server record	true

#### 2. Open Variable Tab from Related List

#### 3. Click on New

The screenshot shows the Variables screen for the 'Flight Booking Request' record producer. The 'New' button in the top bar is highlighted with a red box. The main area displays a list of variables. The first variable, 'Flight Booking For?', is highlighted with a red box. The list includes:

Question	Field	Type	Order
Flight Booking For?	caller_id	Reference	100
Are you travelling first time		Yes / No	200
Employee Department		Lookup Select Box	300

#### 4. Fill the Date&Time Variable form

The screenshot shows the 'Variable' form in ServiceNow. The 'Type' is set to 'Date/Time'. The 'Application' is 'Global'. The 'Mandatory' and 'Active' checkboxes are checked. The 'Order' is set to 500. The 'Question' tab is selected, showing the question 'Booking Date&Time ?' and the name 'booking\_date\_time'.

5. **Variable type:** Date/Time

6. **Mandatory:** Checked True

7. **Order:** 500

8. **Question:** Booking Date&Time

9. Click on **Submit**

The screenshot shows the 'Record Producer' form for 'Flight Booking Request'. The 'Name' is 'Flight Booking Request', 'Table name' is 'Incident [incident]', and 'Model' is empty. The 'Application' is 'Global' and 'Active' is checked. The 'Preview link' is 'Preview Item', which is highlighted with a red box. The 'Try It' button is also highlighted with a red box. Below the form, there are tabs for 'What it will contain' (selected), 'Accessibility', and 'Generated Record Data'. The 'Short description' is 'It is used to requestiong for book a flight ticket'.

10. Click on **Preview Item** or **Try It** to preview the record producer

It is used to requestong for book a flight ticket

\* Flight Booking For ?

\* Are you travelling first time

-- None --

\* Employee Department

-- None --

\* Employee Email ?

June 2019						
S	M	T	W	T	F	S
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

Go to Today

(Green Checkmark) (Red X)

## 11. Preview of Record Producer Variable

\* Are you travelling first time

\* Employee Department

\* Employee Email ?

\* Booking Date&Time ?

\* Employee Designation ?

-- None --

Account Exec Financial Services

Account Exec Fortune 500

## Working with Lookup Multiple Choice Variable

Giving options as radio buttons getting data from a table. Functionality is similar to **Lookup Select Box**, which is used to get choice values from table

### Procedure

1. Open **Flight Booking Request Record Producer**

The screenshot shows the ServiceNow Catalog Definitions screen. The left sidebar has tabs for Service Catalog, Catalog Definitions (highlighted with a red box), My Catalogs, Record Producers (highlighted with a red box), My Items, Maintain Catalogs, and Maintain Categories. The main area shows a list of record producers. One record, 'Flight Booking Request', is highlighted with a red box. A tooltip 'Open This Record' points to its row. The list includes:

Name	Short description	Active
Service Category Request	Start managing your own service requests	true
Flight Booking Request	It is used to requestiong for book a fli...	true
Add network switch to datacenter cabinet	This standard change template describes...	true
New LDAP Server	Create a new LDAP server record	true

2. Open **Variable Tab** from Related List
3. Click on **New**

Variables	New	Go to	Order	Search	◀◀	◀	▶	▶▶	☰
Catalog item = Flight Booking Request					1	to 4 of 4			
Question	Field	Type	Order ▲						
(i) Flight Booking For?	caller_id	Reference	100						
(i) Are you travelling first time		Yes / No	200						
(i) Employee Department		Lookup Select Box	300						

#### 4. Fill the **Lookup Multiple Choice Variable** form

The screenshot shows the 'Variable' creation form for a new record. The 'Type' is set to 'Lookup Multiple Choice' (highlighted with a red box). The 'Mandatory' and 'Active' checkboxes are checked (also highlighted with a red box). The 'Order' is set to 600. The 'Question\*' tab is selected, showing the question 'Employee Designation?' and the name 'employee\_designation'.

Map to field  Application Global

Type **Lookup Multiple Choice**

Catalog item **Flight Booking Request**

Mandatory  Active

Order **600**

Question\* Annotation Type Specifications\* Default Value Permission Availability

Specify the Question that explains the options available to the end user when ordering the item

\* Question **Employee Designation?**

\* Name **employee\_designation**

5. **Variable type:** Lookup Multiple Choice
6. **Mandatory:** Checked True
7. **Order:** 600
8. **Question:** Employee Designation?
9. Click on **Submit**

The screenshot shows the 'Type Specifications' tab selected in a ServiceNow interface. The tab bar includes 'Question', 'Annotation', 'Type Specifications' (highlighted with a red box), 'Default Value', 'Permission', and 'Availability'. Below the tabs, a section titled 'Values specific to this variable Type' contains several configuration options:

- 'Variable Width': Set to 'System Default Width (51)'.
- 'Lookup from table': Set to 'User [sys\_user]'.
- 'Lookup value field': Set to 'Title'.
- 'Choice direction': Set to 'Down'.
- 'Include none': A checkbox is checked.
- 'Unique values only': A checkbox is checked.

Red boxes highlight the 'User [sys\_user]', 'Title', and both checkboxes under 'Unique values only'.

10. Open **Type Specification** tab
11. **Lookup from table:** user[sys\_user]
12. **Lookup value field:** Title
13. **Choice direction:** Down
14. **Include none:** Checked **True**
15. **Unique values only:** Checked **True**
16. Click on **Submit**

The screenshot shows the 'Record Producer' configuration page for a 'Flight Booking Request'. The top navigation bar includes 'Record Producer', 'Flight Booking Request', and standard actions like Update, Copy, Try It (which is highlighted with a red box), and Delete.

Configuration fields include:

- Name: Flight Booking Request
- Application: Global
- Table name: Incident [incident] (marked with a red asterisk)
- Active: Checked (marked with a red checkmark)
- Model: (empty field)
- Preview link: Preview Item (highlighted with a red box)
- Expand help for all questions: Unchecked

Below these are tabs for 'What it will contain' (selected), Accessibility, and Generated Record Data. The 'Description' section contains the text: "It is used to requestong for book a flight ticket".

16.Click on **Preview Item** or **Try It** to preview the record producer

The form contains the following fields:

- \* Are you travelling first time? (dropdown menu: -- None --)
- \* Employee Department? (dropdown menu: -- None --)
- \* Employee Email? (text input: srinivas.sunkara@example.com, with an envelope icon)
- \* Booking Date&Time? (text input with calendar icon)
- \* Employee Designation? (radio button group)
  - None --
  - Account Exec Financial Services
  - Account Exec Fortune 500

## Working with Break Variable

A **Break Variable** can display a horizontal line on the form. Breaks are formatting elements. It's not collecting any data from customer

**Note:** The break variable is not yet supported on **Service Portal** and **Mobile Devices**.

## Procedure

1. Open **Flight Booking Request** Record Producer

The screenshot shows the ServiceNow Catalog Definitions screen. On the left, there is a sidebar with options: Service Catalog, Catalog Definitions (highlighted with a red box), My Catalogs, Record Producers (highlighted with a red box), My Items, Maintain Catalogs, and Maintain Categories. The main area displays a list of record producers. One record, "Flight Booking Request", is highlighted with a red box and has a callout bubble pointing to it with the text "Open This Record". The list includes:

Name	Description	Active
Service Category Request	Start managing your own service requests	true
Flight Booking Request	It is used to requestiong for book a fli...	true
Add network switch to datacenter cabinet	This standard change template describes ...	true
New LDAP Server	Create a new LDAP server record	true

2. Open **Variable Tab** from Related List

3. Click on **New**

The screenshot shows the ServiceNow Variables screen. At the top, there is a toolbar with "Variables" (highlighted with a red box), "New" (highlighted with a red box), "Go to", "Order", "Search", and navigation buttons. Below the toolbar, the screen displays a list of variables. One variable, "Flight Booking Request", is highlighted with a red box and has a callout bubble pointing to it with the text "Catalog item = Flight Booking Request". The list includes:

Question	Field	Type	Order
Flight Booking For?	caller_id	Reference	100
Are you travelling first time		Yes / No	200
Employee Department		Lookup Select Box	300

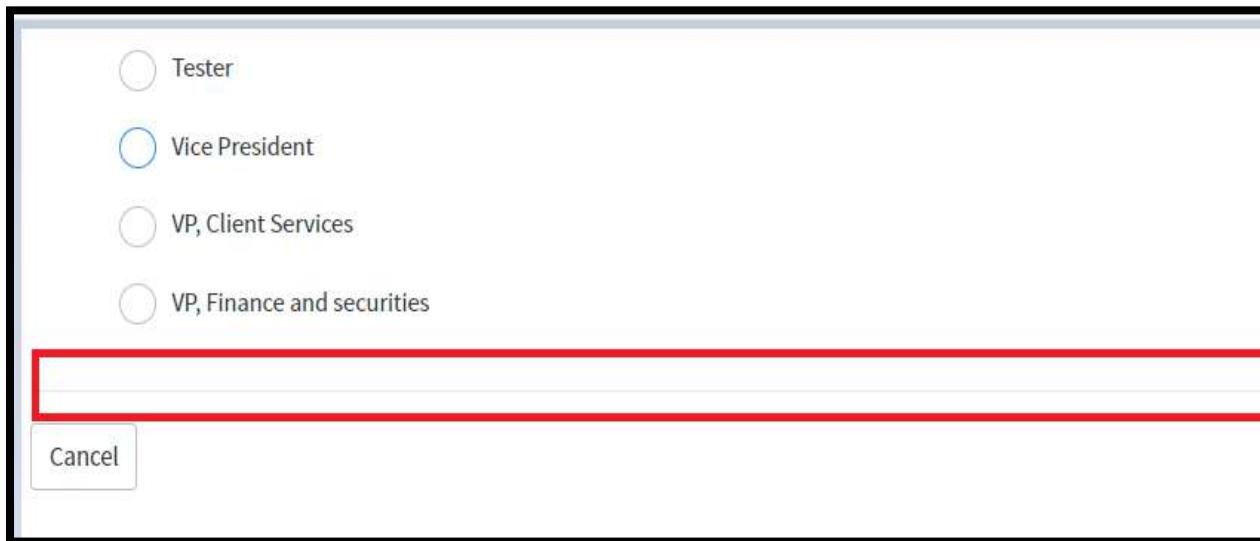
4. Fill the **Break Variable form**

This screenshot shows the 'Variable' creation screen in ServiceNow. The 'Type' field is set to 'Break' (highlighted with a red box). The 'Order' field contains the value '700' (also highlighted with a red box). The 'Submit' button in the top right corner is also highlighted with a red box.

5. **Variable Type:** Break
6. **Order:** 700
7. Click on **Submit**

This screenshot shows the 'Record Producer' configuration screen for 'Flight Booking Request'. The 'Try It' button in the top right is highlighted with a red box. The 'Preview link' field contains the value 'Preview Item' (highlighted with a red box). The 'Short description' field contains the text 'It is used to requestiong for book a flight ticket'.

8. Click on **Preview Item or Try It** to preview the record producer



9. Preview of Record Producer Variable

## What is Order Guide

1. Order guide is submit a single service catalog request that can be generate bulk of items.
2. Order guides allow the customers to answer a series of questions
3. Resulting in one or more products or services being requested
4. This will avoid the need for customers to know specifically what products and services they required
5. Ensure that costumers request the right items leads to improved service provider efficiency and greater customer satisfaction
6. Order guides can be defining which catalog items to order by evaluating order guide rule conditions.
7. Information the customer provide within the order guide can be passed as cascading variables to the ordered items, allowing common information to be reused across multiple items.



**Ex:** **New On-boarding** order guide can contain number of items that new employees commonly need, such as **Computer, ID Cards, Mobile Phone, New mail creation, Other facilities**. After choose this particular order guide, the employee can then provide required information about the new employee, including **Designation** and **Department**. The order guide then submits an order for catalog items like computer, based on the details provided.

All Order guides can be run automatically, generating a set of ordered items without needing to manually submit a service catalog request.

For example, an **on-boarding** workflow for a new employee can automatically run an order guide to order items for that employee.

## Exercise: 7 Create On-Boarding Order Guide

We can create an order guide for new employees to requesting bulk of items in single request, needed for business purpose

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides.
2. Click on New

The screenshot shows the ServiceNow Service Catalog interface. On the left, there is a sidebar with the following options:

- Service Catalog (highlighted with a red box)
- Catalog Definitions (highlighted with a red box)
- My Catalogs
- My Categories
- My Items
- Maintain Catalogs
- Maintain Categories
- Order Guides (highlighted with a red box)
- Maintain Dynamic Categories

The main content area is titled "Order guides". It includes a "New" button (highlighted with a red box), a search bar, and a table with the following data:

	Name	Short description
<input type="checkbox"/>	Request	Request hardware and software to support...
<input type="checkbox"/>	Developer	Request hardware and software to support...
<input type="checkbox"/>	Project	Request hardware and software to support...
<input type="checkbox"/>	Equipment	Request hardware and software to support...
<input type="checkbox"/>	New Hire	New Hire Order Guide

At the bottom right of the main area, there are "Activate" and "Deactivate" buttons, and a link "Actions on selected rows...".

3. Fill On-Boarding order guide form

The screenshot shows the 'Order guide' creation screen in ServiceNow. The 'Name' field is set to 'On-Boarding'. The 'Application' is 'Global'. The 'Active' checkbox is checked. Under 'Category', there is a dropdown menu with 'Can We Help You?' selected. The 'Icon' field has 'Click to add...' placeholder text. The 'Cascade Variables' checkbox is unchecked. Two checkboxes under 'Expand help for all questions' and 'Show Include Toggle (Service Portal)' are checked. The 'Short description' field contains the text 'On-Barding order guide is used by new employees to requesting bulk items'. The 'Meta' field contains 'On-Board'. A large red box highlights the 'Name', 'Category' dropdown, and the 'Short description' field.

Name	On-Boarding	Application	Global
Catalogs	Service Catalog	Active	<input checked="" type="checkbox"/>
Category	Can We Help You?	Two step	<input type="checkbox"/>
Icon	Click to add...	Cascade Variables	<input type="checkbox"/>
		Expand help for all questions	<input checked="" type="checkbox"/>
		Show Include Toggle (Service Portal)	<input checked="" type="checkbox"/>
Short description	On-Barding order guide is used by new employees to requesting bulk items		
Meta	On-Board		

4. **Name:** On-Boarding
5. **Catalog:** Service Catalog
6. **Category:** Can we help you?
7. **Icon:** (Optional if required add image)
8. **Expand help for all Questions:** Checked **True**
9. **Show Include Toggle (Service Portal):** Checked **True**
10. **Short Description:** On-Barding order guide is used by new employees to requesting bulk items
11. **Meta:** On-Board
12. Click on **Submit**

Order guides	New	Search for text	Search	1 to 3 of 3	<< < > >>			
	Name	Short description	Active	Roles	Catalogs	Category	Price	1
	Request							
	Developer	Request hardware and software to support...	true		Service Catalog	(empty)	\$0.00	Item
	Project							
	Equipment							
	On-Boarding	On-Barding order guide is used by new em...	true		Service Catalog	Can We Help You?	\$0.00	Item
	New Hire	New Hire Order Guide	true		Service Catalog	Can We Help You?	\$0.00	Item
	Activate	Deactivate	Actions on selected rows...					

13. Successfully created new **Order Guide** for look into screen

## Working with Container Start Variable

Container Start Variable is Similar to Variable Set. This variable can define a layout for a container that can hold multiple variables to display specific information related to your business

These variables use **Container Start** and **Container End** variables to define the start and end points of a container layout.

The container end should be used along with container start to close a container layout.

A container layout can be split into two or three columns using the container split variable

## Procedure

1. Navigate to **Service Catalog > Catalog Definition > Order Guides**
2. Open **On-Boarding** order guide Record

The screenshot shows the ServiceNow Order Guides list view. On the left, there is a sidebar with the following items:

- Service Catalog (highlighted with a red box)
- Catalog Definitions (highlighted with a red box)
- Order Guides (highlighted with a red box)

The main area displays a list of order guides:

	Name	Short description	Active	Roles
<input type="checkbox"/>	Request	Request hardware and software to support...	true	
<input type="checkbox"/>	Developer	Request hardware and software to support...	true	
<input type="checkbox"/>	Project	Request hardware and software to support...	true	
<input type="checkbox"/>	Equipment	Request hardware and software to support...	true	
<input type="checkbox"/>	On-Boarding	On-Barding order guide is used by new em...	true	
<input type="checkbox"/>	New Hire	New Hire Order Guide	true	

Action buttons at the bottom include: Activate, Deactivate, and Actions on selected rows...

3. Open **Variable Tab** from Related List
4. Click on **New**

The screenshot shows the ServiceNow Variables list view. The top navigation bar has tabs: Variables (highlighted with a red box), Variable Sets, Rule base, Catalog UI Policies, Catalog Client Scripts, Available For, and Not Available For.

The main area displays a list of variables:

	Name	Question	Type
No records to display			

Action buttons at the bottom include: Variables, New (highlighted with a red box), Search, and a search input field.

5. Fill Container Start Variable Form

The screenshot shows the ServiceNow 'Variable' configuration page. At the top, it says 'Variable' and 'New record'. The 'Type' field is set to 'Container Start' (highlighted with a red box). The 'Application' is 'Global'. The 'Display title' field has a checked checkbox (highlighted with a red box). The 'Active' field also has a checked checkbox. The 'Catalog item' is 'On-Boarding' (highlighted with a red box). The 'Order' is set to '100' (highlighted with a red box). Below these settings, there are tabs for 'Question', 'Annotation', 'Type Specifications', and 'Availability'. The 'Question' tab is selected. A large text area below it says 'Specify the Question that explains the options available to the end user when ordering the item'. Under this area, there are three fields: 'Question' containing 'Personal Information?' (highlighted with a red box), 'Name' containing 'personal\_information' (highlighted with a red box), and 'Tooltip' containing 'Please Provide Personal Information' (highlighted with a red box).

6. **Variable Type:** Container Start
7. **Display Title:** Checked True
8. **Catalog Item:** On-Boarding
9. **Order:** 100
10. **Question:** Personal Information
11. **Name:** Auto Filled
12. **Tooltip:** Please Provide Personal Information

The screenshot shows the ServiceNow 'Variable' creation interface. At the top, there are fields for 'Type' (set to 'Container Start'), 'Application' (set to 'Global'), and other basic settings like 'Display title' (checked) and 'Active' (checked). Below these are fields for 'Catalog item' (set to 'On-Boarding') and 'Order' (set to '100'). A navigation bar at the bottom includes tabs for 'Question', 'Annotation', 'Type Specifications' (which is highlighted with a red box), and 'Availability'. A large text area below the tabs contains the placeholder text 'Values specific to this variable Type'. In the bottom right corner of this area, there is a dropdown menu with the option '2 Columns Wide, alternating sides' highlighted with a red box.

**13. Open Type Specification Tab**

**14. Layout:** 2 Columns Wide, alternating sides

**15. Click on Submit**

The screenshot shows the 'Order Guide - On-Boarding' screen. At the top, there are three steps: 'Describe Needs', 'Choose Options', and 'Checkout'. Below these steps is a descriptive text: 'On-Barding order guide is used by new employees to requesting bulk items'. Underneath this text are two components: a red-bordered box containing a plus sign icon and the text 'Pesronal Information?' followed by another red-bordered box containing the text 'Container Start Variable'. A red arrow points from the 'Personal Information?' box to the 'Container Start Variable' box. In the bottom right corner of the main content area, there is a blue 'Choose Options' button.

**16. Click on Try It to preview the Order Guide**

## Working with Single Line Text Variable

This is used to get single line text value getting from customer

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record

The screenshot shows the Service Catalog interface. The left sidebar has sections like Tasks, Catalog Definitions, My Catalogs, My Categories, Order Guides, Maintain Catalogs, and Maintain Categories. The 'Catalog Definitions' and 'Order Guides' sections are highlighted with red boxes. The main area displays a list of order guides. One record, 'On-Boarding', is selected and highlighted with a red box. The list includes:

Name	Short description	Active
Request	Request hardware and software to support...	true
Developer Project Equipment		
On-Boarding	On-Boarding order guide is used by new em...	true
New Hire	New Hire Order Guide	true

At the bottom, there are buttons for 'Activate', 'Deactivate', and 'Actions on selected rows...'. A search bar at the top right says 'Search for text'.

3. Open Variable Tab from Related List
4. Click on New

The screenshot shows the 'Variables' tab in the 'Catalog UI Policies' section. The top navigation bar has tabs for Variables (1), Variable Sets, Rule base, Catalog UI Policies, Catalog Client Scripts, Available For, Not Available For, and Choose Options. The 'Variables' tab is selected. The main area shows a list of variables. One variable, 'personal\_information', is selected and highlighted with a red box. The list includes:

Name	Question	Type
personal_information	Personal Information ?	Container Start

At the bottom, there is a 'Choose Options' button.

5. Fill Single Line Text variable form

The screenshot shows the 'Variable' creation screen in ServiceNow. The 'Type' is set to 'Single Line Text'. The 'Catalog item' is 'On-Boarding'. The 'Application' is 'Global'. The 'Mandatory' and 'Active' checkboxes are checked. The 'Order' is set to 200. The 'Question\*' tab is selected, showing the question 'Employee Full Name?' and the name 'employee\_full\_name'. The 'Submit' button is highlighted with a red box.

6. **Variable Type:** Single Line Text
7. **Catalog Item:** On-Boarding
8. **Mandatory:** Checked True
9. **Order:** 200
10. **Question:** Employee Full Name?
11. **Name:** Auto Filled
12. Click on **Submit**

The screenshot shows the 'Order Guide - On-Boarding' screen. It has three steps: 'Describe Needs', 'Choose Options', and 'Checkout'. The 'Describe Needs' step is active. It displays the message 'On-Barding order guide is used by new employees to requesting bulk items'. Under 'Personal Information?', there is a field for 'Employee First Name?' with the value 'Srinivas Sunkara'.

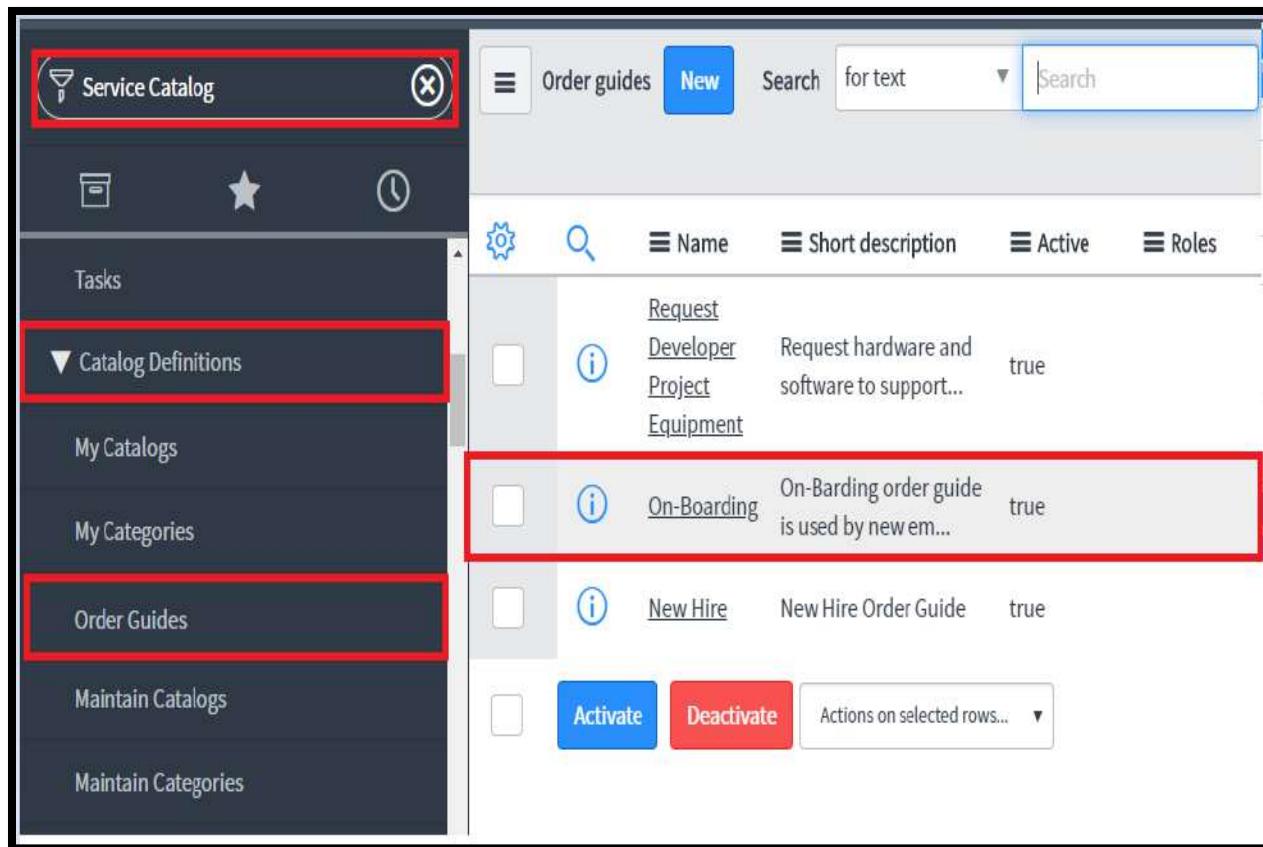
13. Click on **Try It** to preview the **Order Guide**

## Working with List Collector Variable Variable

List collector variable is similar to **Reference Variable** used to get reference records from other tables as **Slash Bucket** format, including **Condition Builder**

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record



3. Open **Variable Tab** from Related List
4. Click on **New**

The screenshot shows the ServiceNow Catalog UI interface. At the top, there are tabs: Variables (2), Variable Sets, Rule base, Catalog UI Policies, Catalog Client Scripts, Available For, and Not Available For. Below these are sub-tabs: Categories (1) and Catalogs (1). A search bar with placeholder 'Search for text' and a search button is present. The main area displays a list of variables:

Name	Question	Type
<a href="#">personal_information</a>	Pesronal Information ?	Container Start
<a href="#">employee_first_name</a>	Employee First Name ?	Single Line Text

## 5. Fill List Collector variable form

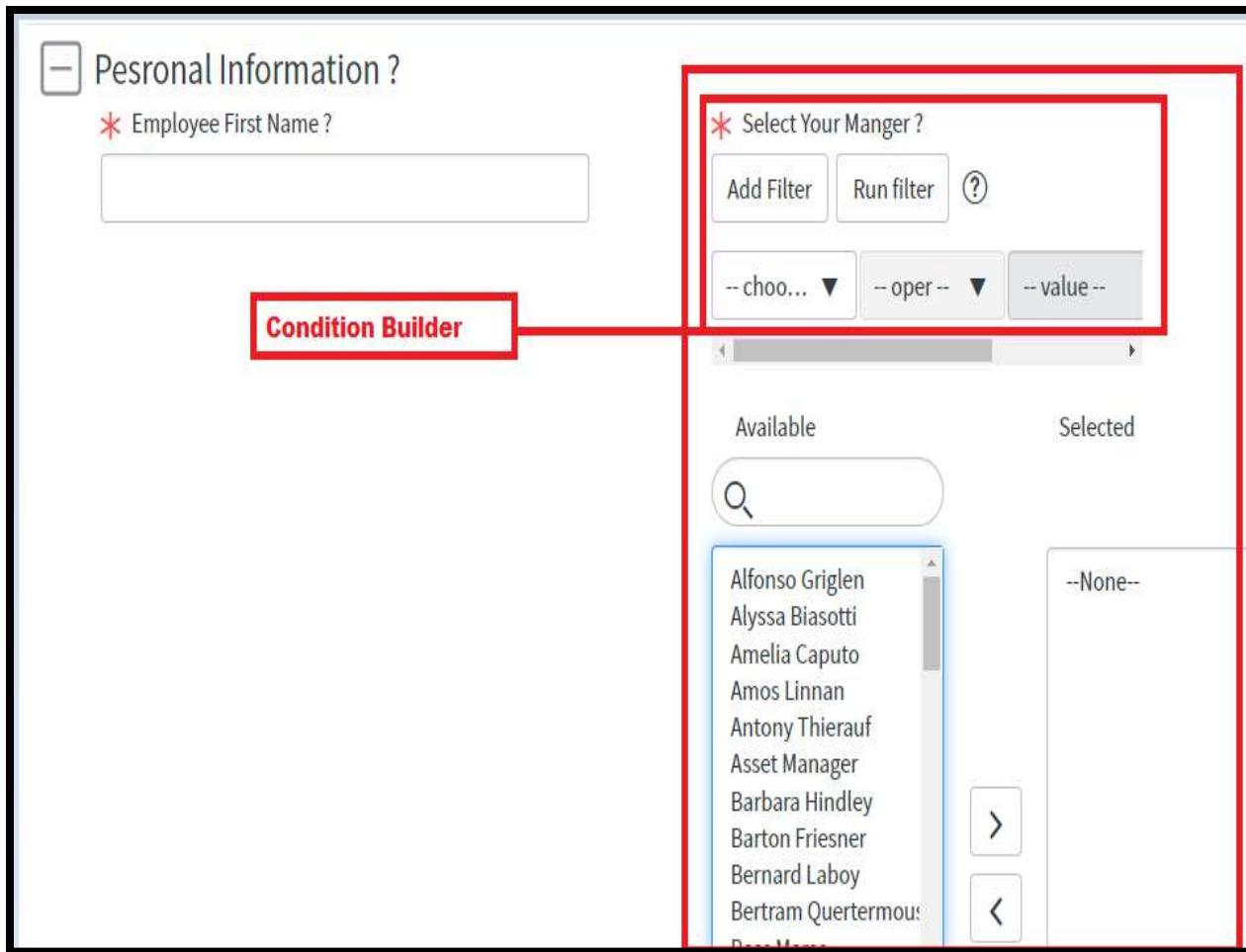
The screenshot shows the ServiceNow Variable form for creating a new record. The 'Type' field is set to 'List Collector' (highlighted with a red box). Other fields include 'Application' (Global), 'Catalog item' (On-Boarding), 'Mandatory' (checked), 'Active' (checked), 'Order' (300), and 'Submit' button (highlighted with a red box). Below the form, tabs for 'Question', 'Annotation', 'Type Specifications\*', 'Default Value', 'Permission', and 'Availability' are visible. The 'Question' tab is selected and contains fields for 'Question' (Select Your Manger ?), 'Name' (select\_your\_reporting\_manager), and 'Tooltip' (Select your reporting manager).

## 6. Variable Type: List Collector

7. **CatLog Item:** Auto Filled
8. **Mandatory:** Checked True
9. **Order:** 300
10. **Name:** Auto Filled
11. **Question:** Select Your Manager
12. **Toll Tip:** Select your Reporting Manager

The screenshot shows the 'Type Specifications' tab of a variable configuration page. A red box highlights the 'Type Specifications' tab in the top navigation bar. Another red box highlights the 'Display Only Active Users and IT Department' note in the 'Values specific to this variable Type' section. A third red box highlights the 'User [sys\_user]' entry in the 'List table' dropdown. A fourth red box highlights the 'active=true^department=221f79b7c6112284005d646b76ab978c' value in the 'Reference qualifier' field.

13. Open Type Specification Tab
14. List Table: User[sys\_user]
15. reference qualifies: active=true^department=221f79b7c6112284005d646b76ab978c
16. Click on Submit



17. Click on Try It to preview the Order Guide

## Working with Multi Line Text Variable

This variable is used get multi line of text from customer

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record

The screenshot shows the ServiceNow Order Guides list page. The left sidebar has a navigation menu with the following items:

- Service Catalog
- Tasks
- Catalog Definitions
- My Catalogs
- My Categories
- Order Guides
- Maintain Catalogs
- Maintain Categories

The 'Catalog Definitions' and 'Order Guides' items are highlighted with red boxes. The main content area displays a list of Order Guides:

	Name	Short description	Active	Roles
Request				
Developer	Request hardware and software to support...	true		
Project				
Equipment				
On-Boarding	On-Barding order guide is used by new em...	true		
New Hire	New Hire Order Guide	true		

Action buttons at the bottom include 'Activate', 'Deactivate', and 'Actions on selected rows...'. A search bar at the top right contains the placeholder 'Search for text'.

3. Open **Variable Tab** from Related List
4. Click on **New**

Catalog item	Name	Question	Type
Catalog item = On-Boarding	<a href="#">personal_information</a>	Pesronal Information ?	Container Start
Catalog item = On-Boarding	<a href="#">employee_first_name</a>	Employee First Name ?	Single Line Text

## 5. Fill Multi Line Text variable form

Question*	Annotation	Type Specifications	Default Value	Permission	Availability
Specify the Question that explains the options available to the end user when ordering the item					
* Question	Employee Address?				
* Name	employee_address				

6. **Variable Type:** Multi Line Text
7. **Mandatory:** Checked True
8. **Order:** 400
9. **Question:** Employee Address
10. **Name:** Auto Filled
11. Click on **Submit**

Order Guide - On-Boarding

Choose Options

Describe Needs

Choose Options

Checkout

On-Barding order guide is used by new employees to requesting bulk items

Personal Information ?

\* Employee First Name ?

\* Employee Address ?

Select Your Manager ?

Add Filter Run filter ?

-- choo... ▾ -- oper -- ▾ -- value --

Available

Selected

Alfonso Griglen

-None--

1. Click on **Try It** to preview the **Order Guide**

## Working with Label Variable

Label Variable can display a static information on the form. Labels are form elements. This variable not collect any data



**Note:** We can use labels variable to arrange questions into different sections. Use labels to create a multi-option question (for example, using check box Variables).

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record

The screenshot shows the Service Catalog interface. The left sidebar has a red box around 'Service Catalog'. The main area shows a list of 'Catalog Definitions' with a red box around it. The list includes:

Name	Short description	Active	Roles
Request			
Developer	Request hardware and software to support...	true	
Project			
Equipment			
<u>On-Boarding</u>	On-Barding order guide is used by new em...	true	
New Hire	New Hire Order Guide	true	

At the bottom, there are 'Activate' and 'Deactivate' buttons, and a dropdown menu for actions on selected rows.

3. Open Variable Tab from Related List
4. Click on New

The screenshot shows the ServiceNow Catalog UI interface. At the top, there are tabs: Variables (2), Variable Sets, Rule base, Catalog UI Policies, Catalog Client Scripts, Available For, and Not Available For. Below these are sub-tabs: Categories (1) and Catalogs (1). A search bar with placeholder 'for text' and a search button is present. The main area displays a list of variables:

Catalog item	Name	Question	Type
Catalog item = On-Boarding	<a href="#">personal_information</a>	Pesronal Information ?	Container Start
	<a href="#">employee_first_name</a>	Employee First Name ?	Single Line Text

## 5. Fill Label variable form

The screenshot shows the ServiceNow Variable creation form for a 'Label' variable. The form fields are:

Type	Label	Application	Global
Catalog item	On-Boarding	Active	<input checked="" type="checkbox"/>
		Order	500

Below the form, there are tabs: Question (highlighted with a red box), Annotation, and Availability.

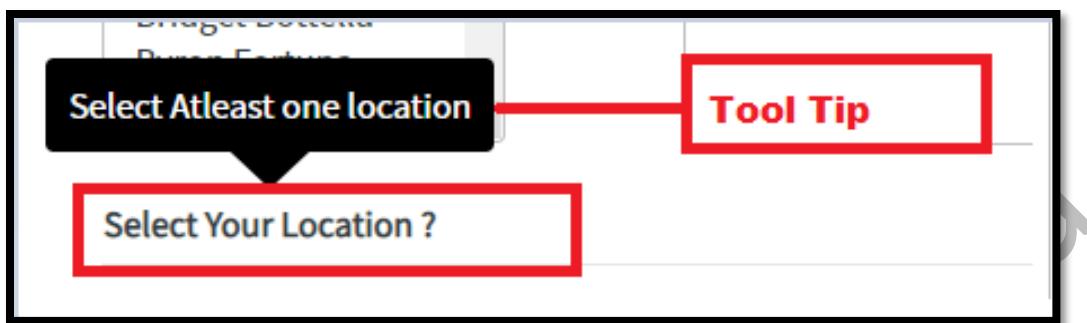
The 'Question' tab contains a text input field: "Specify the Question that explains the options available to the end user when ordering the item".

Below this, there are three entries:

- \* Question: Select Your Location ?
- \* Name: select\_your\_location
- Tooltip: Select Atleast one location

## 6. Variable Type:

7. **Order:** 500
8. **Question:** Select Your Location
9. **Name:** Auto Filled
10. **Tooltip:** Select At least one address
11. Click on **Submit**



12. Click on **Try It** to preview the **Order Guide**

## Working with Check Box Variable

**Check Box** variable is used to **enable/disable** options by **checked/unchecked**. List of check boxes in order to display under a **label** to create a multi-option

Number check box variables are automatically grouped under an **Options label**. If you want to define and display a label of our own, then group check boxes under a **label** variable. The default Options label is replaced with the label variable.

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record

The screenshot shows the ServiceNow Order Guides interface. On the left, a sidebar menu includes 'Service Catalog' (highlighted with a red box), 'Catalog Definitions' (highlighted with a red box), 'Order Guides' (highlighted with a red box), and 'On-Boarding' (highlighted with a red box). The main panel displays a list of order guides:

	Name	Short description	Active	Roles
<input type="checkbox"/>	Request	Request hardware and software to support...	true	
<input type="checkbox"/>	Developer Project Equipment	Request hardware and software to support...	true	
<input type="checkbox"/>	On-Boarding	On-Bording order guide is used by new em...	true	
<input type="checkbox"/>	New Hire	New Hire Order Guide	true	

Action buttons at the bottom include 'Activate', 'Deactivate', and 'Actions on selected rows...'. A search bar at the top right is also visible.

3. Open **Variable Tab** from Related List

4. Click on **New**

The screenshot shows the ServiceNow Variables screen. The top navigation bar has tabs for 'Variables (2)' (highlighted with a red box), 'Variable Sets', 'Rule base', 'Catalog UI Policies', 'Catalog Client Scripts', 'Available For', and 'Not Available For'. Below the tabs, there are categories 'Categories (1)' and 'Catalogs (1)'. The main area shows a list of variables:

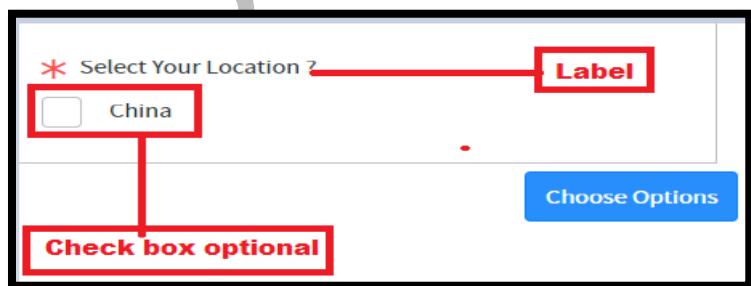
	Name	Question	Type
<input type="checkbox"/>	personal_information	Pesronal Information ?	Container Start
<input type="checkbox"/>	employee_first_name	Employee First Name ?	Single Line Text

Action buttons at the bottom include 'New' (highlighted with a red box), 'Search', and navigation icons. A search bar at the top right is also visible.

5. Fill **Check Box** variable form

The screenshot shows the ServiceNow 'Variable' creation interface. A red box highlights the 'Type' dropdown set to 'CheckBox'. Another red box highlights the 'Catalog Item' field containing 'On-Boarding'. A third red box highlights the 'Selection Required' checkbox, which is checked. A fourth red box highlights the 'Active' checkbox, which is also checked. A fifth red box highlights the 'Order' field containing the value '600'. Below the main form, a tab labeled 'Question' is selected, with a red box around it. The 'Question' field contains 'China'. The 'Name' field also contains 'China'. The 'Submit' button in the top right corner is also highlighted with a red box.

6. Variable Type: Check Box
7. Catalog Item: On-Board (Auto Filled)
8. Selection Required: Checked True
9. Order: 600
10. Active: Checked True
11. Question: China
12. Name: Auto Filled
13. Click on Submit



14. Click on Try It to preview the Order Guide

## Similarly Create 4 more Check Box variables

15. We have to create more checkbox variables in **Order Guide** to provide more options for customers. (Refer below screen shot to create more)

Variables (10)		Variable Sets	Rule base	Catalog UI Policies	Catalog Client Scripts	Available For	Not Available For
Categories (1)		Catalogs (1)					
		Variables	New	Search	for text	Search	
<input type="checkbox"/>	<i>(i)</i> <a href="#">select_your_location</a>	Select Your Location ?					Label
<input type="checkbox"/>	<i>(i)</i> <a href="#">China</a>	China					CheckBox
<input type="checkbox"/>	<i>(i)</i> <a href="#">india</a>	India					CheckBox
<input type="checkbox"/>	<i>(i)</i> <a href="#">united_states</a>	United States					CheckBox
<input type="checkbox"/>	<i>(i)</i> <a href="#">canada</a>	Canada					CheckBox
<input type="checkbox"/>	<i>(i)</i> <a href="#">singapore</a>	Singapore					CheckBox

16. Click on **Try It** to preview the **Order Guide**

\* Select Your Location ?

<input type="checkbox"/>	China
<input type="checkbox"/>	India
<input type="checkbox"/>	United States
<input type="checkbox"/>	Canada
<input type="checkbox"/>	Singapore

## Working with Select Box Variable

The select box variable is used to a list from predefined question choices.

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record

The screenshot shows the Service Catalog Order Guides screen. The left sidebar has sections like Tasks, Catalog Definitions, My Catalogs, My Categories, Order Guides, Maintain Catalogs, and Maintain Categories. The 'Catalog Definitions' and 'Order Guides' sections are highlighted with red boxes. The main area lists Order Guide records with columns for Name, Short description, Active, and Roles. The 'On-Boarding' record is selected and highlighted with a red box. Its details are shown: Name is 'On-Boarding', Short description is 'On-Barding order guide is used by new em...', Active is 'true', and Roles is listed as 'Request', 'Developer', 'Project', and 'Equipment'. Action buttons at the bottom include 'Activate' (blue), 'Deactivate' (red), and 'Actions on selected rows...'.

Name	Short description	Active	Roles
Request	Request hardware and software to support...	true	Developer, Project, Equipment
On-Boarding	On-Barding order guide is used by new em...	true	
New Hire	New Hire Order Guide	true	

3. Open Variable Tab from Related List
4. Click on New

	Name	Question	Type
<input type="checkbox"/>	<a href="#">personal_information</a>	Pesronal Information ?	Container Start
<input type="checkbox"/>	<a href="#">employee_first_name</a>	Employee First Name ?	Single Line Text

## 5. Fill Select Box variable form

Question*	Annotation	Type Specifications	Default Value	Permission	Availability
Specify the Question that explains the options available to the end user when ordering the item					
* Question	<input type="text" value="Joining Group Department ?"/>				
* Name	<input type="text" value="joining_group_department"/>				

6. **Variable Type:** Select Box
7. **Mandatory:** Checked True
8. **Order:** 920
9. **Question:** Joining Group Department?
10. **Name:** Auto Filled

The screenshot shows the 'Variable' configuration page in ServiceNow. The top navigation bar includes 'Variable' and 'New record'. On the right, there are buttons for 'Submit', 'Clipboard', and 'More'. The main form fields include:

- Type:** Select Box (highlighted with a red box)
- Catalog item:** On-Boarding
- Application:** Global
- Mandatory:** Checked (highlighted with a red box)
- Active:** Checked (highlighted with a red box)
- Order:** 920 (highlighted with a red box)

Below the main form, there is a tabbed section labeled 'Type Specifications' (highlighted with a red box). The tabs are: Question, Annotation, Type Specifications, Default Value, Permission, and Availability. Under the 'Type Specifications' tab, the following settings are shown:

- Choice table:** Group [sys\_user\_group] (highlighted with a red box)
- Choice field:** Name (highlighted with a red box)
- Include none:** Checked (highlighted with a red box)
- Unique values only:** Checked (highlighted with a red box)

11. Open **Type Specification** Tab
12. Choice Table: Group[sys\_user\_group]
13. Choice field: Name
14. Include none: Checked True
15. Unique values only: Checked True
16. Click on **Submit**

On-Barding order guide is used by new employees to requesting bulk items

Personal Information ?

\* Employee First Name ?

\* Employee Address ?

\* Joining Group Department ?

\* Select Your Manager ?

-- choo... ▾ -- oper-- ▾ --value-- ▾

Available Selected

Available	Selected
Alfonso Ciriaco	None

17. Click on Try It to preview the Order Guide

## Working with Yes/No Variable

The Yes or No variable provide choice list with Yes and No as options. Including None also

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record

The screenshot shows the ServiceNow Order Guides interface. The left sidebar has sections like Tasks, Catalog Definitions (highlighted with a red box), My Catalogs, My Categories, Order Guides (highlighted with a red box), Maintain Catalogs, and Maintain Categories. The main area shows a list of Order Guides. One guide, "On-Boarding", is highlighted with a red box. It has a description: "On-Barding order guide is used by new em...", status: "true", and a "New Hire" link.

3. Open **Variable Tab** from Related List
4. Click on **New**

The screenshot shows the ServiceNow Variables screen. The top navigation bar has tabs: Variables (2) (highlighted with a red box), Variable Sets, Rule base, Catalog UI Policies, Catalog Client Scripts, Available For, and Not Available For. Below that, it shows Categories (1) and Catalogs (1). The main area has tabs: Variables (highlighted with a red box) and New (highlighted with a red box). It includes a search bar and navigation buttons. The list of variables includes:

	Name	Question	Type
<input type="checkbox"/>	personal_information	Pesonal Information ?	Container Start
<input type="checkbox"/>	employee_first_name	Employee First Name ?	Single Line Text

## 5. Fill Yes/No variable form

The screenshot shows the 'Variable' creation screen in ServiceNow. The 'Type' dropdown is set to 'Yes / No' (highlighted with a red box). The 'Application' is 'Global'. Under 'Mandatory', the checkbox is checked (highlighted with a red box). Under 'Active', the checkbox is also checked (highlighted with a red box). The 'Order' field contains '930' (highlighted with a red box). Below the main tabs, there is a 'Question\*' tab which is selected (highlighted with a red box). The question 'Are you permanent employee?' is entered in the 'Question' field, and its name 'are\_you\_permanant\_employee' is in the 'Name' field.

6. **Variable Type:** Yes/No

7. **Mandatory:** Checked True

8. **Order:** 930

9. **Question:** Are you permanent employee?

10. **Name:** Auto Filled

The screenshot shows the 'Type Specifications' tab for the variable. It includes fields for 'Variable Width' (set to 'System Default Width (5)') and 'Not honored in 2 column container'. At the bottom, there is a checkbox labeled 'Include none' which is checked (highlighted with a red box).

11. Open **Type Specification** Tab

12. **Include none:** Checked True

13. Click on **Submit**

The screenshot shows a form with two sections. The first section is titled "Select Your Location ?" and contains five checkboxes for "China", "India", "United States", "Canada", and "Singapore". The second section is titled "Are you permanent employee ?" and has a dropdown menu with the option "-- None --" selected. A blue "Choose Options" button is at the bottom right.

14. Click on Try It to preview the Order Guide

## Working with Yes/No Variable

The **Yes or No** variable provide choice list with **Yes** and **No** as options. Including None also

### Procedure

1. Navigate to **Service Catalog > Catalog Definition > Order Guides**
2. Open **On-Boarding** order guide Record

The screenshot shows the Service Catalog interface. On the left, there is a sidebar with links: "Tasks", "Catalog Definitions" (which is expanded), "My Catalogs", "My Categories", "Order Guides" (which is also expanded), "Maintain Catalogs", and "Maintain Categories". The main area is titled "Order guides" and shows a list of order guides. The columns are "Name", "Short description", "Active", and "Roles". There are three entries:

Name	Short description	Active	Roles
Request	Request hardware and software to support...	true	
On-Boarding	On-Boarding order guide is used by new em...	true	
New Hire	New Hire Order Guide	true	

At the bottom of the list, there are buttons for "Activate" and "Deactivate".

3. Open **Variable Tab** from Related List

**4. Click on New**

The screenshot shows the 'Variables' tab selected in the top navigation bar. A red box highlights the 'New' button in the toolbar. Below the toolbar, there are two tabs: 'Categories (1)' and 'Catalogs (1)'. The 'Variables' tab is active. The main area displays a list of variables with columns for Name, Question, and Type. Two specific rows are highlighted with a red box: 'personal\_information' (Type: Container Start) and 'employee\_first\_name' (Type: Single Line Text). The 'Name' column contains icons for each variable.

Name	Question	Type
personal_information	Pesonral Information ?	Container Start
employee_first_name	Employee First Name ?	Single Line Text

**5. Fill Yes/No variable form**

The screenshot shows the 'Variable' creation form. The 'Type' dropdown is set to 'Yes / No', which is highlighted with a red box. The 'Application' is set to 'Global'. The 'Mandatory' checkbox is checked and highlighted with a red box. The 'Active' checkbox is also checked. The 'Order' field is set to '940' and highlighted with a red box. The 'Question\*' tab is selected at the bottom. In the 'Question' field, the text 'Are you remote employee?' is entered and highlighted with a red box. In the 'Name' field, the variable name 'are\_you\_remote\_employeen' is entered.

**6. Variable Type: Yes/No**

**7. Mandatory: Checked True**

**8. Order:** 940

**9. Question:** Are you remote employee?

**10. Name:** Auto Filled

Question Annotation Type Specifications Default Value Permission Availability

Values specific to this variable Type

Variable Width System Default Width (5) ▾

Not honored in 2 column container

Include none

**11. Open Type Specification Tab**

**12. Include none: Checked True**

**13. Click on Submit**

On-Barding order guide is used by new employees to requesting bulk items

Pesronal Information ?

\* Employee First Name ?

\* Employee Address ?

\* Joining Group Department ?

\* Are you remote employee?

\* Select Your Manger ?

Add Filter Run filter ⓘ

-- choo... ▾ -- oper -- ▾ -- value -- ▾

Available Selected

Q

Alfonso Griglen  
Alyssa Biasotti  
Amelia Caputo  
Amos Linnan

--None--

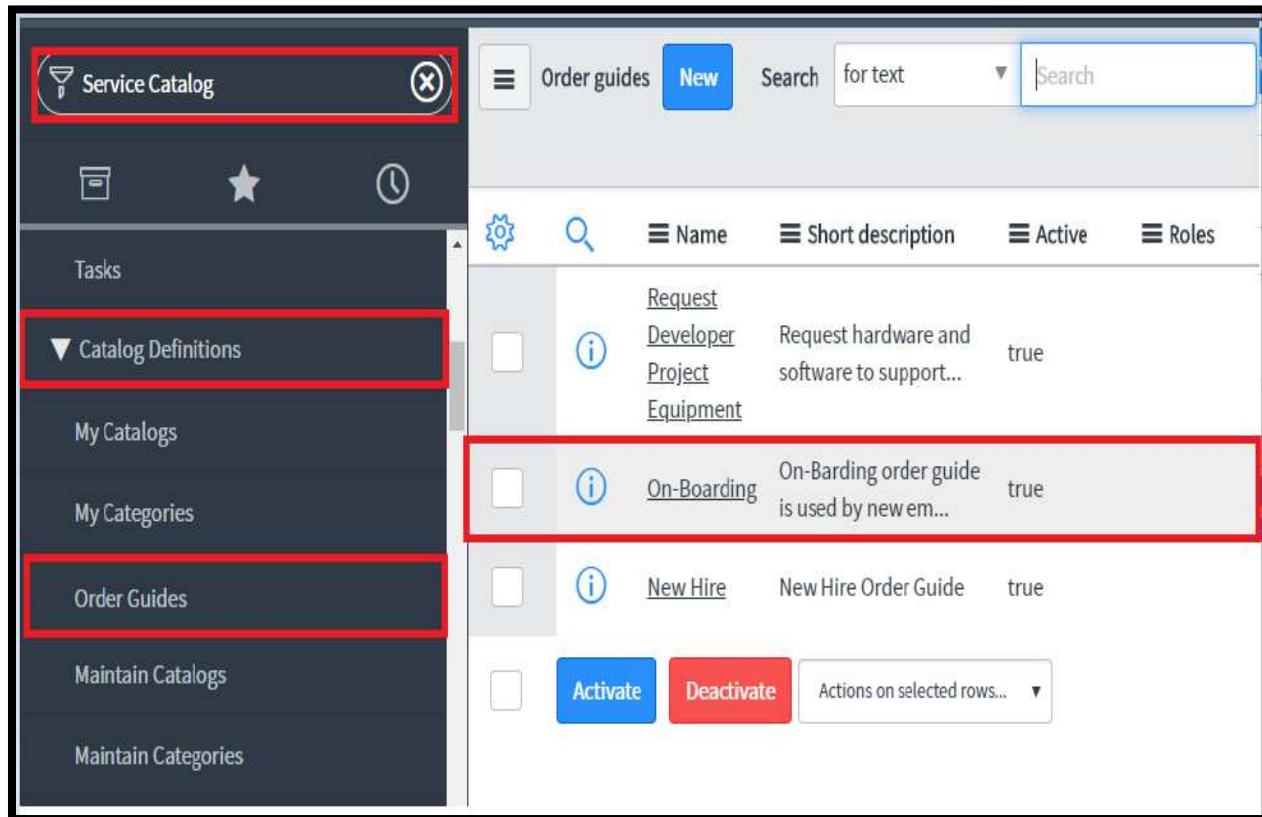
**14. Click on Try It to preview the Order Guide**

## Working with Container End Variable

The Container **End** variable should be used along with **Container Start** variable to close a container

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Order Guides
2. Open On-Boarding order guide Record



3. Open **Variable Tab** from Related List
4. Click on **New**

Catalog item = On-Boarding

	Name	Question	Type
<input type="checkbox"/>	<a href="#">personal_information</a>	Pesronal Information ?	Container Start
<input type="checkbox"/>	<a href="#">employee_first_name</a>	Employee First Name ?	Single Line Text

## 5. Fill Container End variable form

Variable

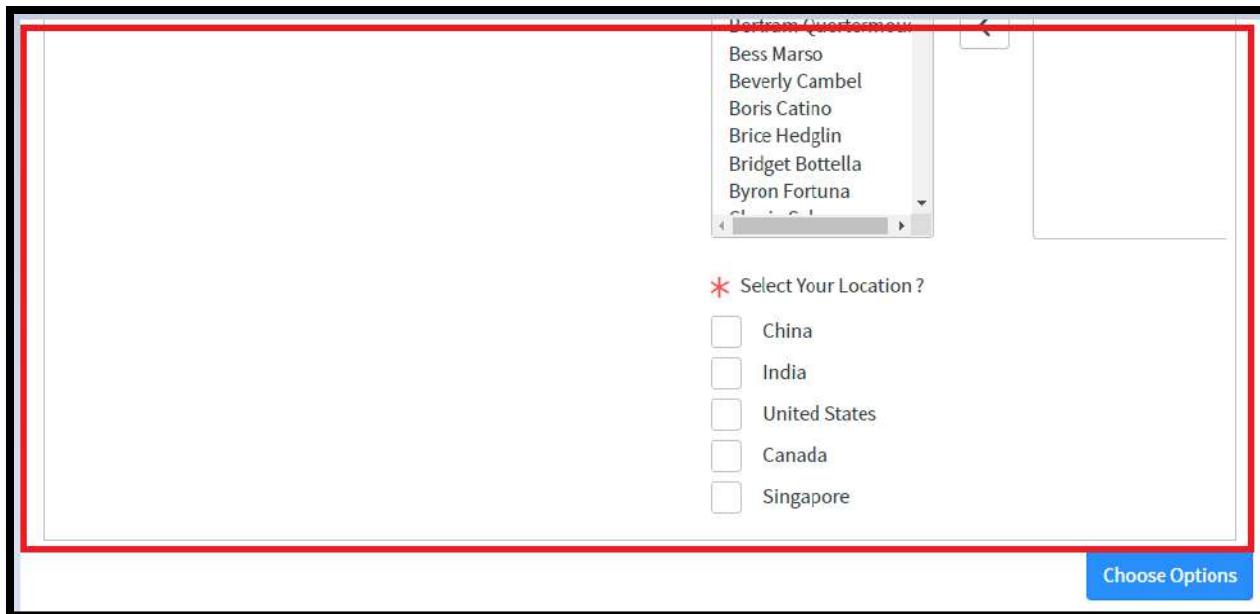
Type	Container End	Application	Global
Catalog item	On-Boarding	Active	<input checked="" type="checkbox"/>
		Order	950

Update Copy Delete

6. Variable Type: Container End

7. Order: 950

8. Click on Submit



## Exercise: 8 Configure Rule Base in Order Guide

We can add some rules for catalog item to an order guide based on our client requirement

**Order Guide Rules** can be defining the conditions that should be met for a specific item to be included in an order.

**Example :** A new employee **On-Boarding** order guide rule can define that if the **New Employee Designation** is **IT Technician or Senior Developer**, and the **Department** is **IT**, then we add an Apple Mac Pro 15 Laptop item to deployed to customer.



**Example:** A new employee need to do work from home, then we can include **VPN Connection**

**Rule: 1** Employee looking for work from home then include **VPN Connection**

### Procedure

1. Navigate to **Service Catalog > Catalog Definition > Order Guides**
2. Open **On-Board** order guide.

The screenshot shows the ServiceNow Order Guides list view. The left sidebar has sections like Tasks, Catalog Definitions (highlighted with a red box), My Catalogs, My Categories, Order Guides (highlighted with a red box), Maintain Catalogs, and Maintain Categories. The main area displays a table of order guides with columns: Name, Short description, Active, and Roles. One row is highlighted with a red box: "On-Boarding" (Active: true). The table includes buttons for Activate, Deactivate, and Actions on selected rows.

	Name	Short description	Active	Roles
Request	Developer Project Equipment	Request hardware and software to support...	true	
On-Boarding	On-Barding order guide is used by new em...	On-Barding order guide is used by new em...	true	
New Hire	New Hire Order Guide	New Hire Order Guide	true	

3. Open **Rule Base** tab from related list,
4. Click on **New**

The screenshot shows the Rule base tab in the Catalog UI Policies list view. The top navigation bar has tabs: Variables (11), Variable Sets, Rule base (highlighted with a red box), Catalog UI Policies, Catalog Client Scripts, Available For, and Not Available For. Below the tabs, there are sections for Categories (1) and Catalogs (1). The main area shows a search bar with filters for "Guide = On-Boarding", "At this position", and "Include this item". A message at the bottom says "No records to display".

5. Fill **Rule Base** form

The screenshot shows the ServiceNow Rule configuration interface. At the top, it says "Rule New record". On the right, there are icons for edit, delete, and submit, with "Submit" highlighted in blue. Below the header, there's a search bar with "On-Boarding" and a magnifying glass icon. Under "If this condition is true", there's a dropdown menu with "are\_you\_remote\_employeen" selected, followed by "is" and "Yes". This entire row is highlighted with a red box. Below this, there's a section for "Include this item" with "Corp VPN" selected, an "Application" dropdown set to "Global", and a "Quantity" input field containing "1". To the left of these, there are checkboxes for "Ignore Mandatory Evolution" (which is checked) and "Use cart layout" (which is also checked). The "At this position" input field contains "100", which is also highlighted with a red box. The bottom right corner of the interface has a large watermark that reads "ServiceNow".

6. **Guide:** On-Boarding
7. **Condition:** [Remote employee] [is] [Yes]
8. **Include this item:** Corp VPN
9. **Ignore Mandatory Evolution:** Checked True
10. **Use cart layout:** Checked True
11. **At this position:** 100
12. Click on **Submit**

**Rule: 2 Employee type is permanent is Yes Then including Apple MacBook pro 15**

The screenshot shows the ServiceNow Rule configuration screen. Key elements include:

- Guide:** On-Boarding
- Condition:** [are\_you\_permanant\_employee] [is] [Yes]
- Include this item:** Apple MacBook Pro 15'
- Application:** Global
- At this position:** 200
- Ignore Mandatory Evaluation:** Unchecked
- Use cart layout:** Checked
- Quantity:** 1

1. **Guide:** On-Boarding
2. **Condition:** [Permanent employee] [is] [Yes]
3. **Include this item:** Apple MacBook Pro15
4. **Ignore Mandatory Evolution:** Checked True
5. **Use cart layout:** Checked True
6. **At this position:** 200
7. Click on **Submit**

## Rule: 3 Employee type is permanent is No Then including Office Desktop

The screenshot shows the 'Rule' configuration page in ServiceNow. The title bar says 'Rule New record'. The main area has several sections:

- Guide:** On-Boarding
- If this condition is true:** are\_you\_permanant\_employee [is] No
- Include this item:** Office Desktop (Application: Global)
- Ignore Mandatory Evaluation:** Checked True
- At this position:** 200
- Use cart layout:** Checked True
- Quantity:** 1

At the top right are 'Submit' and other action buttons.

1. **Guide:** On-Boarding
2. **Condition:** [Permanent employee] [is] [No]
3. **Include this item:** Office Desktop
4. **Ignore Mandatory Evolution:** Checked True
5. **Use cart layout:** Checked True
6. **At this position:** 200
7. Click on **Submit**

## Rule: 4 Employee Joining group department is Software include Apple I phone 5

The screenshot shows the ServiceNow Rule configuration interface. The top bar indicates it's a new record. The 'Guide' dropdown is set to 'On-Boarding'. The 'If this condition is true' section contains a condition: 'joining\_group\_department is Software'. Below this, under 'Include this item', 'Apple iPhone 5' is selected. The 'Application' is set to 'Global'. Under 'Ignore Mandatory Evolution', the checkbox is checked. Under 'At this position', the value '300' is entered. The 'Use cart layout' checkbox is also checked. The 'Quantity' is set to '1'. The 'Submit' button is highlighted with a red box.

1. **Guide:** On-Boarding
2. **Condition:** [Joining Group Department] [is] [Software]
3. **Include this item:** Apple iPhone 5
4. **Ignore Mandatory Evolution:** Checked True
5. **Use cart layout:** Checked True
6. **At this position:** 300
7. Click on **Submit**

## Rule: 5 Employee Location is India Then including Cisco Jabber 10.5

The screenshot shows the ServiceNow Rule creation interface. The top bar displays 'Rule' and 'New record'. On the right, there are icons for edit, delete, and a three-dot menu, with the 'Submit' button highlighted with a red box.

The main configuration area includes:

- Guide:** On-Boarding
- If this condition is true:** india is true
- Include this item:** Cisco Jabber 10.5 (selected)
- Application:** Global
- At this position:** 400
- Ignore Mandatory Evaluation:** Checked True (highlighted with a red box)
- Use cart layout:** Checked True
- Quantity:** 1

- 1. Guide:** On-Boarding
- 2. Condition:** [Joining Location] [India] [True]
- 3. Include this item:** Cisco Jabber 10.5
- 4. Ignore Mandatory Evolution:** Checked True
- 5. Use cart layout:** Checked True
- 6. At this position:** 400
- 7. Click on Submit**

## Exercise: 9 Order Guide task execution

Fill all mandatory fields in **Order Guide** to requesting items

### Procedure

1. Navigate to **Service Catalog > Catalog Definition > Order Guides**
2. Open **On-Board** order guide

The screenshot shows the ServiceNow Order Guide list view. The left sidebar has a red box around the 'Catalog Definitions' section. The main area shows a table of order guides with the following data:

Name	Short description	Active
Request	Request hardware and software to support...	true
Developer Project	Request hardware and software to support...	true
Equipment		
On-Boarding	On-Barding order guide is used by new em...	true
New Hire	New Hire Order Guide	true

The 'On-Boarding' row is highlighted with a red box. At the bottom, there are 'Activate' and 'Deactivate' buttons, and a 'Actions on selected rows...' dropdown.

3. Click on **Try It** Button

The screenshot shows the 'Order guide' configuration page in ServiceNow. The 'Name' field is set to 'On-Boarding'. The 'Application' is 'Global'. The 'Active' checkbox is checked. Under 'Category', there is a search bar with 'Can We Help You?' and a magnifying glass icon. The 'Icon' field has a placeholder 'Click to add...'. There are several checkboxes: 'Cascade Variables' (unchecked), 'Expand help for all questions' (checked), and 'Show Include Toggle (Service Portal)' (checked). The 'Try it' button at the top right is highlighted with a red box.

#### 4. Fill All mandatory fields in Order Guide

The screenshot shows the 'On-Boarding' order guide form. The steps are 'Describe Needs', 'Choose Options', and 'Checkout'. The 'Choose Options' step is active. It contains a section for 'Personal Information': 'Employee First Name' (Srinivas), 'Employee Address' (Hyderabad), 'Joining Group Department' (Software), and 'Are you remote employee?' (Yes). To the right, there is a 'Select Your Manager' dropdown with filters ('Add Filter', 'Run filter') and a search bar. A list of managers is shown in two columns: 'Available' (Gautham S, Gil Scarpa, Gisela Kosicki, Helene Iberg, Henrietta Cintora) and 'Selected' (Jade Erlebach).

#### 5. Employee First Name: Srinivas

6. Employee Address: Hyderabad
7. Joining Group Department: Software
8. Are you remote employee: Yes
9. Select your manager: Fred Luddy
10. Location: India
11. Are your permanent employee: Yes?
12. Click on Choose Option

The screenshot shows a ServiceNow application window titled "Order Guide - Corp VPN". At the top, there are tabs: "Describe Needs" (with a pencil icon), "Next Tab" (highlighted in blue), and "Checkout". Below the tabs, there are two sections: "Describe Needs" (marked with a checkmark) and "Choose Options". A red box highlights the "Choose Options" section. At the bottom, there is a horizontal bar with four items: "Corp VPN", "Apple MacBook Pro 15\"", "Apple iPhone 5", and "Cisco Jabber 10.5". Another red box highlights this bar. To the right of the bar, there is a summary box containing "Remote access to Internal Corporate Systems" and "Corp VPN Account". The summary box also includes a bulleted list about Corp VPN, a note about documentation, and delivery information ("This Item" and "Delivery time: 2 Days").

13. This employee eligibility to get these all items based on **Rules Base** configuration
14. Click on **Next Tab**

Order Guide - Corp VPN

Describe Needs ✓ Choose Options Checkout

Corp VPN Apple MacBook Pro 15" Apple iPhone 5 Cisco Jabber 10.5

Remote access to Internal Corporate Systems

Corp VPN Account

- Corp VPN provides VPN (Virtual Private Network) access to all Internal Corporate Systems and to IP Restricted Customer Instances
- By utilizing Corp VPN, users will be provided a similar experience to being within one of the Corporate office locations, while offsite

Please reference the CORP VPN Installation and Support Documentation for instructions on installation, usage and FAQ's. For all other questions, please contact IT Support.

## 15. Click on **Checkout**

Order Guide - Cisco Jabber 10.5

Describe Needs ✓ Choose Options Checkout

Corp VPN Apple MacBook Pro 15" Apple iPhone 5 Cisco Jabber 10.5

Collaborate Anywhere on Any Device with Cisco Jabber



Cisco Jabber  
10.5, for Mac &  
PC  
Collaborate  
Anywhere on Any  
Device with Cisco  
Jabber  
Experience the  
benefits of Cisco  
Jabber's latest  
release (10.5)

## 16. Again Click on **Checkout**

The screenshot shows a shopping cart interface. At the top, there are buttons for 'Continue Shopping', 'Choose Options', and 'Checkout'. The 'Checkout' button is highlighted with a red border. Below this, a progress bar indicates three steps: 'Describe Needs' (with a checkmark), 'Choose Options' (with a checkmark), and 'Checkout'. A message below the progress bar says, 'Are the contents of your cart correct? Please double check the items and remove and edit where appropriate'. The main table lists two items:

	Item	Order guide	Delivery Time	Price (ea.)	Quantity	Total
<a href="#">Delete</a>	Corp VPN - Remote access to Internal Corporate Systems	On-Boarding	2 Days		1	-
<a href="#">Delete</a>	Cisco Jabber 10.5 - Collaborate Anywhere on Any Device with Cisco Jabber	On-Boarding	2 Days		1	-

17. Below screen can define about your request from On-Boarding order guide

The screenshot shows an order status page. At the top, there are buttons for 'Back to Catalog', 'Continue Shopping', and 'Home'. A green message bar says, 'Thank you, your request has been submitted'. Below this, order details are listed:

- Order Placed: 2019-06-09 09:25:00
- Request Number: REQ0010001 [☆](#)
- Estimated Delivery Date of Complete Order: 2019-06-11

The main table lists the order items with their descriptions, order guides, delivery dates, and stages. Two specific rows are highlighted with red boxes around their 'Stage' columns, which both show the 'On-Boarding' stage.

Description	Order guide	Delivery Date	Stage	Price (ea.)	Quantity	Total
Remote access to Internal Corporate Systems	On-Boarding	2019-06-11			1	-
Collaborate Anywhere on Any Device with Cisco Jabber	On-Boarding	2019-06-11			1	-

## Working with Variable Sets

Variable sets can define collection variables create once and use multiple catalog items and record producers and order guides, it is for reusability purpose.



**Ex:** Service now catalog administrator defines 10 catalog items for same types of servers. The request process for all these items asks the same 10 questions, using the same variables.

Associating these variables individually per catalog item is repetitive, time-consuming, and error-prone. Also, to make a single change to multiple catalog items involves manually changing each item. For example, to add a new variable to 10 catalog items, you would need to manually associate this new variable with each item.

## Exercise: 10 Creating Variable Sets

We can create a set of variables and then add them to multiple catalog items and order guides for reusability.

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets
2. Click New.

The screenshot shows the Service Catalog interface with the following details:

- Service Catalog** header with a red box around it.
- New** button highlighted with a red box.
- Catalog Variables** section expanded, with a red box around it.
- Variable Sets** section expanded, with a red box around it.
- Table View:**
  - Columns:** Title, Internal name.
  - Rows:**
    - Standard Employee Questions** (internal name: standard\_employee\_questions)
    - Mobile Devices Set** (internal name: mobile\_devices\_set)
    - it\_to\_it** (internal name: it\_to\_it)
    - common\_comments** (internal name: common\_comments)
- Action Bar:** Actions on selected rows...

### 3. Fill the Variable Sets form

The screenshot shows the 'Variable Set' creation form in ServiceNow. The fields filled are:

- Title: Common Information
- Internal name: common\_information
- Application: Global
- Display title: Checked (highlighted with a red box)
- Order: 100
- Type: Single Row
- Description: This variable set contain common variables for reusability purpose

The 'Submit' button is highlighted with a green box.

4. **Title:** Common Information
5. **Internal Name:** Common\_Information
6. **Order:** 100
7. **Display Title:** Checked True
8. **Type:** Single Row
9. **Description:** This variable set is contain common variables for reusability purpose
10. Click on **Submit**

## Working with Single Line Text Variable

This variable is used to enter single line text value

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets > Common Information

The screenshot shows the Service Catalog interface. The top navigation bar includes 'Service Catalog' (highlighted with a red box), 'Variable Sets' (dropdown menu), 'New' (button), 'Search' (button), 'Order' (dropdown menu), and another 'Search' button. On the left, a sidebar has sections like 'Catalog Variables' (highlighted with a red box), 'All Variables', 'Disable Variable SQL Debugger', 'Enable Variable SQL Debugger', 'Item Variables', 'Plan Variables', and 'Variable Sets' (highlighted with a red box). The main content area displays a table of variable sets:

	Title	Internal name	Description
<input type="checkbox"/>	<i>Common Information</i>	common_information	This variable set contain common variable...
<input type="checkbox"/>	<i>Standard Employee Questions</i>	standard_employee_questions	This should be used for all end user req...
<input type="checkbox"/>	<i>Mobile Devices Set</i>	mobile_devices_set	Table variable for Corporate Mobile devi...

2. Open **Variable Tab** from **Related list**
3. Click on **New**

The screenshot shows the Variables tab (highlighted with a red box) within the ServiceNow interface. The top navigation bar includes 'Variables (3)' (highlighted with a red box), 'Catalog UI Policies', 'Catalog Client Scripts', and 'Included In'. Below is a search bar with 'Variables' (highlighted with a red box) and 'New' (button). The main content area displays a table of variables:

	Name	Type	Question	Order
<input type="checkbox"/>	<i>employee_full_name</i>	Single Line Text	Employee Full Name	100
<input type="checkbox"/>	<i>employee_contract_duration</i>	Duration	Employee Contract Duration	200
<input type="checkbox"/>	<i>employee_joined_date</i>	Date	Employee Joined Date	300

#### 4. Fill Single Line Text Variable form

The screenshot shows the 'Variable' screen in ServiceNow, specifically for a 'New record'. The 'Type' is set to 'Single Line Text'. The 'Application' is 'Global'. The 'Mandatory' and 'Active' checkboxes are checked. The 'Order' is set to 100. The 'Question\*' field contains 'Employee Full Name' and the 'Name' field contains 'employee\_full\_name'. The 'Question' tab is selected.

Setting	Value
Type	Single Line Text
Application	Global
Mandatory	Checked
Active	Checked
Order	100
Question*	Employee Full Name
Name	employee_full_name

5. **Variable Type:** Single Line Text
6. **Mandatory:** Checked True
7. **Order:** 100
8. **Question:** Employee Full Name
9. **Name:** Auto Filled
10. Click on **Submit**

## Working with Duration Variable

We use the duration variable to specify the duration for which a catalog item is available.

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets > Common Information

The screenshot shows the ServiceNow Catalog Variables page. The top navigation bar includes 'Service Catalog' (highlighted with a red box), 'Variable Sets' (New button), 'Search', 'Order', and another 'Search' button. On the left, a sidebar lists 'Catalog Variables' (highlighted with a red box) and several other variable categories. The main content area displays a table of variable sets with columns for Title, Internal name, and Description. One row is highlighted with a red box: 'Common Information' (internal name: common\_information) with the description 'This variable set contain common variable...'. Other rows include 'Standard Employee Questions' (internal name: standard\_employee\_questions) and 'Mobile Devices Set' (internal name: mobile\_devices\_set).

2. Open **Variable Tab** from **Related list**

3. Click on **New**

The screenshot shows the Variable Set details page. The top navigation bar includes 'Variables (3)' (highlighted with a red box), 'Catalog UI Policies', 'Catalog Client Scripts', and 'Included In'. Below the navigation is a toolbar with 'Variables' (highlighted with a red box), 'New' (highlighted with a red box), 'Search', 'Order', and 'Search' buttons. The main content area shows a table of variables with columns for Name, Type, Question, and Order. One row is highlighted with a red box: 'employee\_full\_name' (Type: Single Line Text, Question: Employee Full Name, Order: 100). Another row is also highlighted with a red box: 'employe\_contract\_duration' (Type: Duration, Question: Employe Contract Duration, Order: 200). A third row is shown: 'employee\_joined\_date' (Type: Date, Question: Employee Joined Date, Order: 300).

4. Fill single **Duration Variable** form

The screenshot shows the 'Variable' configuration page in ServiceNow. A red box highlights the 'Type' dropdown set to 'Duration'. Another red box highlights the 'Mandatory' and 'Active' checkboxes, both of which are checked. A third red box highlights the 'Order' field containing the value '200'. The 'Submit' button in the top right corner is also highlighted with a red box. Below the main configuration area, there is a tab navigation bar with 'Question' selected, followed by 'Annotation', 'Type Specifications', 'Default Value', 'Permission', and 'Availability'. The 'Question' tab contains a text input field with the placeholder 'Specify the Question that explains the options available to the end user when ordering the item'. Underneath, there are two fields: 'Question' with the value 'Employee Contract Duration' and 'Name' with the value 'employee\_contract\_duration'.

5. **Variable Type:** Duration
6. **Mandatory:** Checked True
7. **Order:** 200
8. **Question:** Employee Contract Duration
9. **Name:** Auto Filled
10. Click on **Submit**

## Working with Date Variable

This variable is used select calendar date value.

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets > Common Information

The screenshot shows the Service Catalog interface. The top navigation bar includes 'Variable Sets', 'New', 'Search', 'Order', and another 'Search' button. The left sidebar has sections for 'Catalog Variables', 'All Variables', 'Disable Variable SQL Debugger', 'Enable Variable SQL Debugger', 'Item Variables', 'Plan Variables', and 'Variable Sets'. The 'Variable Sets' section is highlighted with a red box. The main content area displays a list of variable sets with columns for 'Title', 'Internal name', and 'Description'. One entry, 'Common Information' (internal name: common\_information), is highlighted with a red box.

	Title	Internal name	Description
<input type="checkbox"/>	Common Information	common_information	This variable set contain common variable...
<input type="checkbox"/>	Standard Employee Questions	standard_employee_questions	This should be used for all end user req...
<input type="checkbox"/>	Mobile Devices Set	mobile_devices_set	Table variable for Corporate Mobile devi...

2. Open Variable Tab from Related list
3. Click on New

The screenshot shows the 'Variables' tab within the 'Catalog UI Policies' section. The top navigation bar includes tabs for 'Variables (3)', 'Catalog UI Policies', 'Catalog Client Scripts', and 'Included In'. Below the tabs is a search bar and an 'Order' dropdown. The main content area displays a list of variables with columns for 'Name', 'Type', 'Question', and 'Order'. A variable named 'employee\_joined\_date' is highlighted with a red box.

	Name	Type	Question	Order
<input type="checkbox"/>	employee_full_name	Single Line Text	Employee Full Name	100
<input type="checkbox"/>	employe_contract_duration	Duration	Employee Contract Duration	200
<input type="checkbox"/>	employee_joined_date	Date	Employee Joined Date	300

4. Fill single Date Variable form

The screenshot shows the 'Variable' creation screen in ServiceNow. The 'Type' field is set to 'Date' (highlighted with a red box). The 'Application' is 'Global'. The 'Mandatory' and 'Active' checkboxes are checked. The 'Order' is set to 300 (highlighted with a red box). The 'Question\*' tab is selected, showing the question 'Employee Joined Date' and the name 'employee\_joined\_date'. The 'Submit' button is highlighted with a red box.

5. **Variable Type:** Date
6. **Mandatory:** Checked True
7. **Order:** 300
8. **Question:** Employee Joined Date
9. **Name:** Auto Filled
10. Click on **Submit**

## Working with Masked Variable

The masked variable inserts a field that masks the text entered. Each character entered is displayed as an asterisk (\*). Use this variable to ask users for sensitive or confidential data such as passwords.

This variable is used to get the value in encrypted format. These values can be decrypted by using

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets > Common Information

The screenshot shows the Service Catalog interface. The top navigation bar includes 'Variable Sets' and a 'New' button. The main area displays a list of variable sets with columns for Title, Internal name, and Description. A red box highlights the 'Variable Sets' tab in the left sidebar and the first item in the list.

	Title	Internal name	Description
<input type="checkbox"/>	Common Information	common_information	This variable set contain common variable...
<input type="checkbox"/>	Standard Employee Questions	standard_employee_questions	This should be used for all end user req...
<input type="checkbox"/>	Mobile Devices Set	mobile_devices_set	Table variable for Corporate Mobile devi...

2. Open Variable Tab from Related list

3. Click on New

The screenshot shows the Variables list interface. The top navigation bar includes 'Variables (3)' and a 'New' button. The main area displays a list of variables with columns for Name, Type, Question, and Order. A red box highlights the 'Variables' tab in the left sidebar and the third item in the list.

	Name	Type	Question	Order
<input type="checkbox"/>	employee_full_name	Single Line Text	Employee Full Name	100
<input type="checkbox"/>	employee_contract_duration	Duration	Employee Contract Duration	200
<input type="checkbox"/>	employee_joined_date	Date	Employee Joined Date	300

4. Fill single Masked Variable form

The screenshot shows the 'Variable' creation screen in ServiceNow. The 'Type' is set to 'Masked'. The 'Mandatory' and 'Active' checkboxes are checked. The 'Order' is set to 400. The 'Question\*' tab is selected, showing the question 'Employee Secret ID?'. The 'Name' field is auto-filled as 'employee\_secret\_id'.

5. **Variable Type:** Masked
6. **Mandatory:** Checked True
7. **Order:** 400
8. **Question:** Employee Secret ID?
9. **Name:** Auto Filled

The screenshot shows the 'Type Specifications' tab. The 'Variable Width' is set to 'System Default Width (5)'. A tooltip indicates 'Not honored in 2 column container'. The 'Use confirmation' and 'Use encryption' checkboxes are checked.

## 10. Open Specification Tab

11. **Use Confirmation:** Checked True
12. **Use Encryption:** Checked True
13. Click on **Submit**

## Working with HTML Variable

HTML Variable is used to get content in advanced format and Images, supporting for hyperlinks display content in editable mode

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets > Common Information

The screenshot shows the ServiceNow interface for managing catalog variables. The top navigation bar has 'Service Catalog' selected. The main area is titled 'Catalog Variables'. On the left, there's a sidebar with sections like 'All Variables', 'Disable Variable SQL Debugger', 'Enable Variable SQL Debugger', 'Item Variables', 'Plan Variables', and 'Variable Sets'. The 'Variable Sets' section is highlighted with a red box. The main content area lists variable sets with columns for Title, Internal name, and Description. One row for 'Common Information' is highlighted with a red box. The 'Title' column shows 'Common Information', 'Internal name' shows 'common\_information', and the 'Description' column says 'This variable set contain common variable...'. There are other rows for 'Standard Employee Questions' and 'Mobile Devices Set'.

Title	Internal name	Description
Common Information	common_information	This variable set contain common variable...
Standard Employee Questions	standard_employee_questions	This should be used for all end user req...
Mobile Devices Set	mobile_devices_set	Table variable for Corporate Mobile devi...

2. Open **Variable Tab** from **Related list**
3. Click on **New**

Variables (4)					
	Variables	New	Search	Order	Search
	Variable set = Common Information				
	Name	Type	Question	Order	
<input type="checkbox"/>	(i) employee_full_name	Single Line Text	Employee Full Name	100	
<input type="checkbox"/>	(i) employe_contract_duration	Duration	Employee Contract Duration	200	
<input type="checkbox"/>	(i) employee_joined_date	Date	Employee Joined Date	300	
<input type="checkbox"/>	(i) employee_secret_id	Masked	Employee Secret ID ?	400	

#### 4. Fill HTML Variable form

The screenshot shows the 'Variable' creation form. Key fields highlighted with red boxes are: 'Type' (set to 'HTML'), 'Question\*' (containing 'Employee Image?'), and 'Name' (containing 'employee\_image'). Other visible fields include 'Variable set' (set to 'Common Information'), 'Application' (set to 'Global'), 'Mandatory' (checked), 'Active' (checked), 'Order' (set to 500), and a 'Submit' button.

5. **Variable Type:** HTML

6. **Mandatory:** Checked True

7. **Order:** 500

8. **Question:** Employee Image?

9. **Name:** Auto Filled

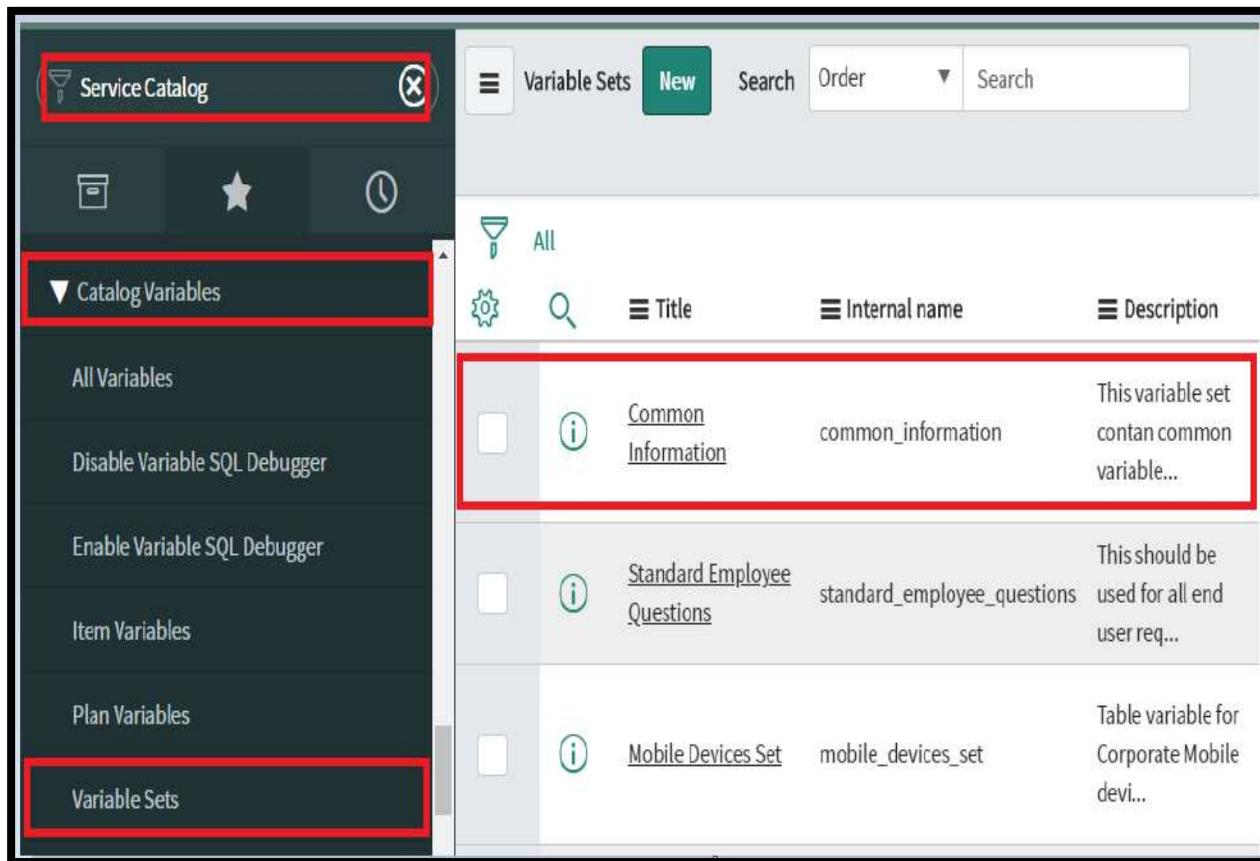
10. Click on Submit

## Working with Wide Single Line Text Variable

The **Wide Single Line Text** is used to allowing customer to enter longer line text value

### Procedure

1. Navigate to Service Catalog > Catalog Variables > Variable Sets > Common Information



2. Open Variable Tab from Related list
3. Click on New

Variables (4)					
	Name	Type	Question	Order	
<input type="checkbox"/>	employee_full_name	Single Line Text	Employee Full Name	100	
<input type="checkbox"/>	employe_contract_duration	Duration	Employe Contract Duration	200	
<input type="checkbox"/>	employee_joined_date	Date	Employee Joined Date	300	
<input type="checkbox"/>	employee_secret_id	Masked	Employee Secret ID ?	400	

#### 4. Fill Wide Single Line Text Variable

The screenshot shows the 'Variable' creation form. Key fields highlighted with red boxes are:

- Type: Wide Single Line Text
- Variable set: Common Information
- Mandatory: Checked True
- Active: Checked True
- Order: 550
- Question\*: Provide more information about employee?
- Name: provide\_more\_information\_about\_employee

5. **Variable Type:** Wide Single Line Text

6. **Mandatory:** Checked True

7. **Order:** 550

8. **Question:** Provide more information about employee?
9. **Name:** Auto Filled
10. Click on **Submit**

## Working with IP Address Variable

This variable is used to specify and get the **IPv4 and IPv6** data. Under the **Validation Scripts** submodule, a validation script also working on background.

### Procedure

11. Navigate to **Service Catalog > Catalog Variables > Variable Sets > Common Information**

The screenshot shows the Service Catalog interface. The top navigation bar has 'Service Catalog' selected. The left sidebar has 'Catalog Variables' and 'Variable Sets' highlighted with red boxes. The main area shows a table of variable sets with columns: Title, Internal name, and Description. One row is highlighted with a red box: 'Common Information' (internal name: common\_information) with the description 'This variable set contain common variable...'. Other rows include 'Standard Employee Questions' (internal name: standard\_employee\_questions) and 'Mobile Devices Set' (internal name: mobile\_devices\_set).

All	Title	Internal name	Description
<input type="checkbox"/> <i>Common Information</i>	common_information	This variable set contain common variable...	
<input type="checkbox"/> <i>Standard Employee Questions</i>	standard_employee_questions	This should be used for all end user req...	
<input type="checkbox"/> <i>Mobile Devices Set</i>	mobile_devices_set	Table variable for Corporate Mobile devi...	

12. Open **Variable Tab** from **Related list**
13. Click on **New**

Variables (4)					
	Variables	New	Search	Order	Search
	Variable set = Common Information				
Variables	Name	Type	Question	Order	
<input type="checkbox"/>	employee_full_name	Single Line Text	Employee Full Name	100	
<input type="checkbox"/>	employe_contract_duration	Duration	Employee Contract Duration	200	
<input type="checkbox"/>	employee_joined_date	Date	Employee Joined Date	300	
<input type="checkbox"/>	employee_secret_id	Masked	Employee Secret ID ?	400	

## 14. Fill IP Address Variable Form

The screenshot shows the 'Variable' creation form. The 'Type' dropdown is set to 'IP Address'. The 'Application' is 'Global'. The 'Mandatory' and 'Active' checkboxes are checked. The 'Order' field contains the value '600'. The 'Question\*' tab is selected, showing the question 'Provide employee system IP Address'. The 'Name' field contains 'provide\_employee\_system\_ip\_address'.

Type	IP Address	Application	Global	Mandatory	Active	Order
Variable set	Common Information	Question*	Provide employee system IP Address	Name	provide_employee_system_ip_address	

15. **Variable Type:** IP Address

16. **Mandatory:** Checked True

17. **Order:** 600

18. **Question:** Provide Employee IP Address?

19. **Name:** Auto Filled

20. Click on **Submit**

## Exercise: 11 Add Variable Set to Catalog Item

We are adding variable set to catalog item for reusability purpose

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Maintain Items > Open iPhone 6s Plus item

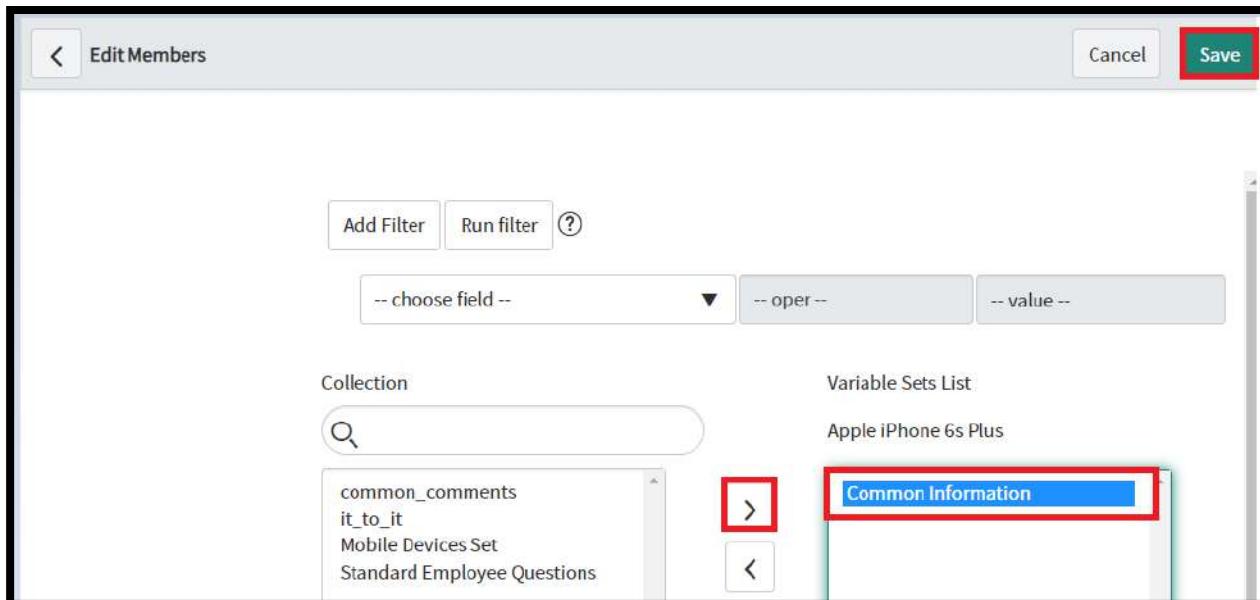
The screenshot shows the Service Catalog interface. On the left, the navigation bar has 'Service Catalog' highlighted. Under 'Catalog Definitions', 'Apple iPhone 6s Plus' is selected and highlighted with a red box. On the right, a list of catalog items is displayed with columns for Name, Short description, and Active status. The 'Apple iPhone 6s Plus' item is also highlighted with a red box.

	Name	Short description	Active
	Series 2	Apple Watch Series 2	true
	Samsung Galaxy S7	Samsung Galaxy S7	true
	Samsung Galaxy S7 Edge	Samsung Galaxy S7 Edge	true
	Apple iPhone 6s	Apple iPhone 6s	true
	Apple iPhone 6s Plus	Apple iPhone 6s Plus	true
	Report Performance Problem	Request assistance with a performance is...	true

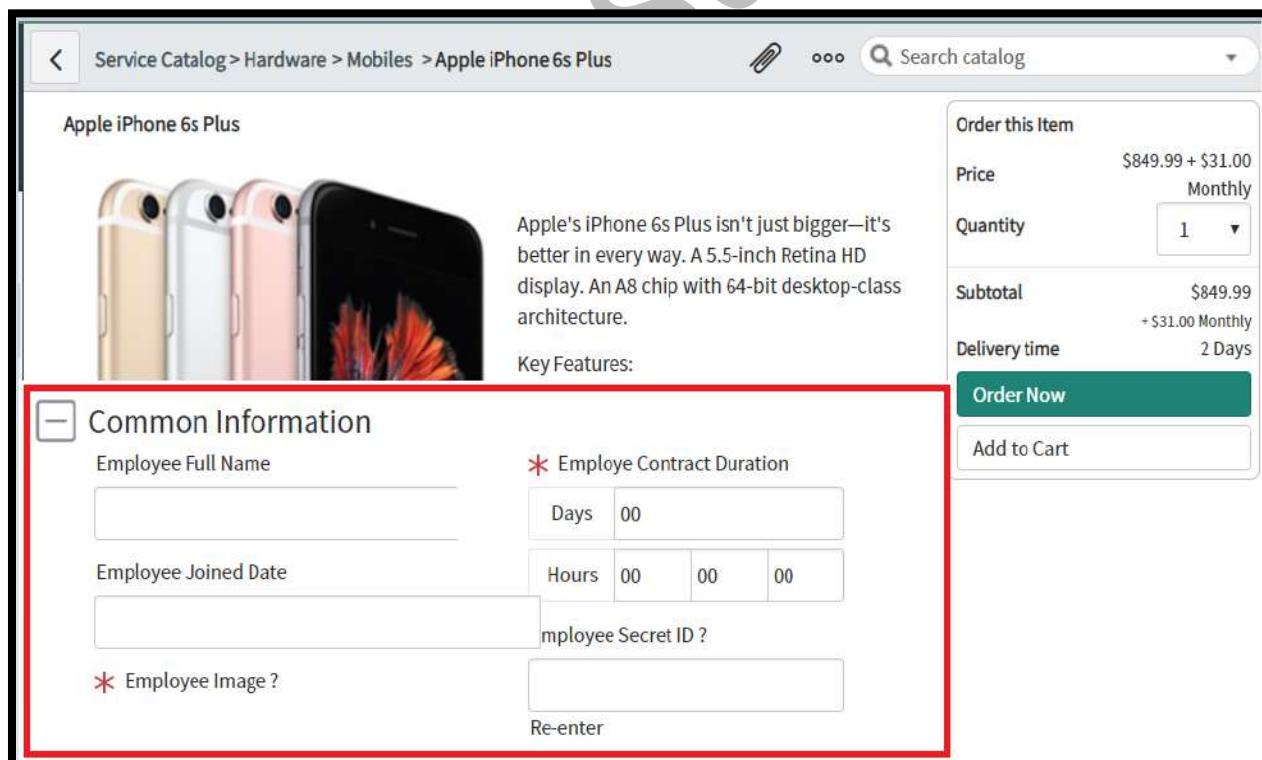
2. Open Variable Sets Tab from Related list

3. Click on Edit

The screenshot shows the 'Variable Sets' tab selected in the related list. The 'Edit...' button is highlighted with a red box. The search bar contains the filter 'Catalog Item = Apple iPhone 6s Plus'. The results table is empty, displaying the message 'No records to display'.



4. Select **Common Information** variable sets from **Slash Bucket**
5. Click on **Right Arrow >**
6. Click on **Save**



7. Click on **Try It** and check results

## Working with User Criteria

Service Catalog Application enables you to apply **User Criteria** to a service catalog item, which can be defining who **Can** and **Cannot** able access that particular item.

We are going to apply **User Criteria** to all types of catalog item, those are including **Record Producers, Order Guide, and Content Items**.

### Exercise:12 Create new User Criteria

Task: I phone 6s Plus will be available for only **IT Department** people

#### Procedure

1. Navigate to Service Catalog > Catalog Definition > User Criteria
2. Click on **New**

The screenshot shows the Service Catalog application interface. The left sidebar has a red box around the 'Service Catalog' header and another red box around the 'User Criteria' item under 'Catalog Definitions'. The main area shows a list of user criteria records:

	Name	Companies	Departments
<input type="checkbox"/>	'Problem Analyzers' and 'Problem Solving' Group Members		
<input type="checkbox"/>	All ACME Corporation employees	ACME Corporation, ACME South America, AC	
<input type="checkbox"/>	All ACME North America employees	ACME North America	
	All Users who		

User Criteria may be used to restrict access to records in Service Catalog and Knowledge

Name: I Phone 6s Plus IT Department

Application: Global

Active:

Users:

Companies:

Locations:

Departments:  IT

Advanced:

Match All:

Submit

3. Fill User Criteria Form
4. Name: I phone 6s Plus IT Department
5. Departments: Select IT
6. Click on Submit

	Name	Companies	Departments	Groups
	"Instance Security Center"			
	Any User			
	I Phone 6s Plus IT Department		IT	

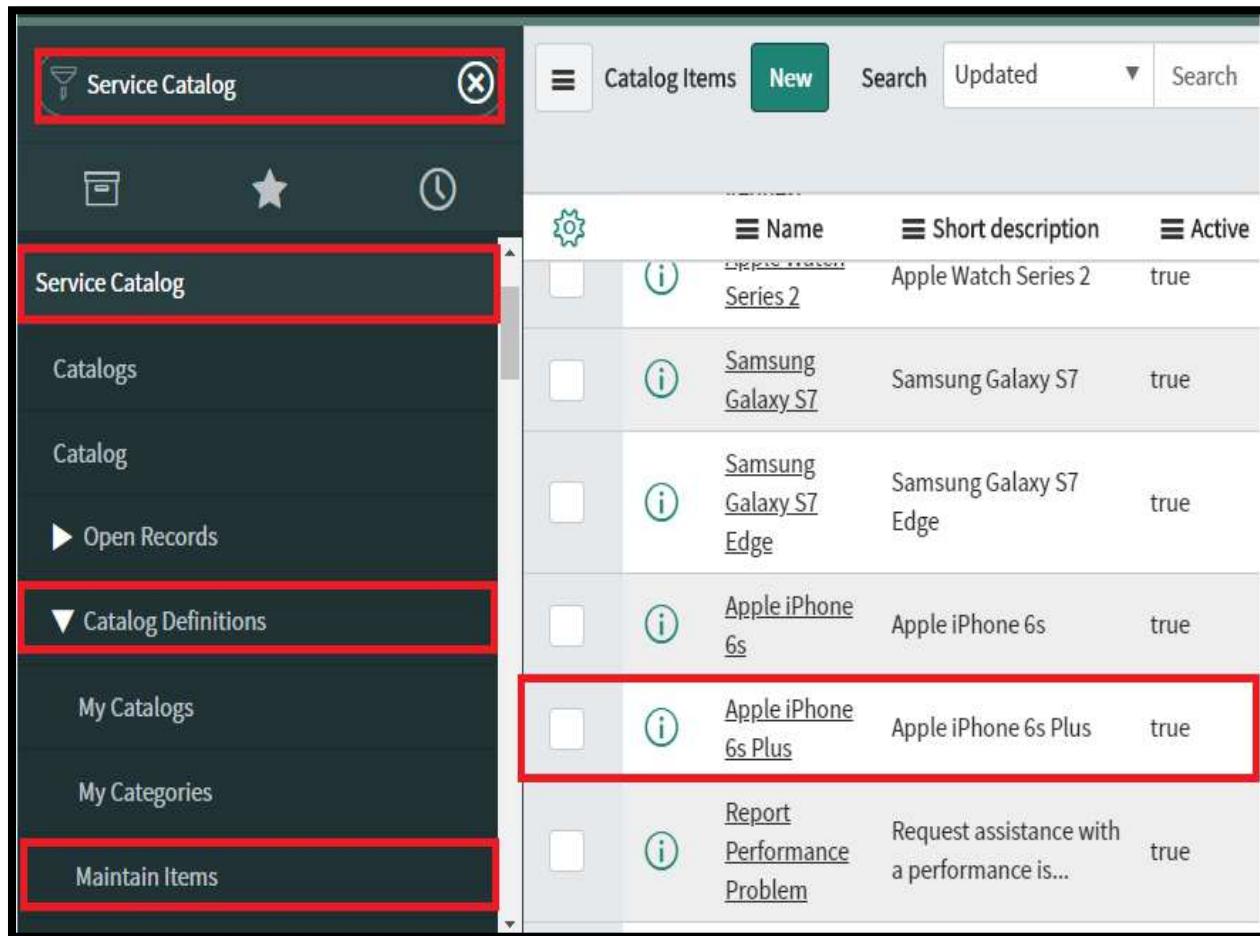
7. After added a User Criteria see look like above screen

## Exercise: 13 Configure User Criteria for Service Catalog Item

The user criteria used to restriction applies only within Service Catalog for the specific item it is applied for. However, the user criteria restriction is not applied outside the Service Catalog where the user has access to the item via the table.

### Procedure

1. Navigate to Service Catalog > Catalog Definition > Maintain Items > Open iPhone 6s Plus item



2. Open Available for Tab from Related list

The screenshot shows the 'Catalog UI Policies' page in ServiceNow. The top navigation bar includes tabs for 'Variables (5)', 'Variable Sets (1)', 'Catalog UI Policies (1)', 'Catalog Client Scripts', 'Available For' (which is highlighted with a red box), 'Not Available For', and 'Categories (1)'. Below the navigation is a sub-header 'Catalogs (1)'. The main content area has a toolbar with buttons for 'Available For' (disabled), 'New' (green), 'Edit...' (highlighted with a red box), 'Search', and dropdowns for 'Available for' and 'Search'. There are also filter icons for 'Catalog Item' and 'Available for'. The main list area displays one item: 'Catalog Item = Apple iPhone 6s Plus' with a gear icon and a magnifying glass icon. Below the list, a message says 'No records to display'.

3. Click on **Edit**

The screenshot shows the 'Edit Members' dialog box. The title bar says 'Edit Members' with a back arrow and 'Save' buttons. The toolbar includes 'Add Filter', 'Run filter', and a help icon. Below the toolbar are three dropdown menus: 'choose field', 'oper', and 'value'. The 'Collection' section on the left contains a search bar and a list of user criteria: "'Problem Analyzers' and 'Problem S", "All ACME Corporation employees", "All ACME North America employees", "All Users who can access "Instance S", and "Any User". The 'Available For List' section on the right shows a list with one item: 'Apple iPhone 6s Plus'. Below it, a specific entry 'I Phone 6s Plus IT Department' is highlighted with a red box and has a right-pointing arrow icon next to it. Navigation arrows < and > are also present between the two sections.

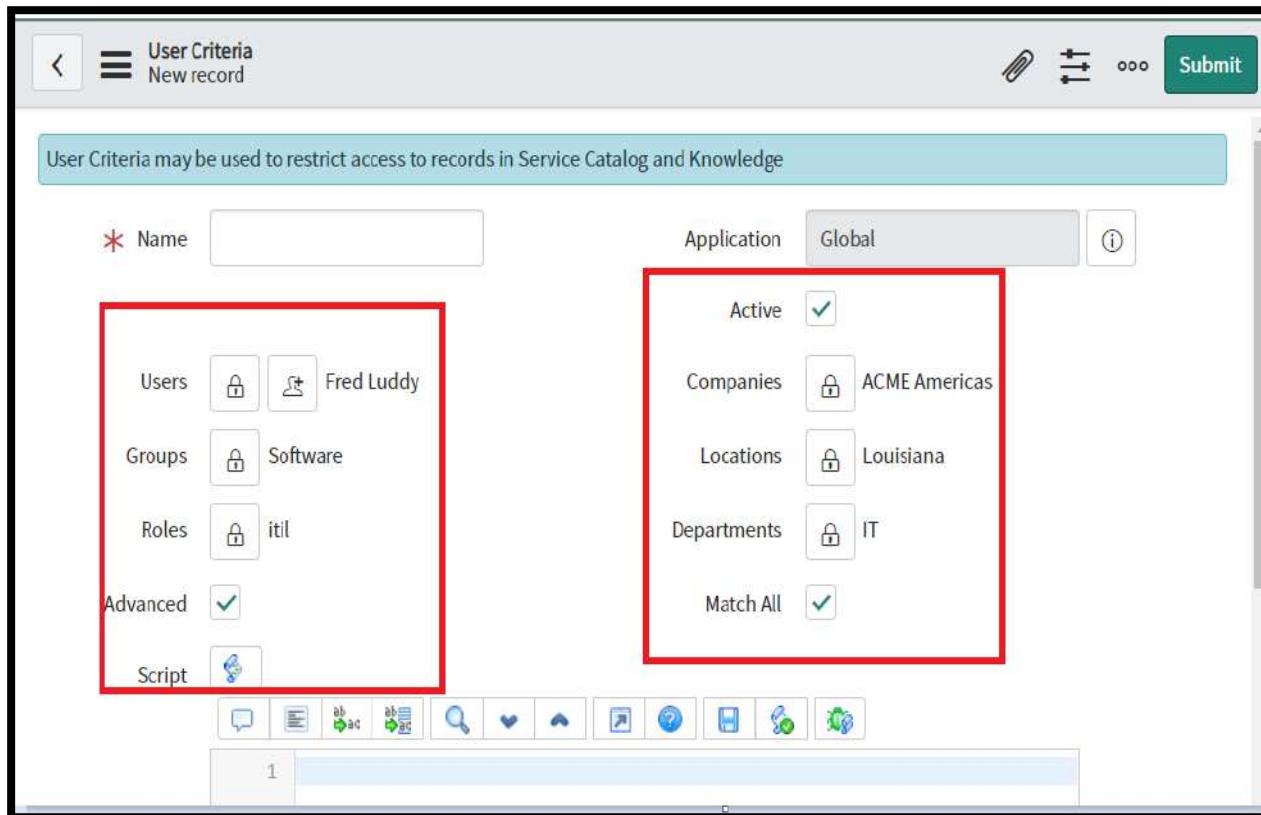
4. Select **I Phone 6s Plus IT Department** User Criteria from **Slash Bucket**
5. Click on **Right Arrow >**
6. Click on **Save**

**Note:** This catalog item should be visible to only **IT Department**

## Important Note

The **Not Available for** property can override **Available for** Property. A user present on the **Not Available for** list then cannot access that item, even if that user is also on the **Available for** list for that item.

We can apply user criteria for particular category also, who can and cannot access category.



- 1. Users:** Select users the **Catalog Item** should be visible to only particular users
- 2. Groups:** Select Groups the **Catalog Item** should be visible to only particular group of peoples
- 3. Roles:** Select Roles the Catalog Item should be visible to user have selected role
- 4. Companies:** Select Companies the **Catalog Item** should be visible to only particular company peoples
- 5. Location:** Select Locations the **Catalog Item** should be visible to only particular location peoples
- 6. Departments:** Select Locations the **Catalog Item** should be visible to only particular Department peoples
- 7. Advanced:** We can restrict users through script also

**8. Match All:** Match all above condition

## Working with Service Catalog UI Policy

Service Catalog UI Policy is similar to UI policy controlling fields and changing form behavior and dynamically apply to variable validation. Catalog UI policies can be applied to a **Catalog Item or a Variable Set**.

We can perform below operations using by Service Catalog UI Policy

1. Mandatory/Option
2. Readable/Writable
3. Visible/In Visible

## Exercise: 14 Configure a Catalog UI Policy for Catalog Item

We can apply **Catalog UI Policies** for catalog items when any customer ordered in the service catalog then change form behavior based on business requirement.

**Condition:** When the user select **Silver Color I phone 15s (any Item)** Mobile from preferable color

**Action:** Extended Memory up to variable should not be visible

### Procedure

1. Navigate to Service Catalog > Catalog Administration > Catalog UI Policies
2. Click on **New**

	Short description	Catalog item	Variable set	Condition
<input type="checkbox"/>	Show reference when is definition reference is yes	Create a new Export Set	(empty)	
<input type="checkbox"/>	Group or Department	Service Category Request	(empty)	
<input type="checkbox"/>	Default Values for Developers	New Hire	(empty)	
<input type="checkbox"/>	Hide Reason Details (DB Restore)	Database Restore	(empty)	
<input type="checkbox"/>	Show table when is definition reference is no	Create a new Export Set	(empty)	

### 3. Fill Catalog UI Policy form

**Catalog UI Policy**  
New record

Applies to: A Catalog Item

Catalog item: iPhone 15s

Short description: When the user select Silver Color iPhone 15s (any Item) Mobile from preferable color

When to Apply: Script

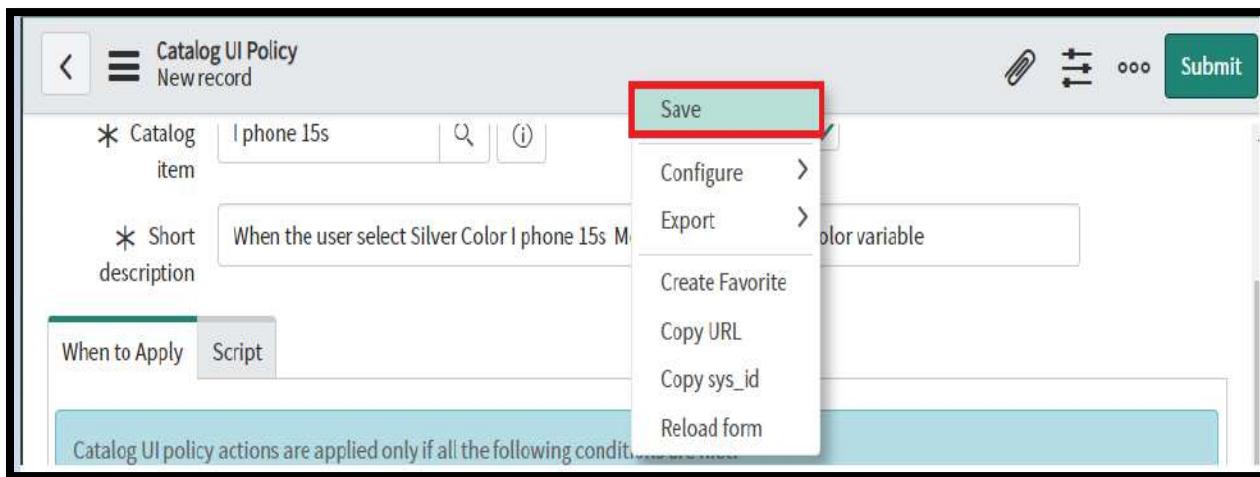
Catalog Conditions: Add Filter Condition | Add "OR" Clause

which\_colour\_do\_you\_preferble is Silver

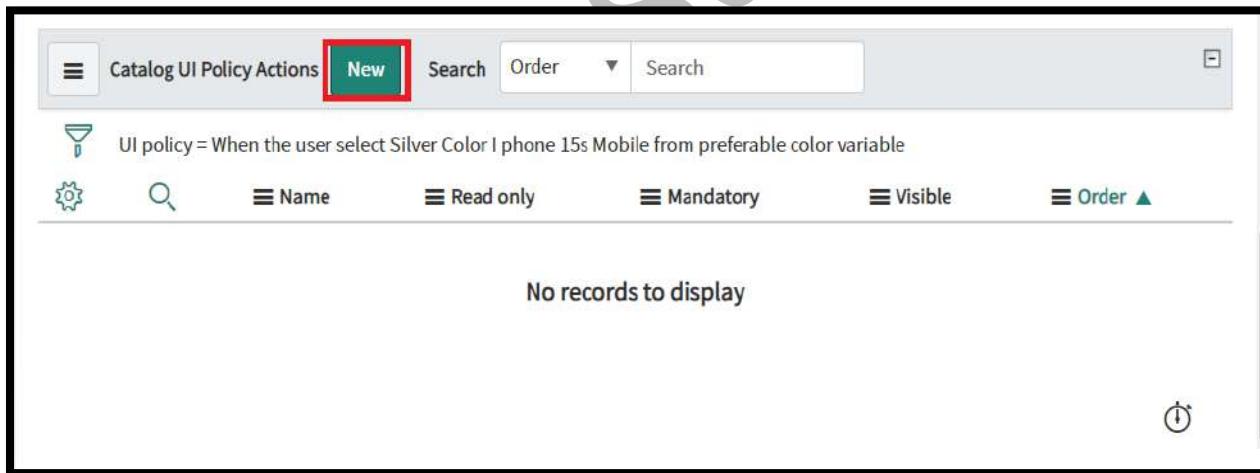
4. Applies to: A Catalog Item

5. Catalog Item: I Phone 15s

6. **Short Description:** When the user select Silver Color I phone 15s Mobile from preferable color variable
7. **When to Apply:** Condition [Which color do you preferable] **[is] [Silver]**
8. **Right Click** on form header and click on **Save**



## 9. Catalog UI Policy Action Section



10. Click on **New**

Catalog UI Policy Action  
New record

UI policy actions specify exactly what actions to take on a specified field. The conditions specified in the UI policy determine when these actions are triggered. [More Info](#)

Catalog Item	I phone 15s	Application	Global
Variable name	extended_memory_u	Mandatory	Leave alone
Order	100	Visible	False
		Read only	Leave alone
<input type="checkbox"/> Clear the variable value			

**11. Variable Name:** Select variable name which one needs to be hide

**12. Visible:** False

**13. Order:** 100

**14. Click on Submit**

**15. Click on Update**

Catalog UI Policy  
When the user select Silver Color I phone 15s Mobile from preferable color variable

Catalog UI policies are similar to standard UI policies. Catalog UI policies dynamically change variables that are part of a catalog item or change how variable sets are handled. Policies can also be applied when the variables are present in a Requested Item or Catalog Task form. [More Info](#)

Applies to	A Catalog Item	Application	Global
* Catalog item	I phone 15s	Active	<input checked="" type="checkbox"/>
* Short description	When the user select Silver Color I phone 15s Mobile from preferable color variable		

16. Navigate to Service Catalog > Catalog Definition > Maintain Item > I Phone 15s Item

17. Click on Try It

The screenshot shows the Service Catalog interface. On the left, there's a sidebar with options: Service Catalog, Catalog Definitions (which is expanded), My Catalogs, My Categories, and Maintain Items. The main area shows a Catalog Item named 'iPhone 15s'. The 'Try It' button in the top right is highlighted with a red box. The item details include Name: iPhone 15s, Application: Global, Catalog: Service Catalog (locked), Active: checked, Category: Mobiles, Availability: Desktop and Mobile, and a short description: iPhone 15s for developers.

18. Select preferable color value is Silver

A color selection dialog box is shown. The question is "Which Colour do you preferle ?". There are three options: "None" (radio button), "Gold" (radio button), and "Silver" (radio button, which is selected and highlighted with a red box). A red box also highlights the message "Extended Memory up to variable is not visible" at the bottom of the dialog.

19. Expected variable is Hidden like above screen shot

Chapter – 17

Dettifoss IT

[www.dettifossit.com](http://www.dettifossit.com)

as Sunkara

# Workflows

## What is Workflow

Service now Workflow will provide a **drag-and-drop** interface for automating multi-step processes across the platform.

Each workflow will contain number of a sequence of activities, such as generating records, notifying users of pending approvals, or running scripts.

## Life cycle of Workflow

A workflow will run when a triggering event occurs. The common triggers include a record being inserted or updated into a specific table, or a particular field in a table being set to a specified value.

When a workflow activity completes, then the workflow transitions to next activity. An activity might have several different possible transitions to various activities, depending on the outcome of the activity.



**For example**, already you might create a workflow that runs whenever a user requests approval for an item they want to order from the catalog. We can also schedule workflows to run periodically or call them from scripts such as BR rules.

The graphical Workflow Editor can represent workflows visually as a type of flowchart visualization manner. It will show activities as boxes labelled with information about that activity and transitions from one activity to the next as lines connecting the boxes.

## Who can create and modified Workflows

The person should have below roles to **create, modify, delete, and publish workflows**.

1. **workflow\_creator**
2. **workflow\_admin**

## Workflow editor

The Workflow Editor is an interface for creating new workflow and modifying existing workflows by arranging and connecting activities to drive processes.

## Workflow Home Screen

1. Servcenow admin and Developers can working with workflow editor
2. Service now admin can open with the Welcome page, which can be displays a list of active, and How it would be published.
3. We can open existing workflows, create new workflows, and open help resources related to workflow.

The screenshot shows the ServiceNow Workflow Home Screen. At the top left is the 'Welcome' button, which is highlighted with a red box. At the top right are two tabs: 'Workflows' (highlighted with a red box) and 'Core'. Below the tabs is a search bar with the placeholder 'Filter workflows' and a '+' icon. In the center, there are three links: 'Published' (highlighted with a red box), 'Checked Out', and 'Help'. To the right of these links is a green 'New Workflow' button. Below these links is a filter section with a funnel icon and the text 'All > Published=true'. The main area displays a list of workflow items with columns for Name, Table, Updated by, and Updated. One item in the list is highlighted with a red box: 'Service Catalog Item Request' (Table: Requested Item [sc\_req\_item], Updated by: glide.maint, Updated: 2009-01-14 09:46:52). Other items listed include 'Knowledge - Instant Publish', 'Grant', 'role\_delegator', 'role to user in group', and 'Service Task'. On the far right, a vertical list of workflow activities is shown, starting with 'Change Request - Emergency' and ending with 'Emergency Change...'. Some items in this list are also highlighted with red boxes.

**Published:** Click to view list of published workflows in our instance

**Checked Out:** Click to view list of workflows checked out to current logged in user

**Help:** Click to view links to help resources for workflow to implementing new

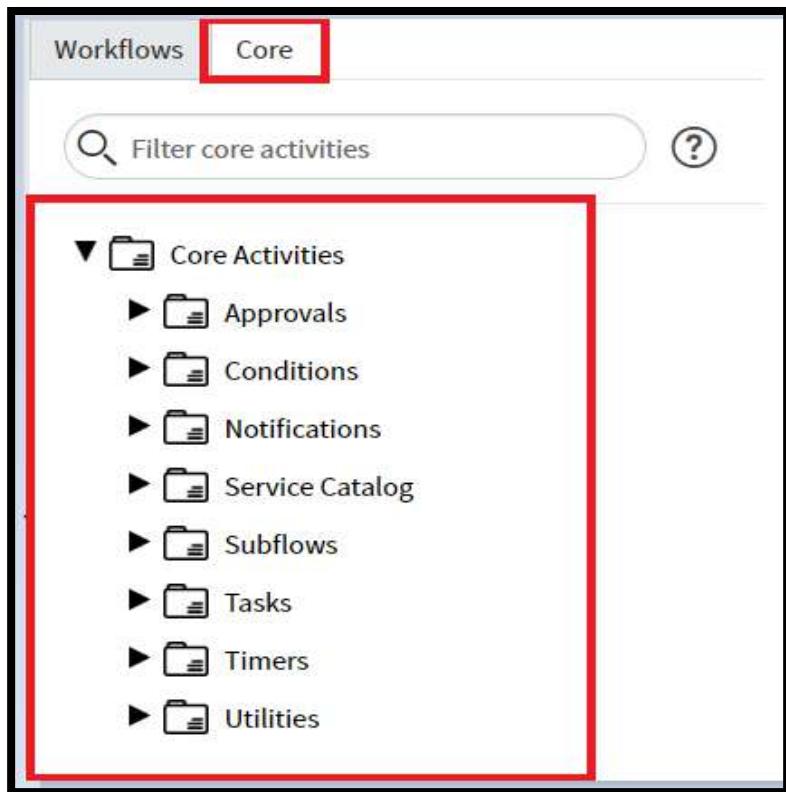
**New Workflow:** Click to create a new workflow

**Core:** Available workflow activities appropriate for the selected workflow. Contents can include activities provided by the base system and those purchased with orchestration.

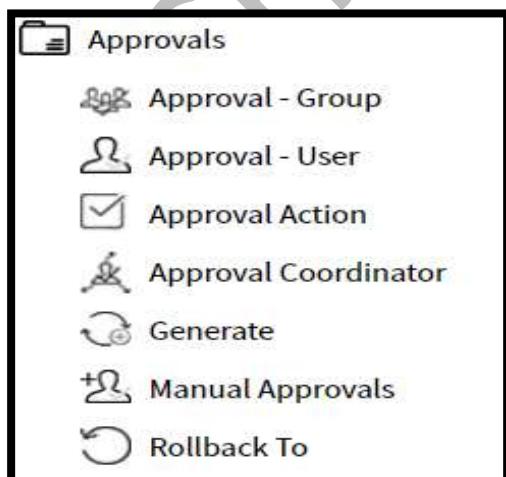
## Core Activities in Workflow

The Core activity tab will contain the standard activities available by default to all workflows and any activities purchased with Orchestration, organized by category.

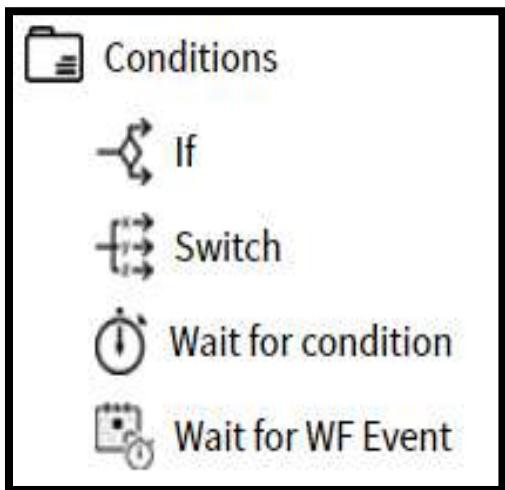
Click the arrow icons to expand or collapse the activity lists under each category. To add an activity to a workflow, drag it to the canvas. For more information, See below



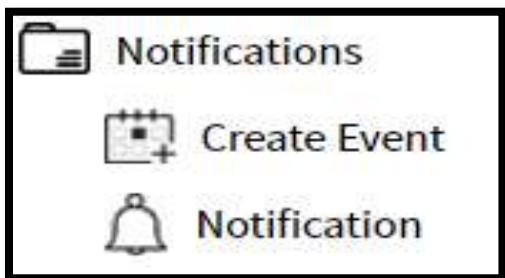
### 1. Approval Activity



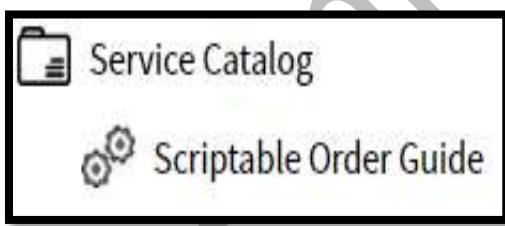
## 2. Condition Activity



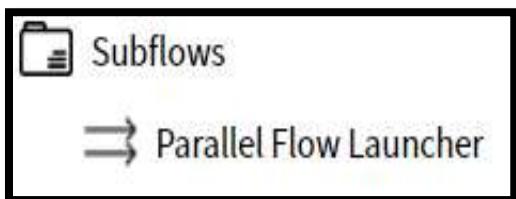
## 3. Notification Activity



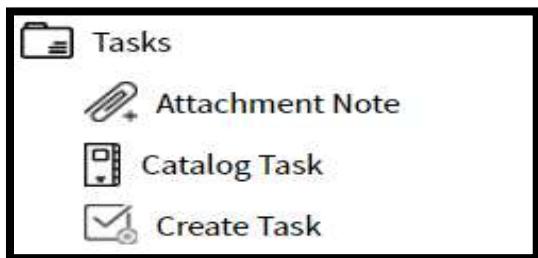
## 4. Service Catalog Activity



## 5. Sub flow Activity



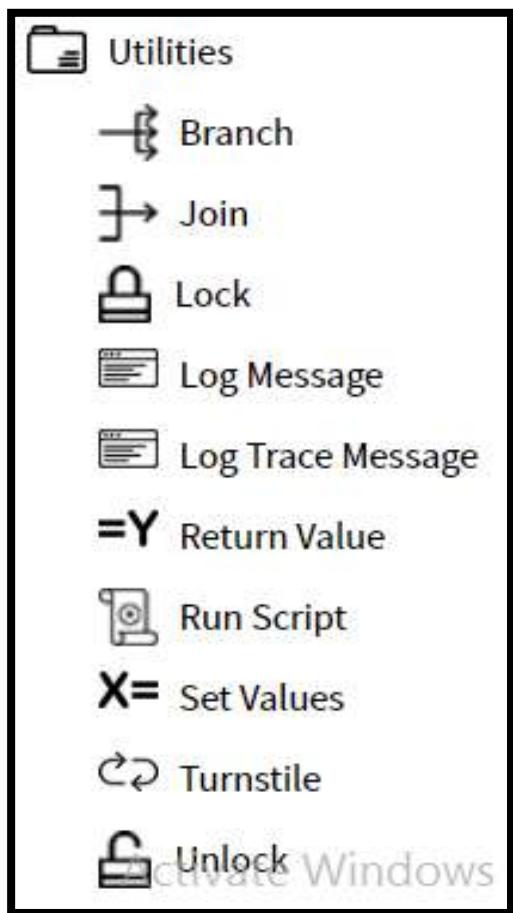
## 6. Tasks Activity



## 7. Timer Activity



## 8. Utilities Activity



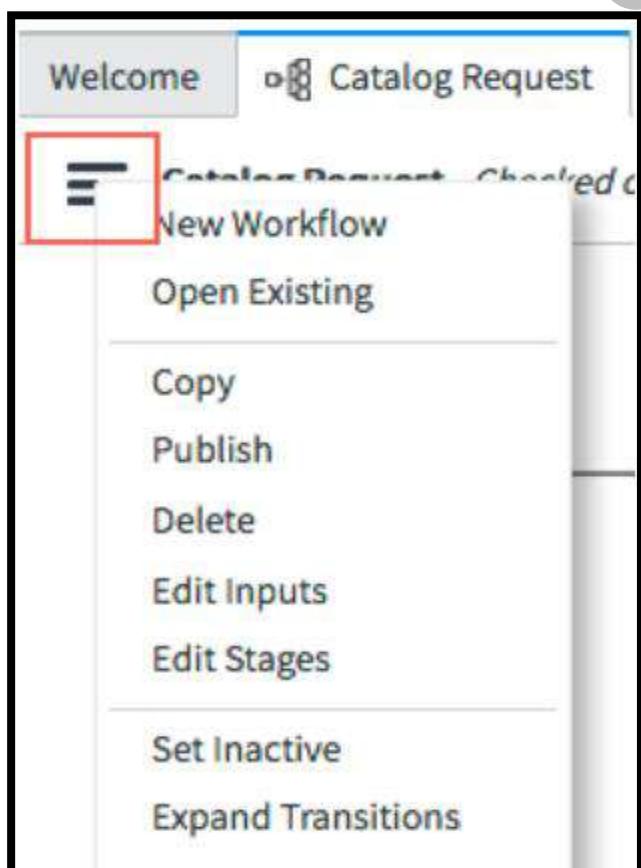
## Workflow editor title bar options

When we working with workflow using these all tabs frequently



## Workflow Context Menu

Workflow context menu can provide additional features to configure the workflow.



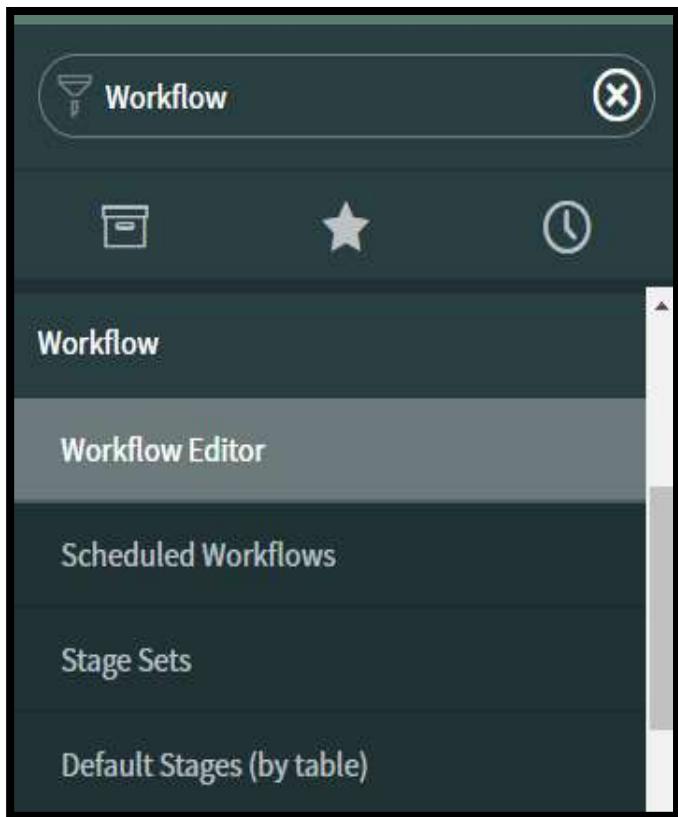
## Exercise: 1 Creating a new workflow

We can create new workflow that automate a multi-step process from **Workflow Editor**.

After created this workflow then we can add it to our **I Phone 12s Catalog Item**

### Procedure

1. Navigate to Workflow > Workflow Editor
2. Click New Workflow



3. Click on **New Workflow** button

The screenshot shows the ServiceNow Workflows interface. At the top, there's a navigation bar with tabs for 'Workflows' and 'Core'. Below the navigation is a search bar labeled 'Filter workflows' and a '+' icon for creating new workflows. A list of existing workflows is displayed, including 'Change Request - Emergency', 'Change Request - Emergency change tasks', 'Change Request - Normal', 'Change Request - Normal change tasks', 'Change Request - Standard', 'Change Request - Standard change tasks', 'Comprehensive Change', and 'Contract Approval'. On the left side of the main content area, there's a sidebar with filters: 'All > Published = true', and buttons for 'Name', 'Table', 'Updated by', and 'Updated'. Below the sidebar is a search bar with four search boxes. The main table lists two items: 'Service Catalog Item Request' and 'Knowledge - Instant Publish'. The 'Service Catalog Item Request' row contains columns for Name ('Requested Item [sc\_req\_item]'), Updated by ('glide.maint'), and Updated ('2009-01-14 09:46:52'). The 'Knowledge - Instant Publish' row contains columns for Name ('Knowledge [kb\_knowledge]'), Updated by ('admin'), and Updated ('2014-11-05 01:52:29'). At the top right of the main content area, there's a red box highlighting the 'New Workflow' button.

4. Fill new workflow details

The screenshot shows the 'New Workflow' dialog box. At the top, it says 'New Workflow' and has a close button. Below that is a section for 'Workflow Version' with options 'New record' and '[New Workflow view\*]', with a 'Submit' button to its right. A note below explains what a workflow is and how to name it. The main form has fields for 'Name' (containing 'I Phone 12s Procurement') and 'Table' (containing 'Requested Item [sc\_req\_item]'), both of which are highlighted with red boxes. The 'Submit' button at the top right of the dialog is also highlighted with a red box.

**Stages**

When present, set the **Stage** field to display the workflow stage progress on the selected table. Optionally, select **Stage rendering** and **Stage order** schemes to customize the appearance of the stage field. The default values cover typical scenarios.

**Stage rendering**  
Workflow-driven

**Stage order**  
Computed

**Submit**

**Related Links**

[Default view](#)  
[Diagrammer view](#)

5. **Name:** I Phone 12 Procurement
6. **Table:** Requested Item [sc\_req\_item]
7. **Description:** I Phone 12s Procurement
8. Open Stages Section
9. **Stage rendering:** Workflow-driven
10. **Stage Order:** Computed
11. Click on **Submit**



12. When we created a new workflow by default, start and end activities will have generate like above

## Exercise: 2 Add Activities to our workflow

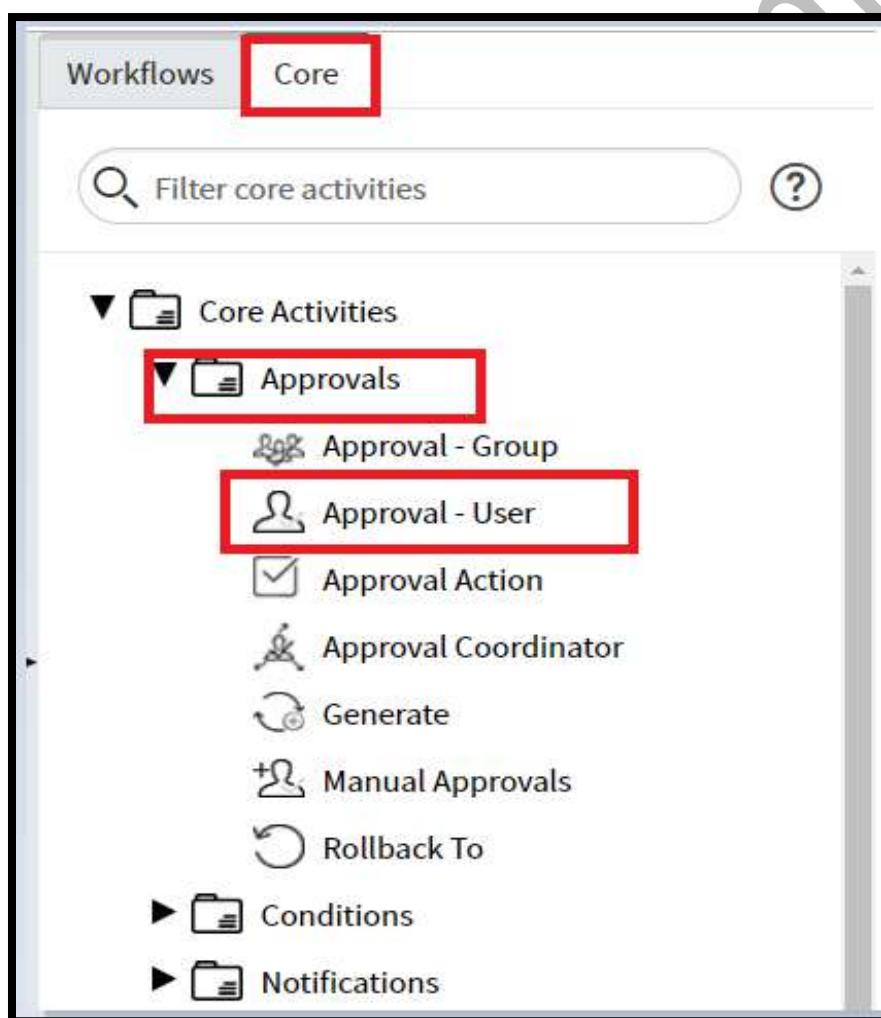
We can add required activities to our workflow to perform tasks such as **record insert**, **sending notifications**, or **requesting approvals**. Activities can succeed or fail, which can result in actions performed by other activities.

### Add Approval Activity

We have to fill the following steps to add an activity that requests **manager approval**.

#### Procedure

1. In the Core pallet, expand **Approvals** and drag the activity **Approval - User** into the arrow between **Begin** and **End activity**.



2. This activity generates an approval from the manager of the person requesting **I phone 12 mobile**
3. Fill form with the following information.
4. **Name:** Manager Approval
5. **Stage:** Waiting for Approval

New Activity: Approval - User (?) X

Workflow Activity  
New record [Diagrammer view]

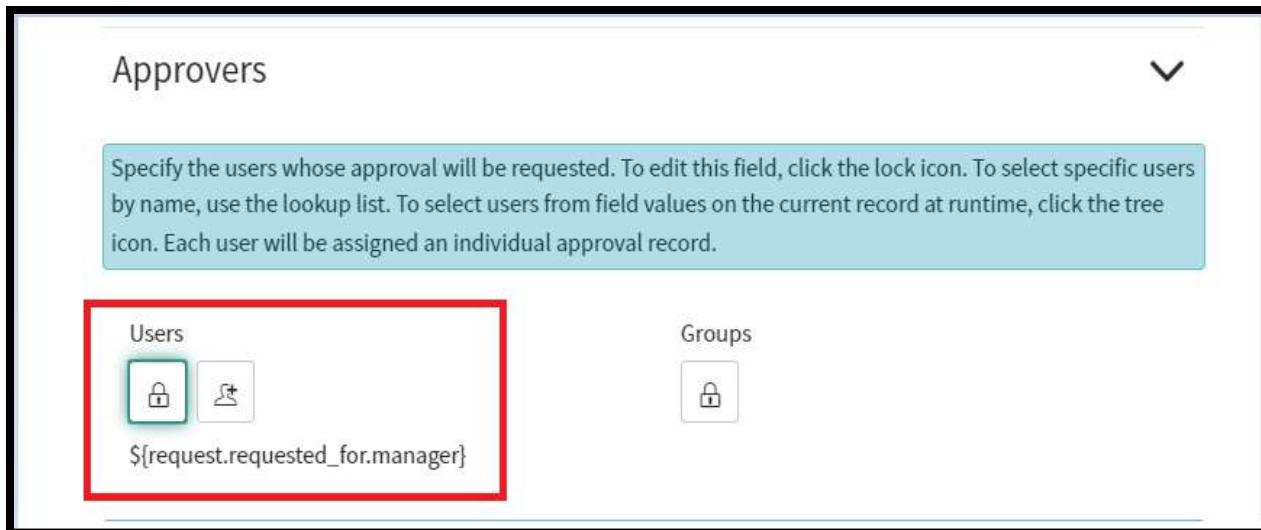
Name  
Manager Approval

Stage  
Waiting for Approval

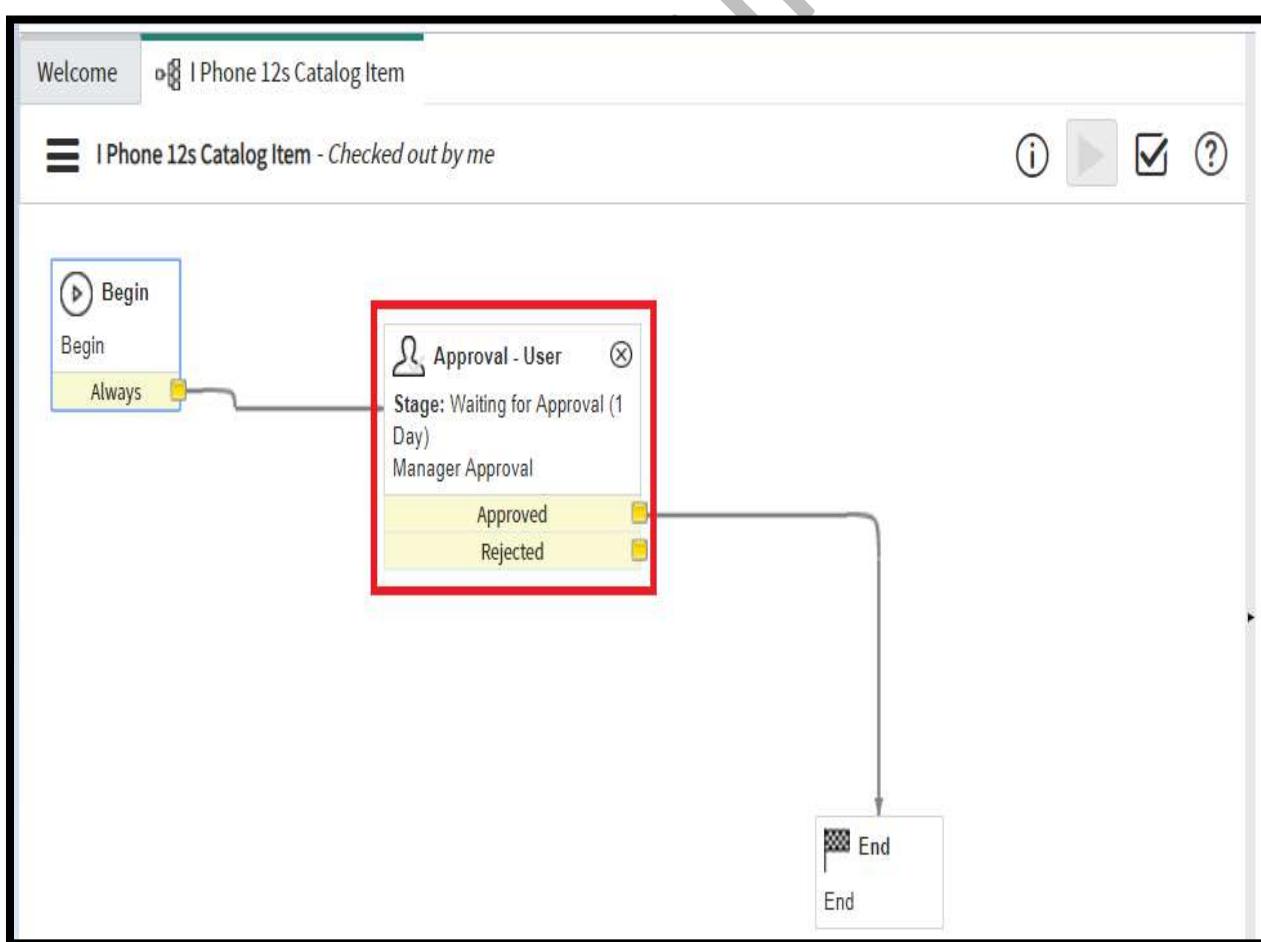
When to run

Specify the conditions that, when met, cause a user approval to be generated. [More Info](#)

6. **User:** Click the lock icon in the Approvers section, and then click the select fields icon. Expand **Request > Requested for > Manager**.



7. Click on **Submit**
8. Consider below screen shot about **Approval User** activity

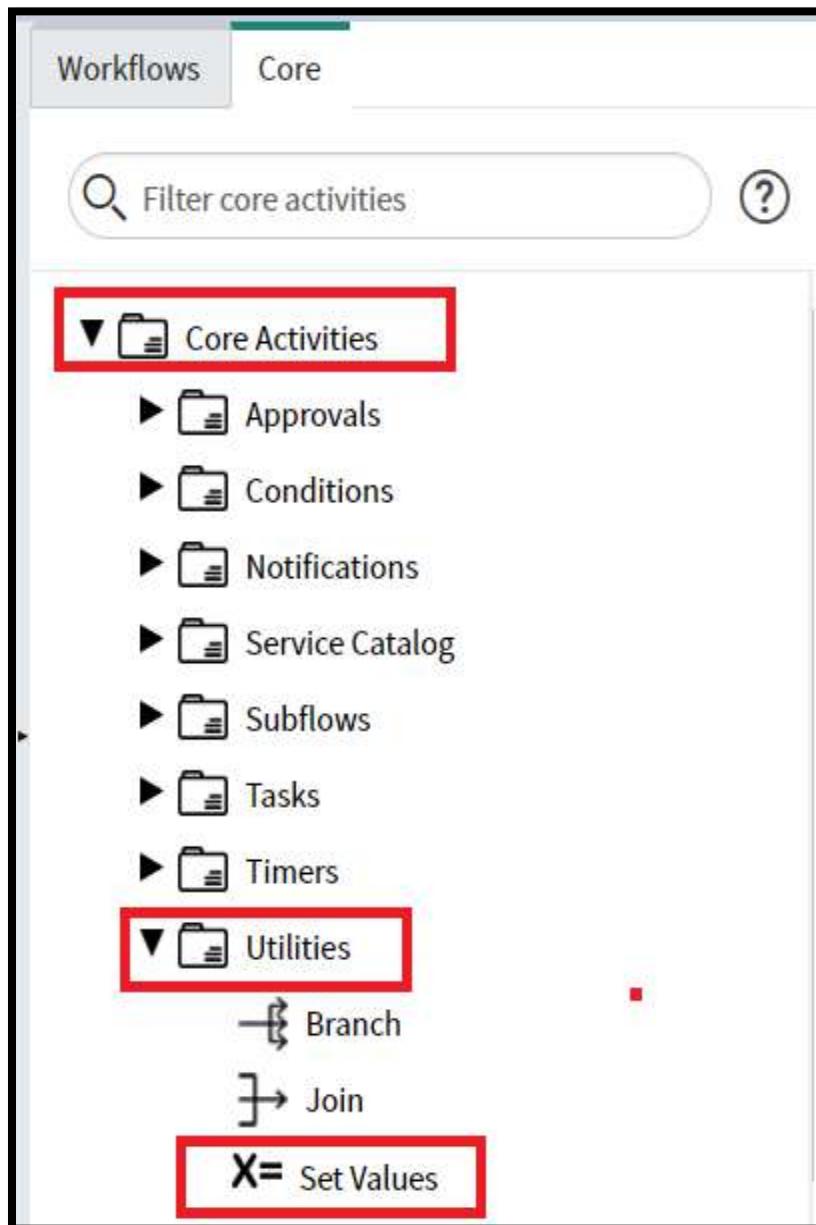


## Add an action for when the approver rejects the request.

We are going to complete the following steps to add an action for when the approver **rejects** the request.

### Procedure

1. Expand **Utilities** in the Core pane and drag the activity **Set Values** to the space below the approval.



2. Complete the form with the following information.

Workflow Activity  
New record [Diagrammer view]

Name: **Rejected**

Stage: **Completed**

Values

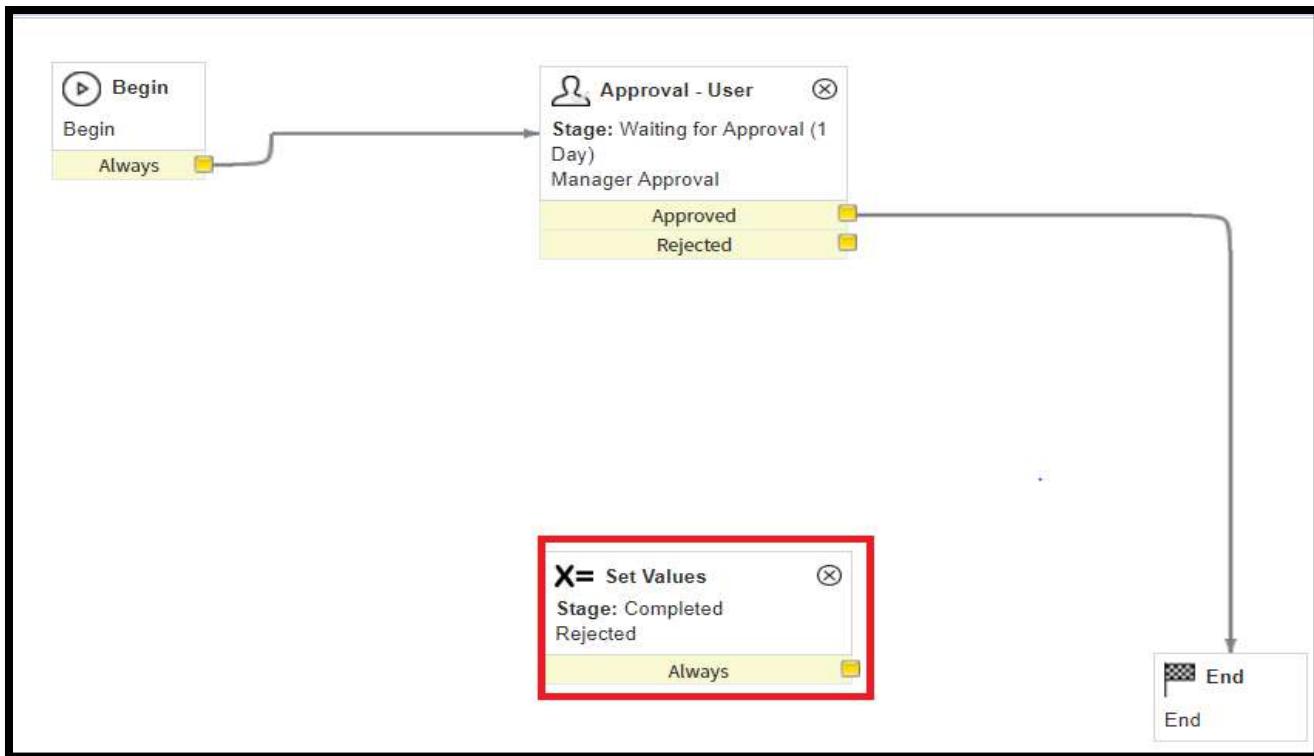
The Set Values activity sets the value of the fields specified below into the current record. [More Info](#)

Set these values

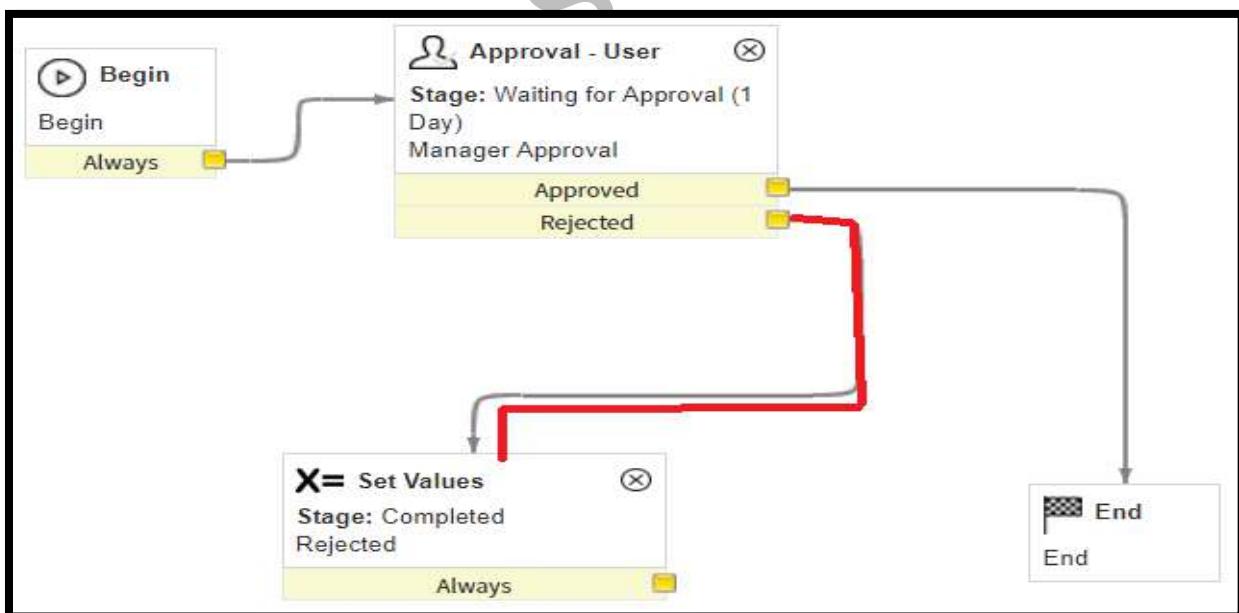
Approval: **Rejected**

**Submit**

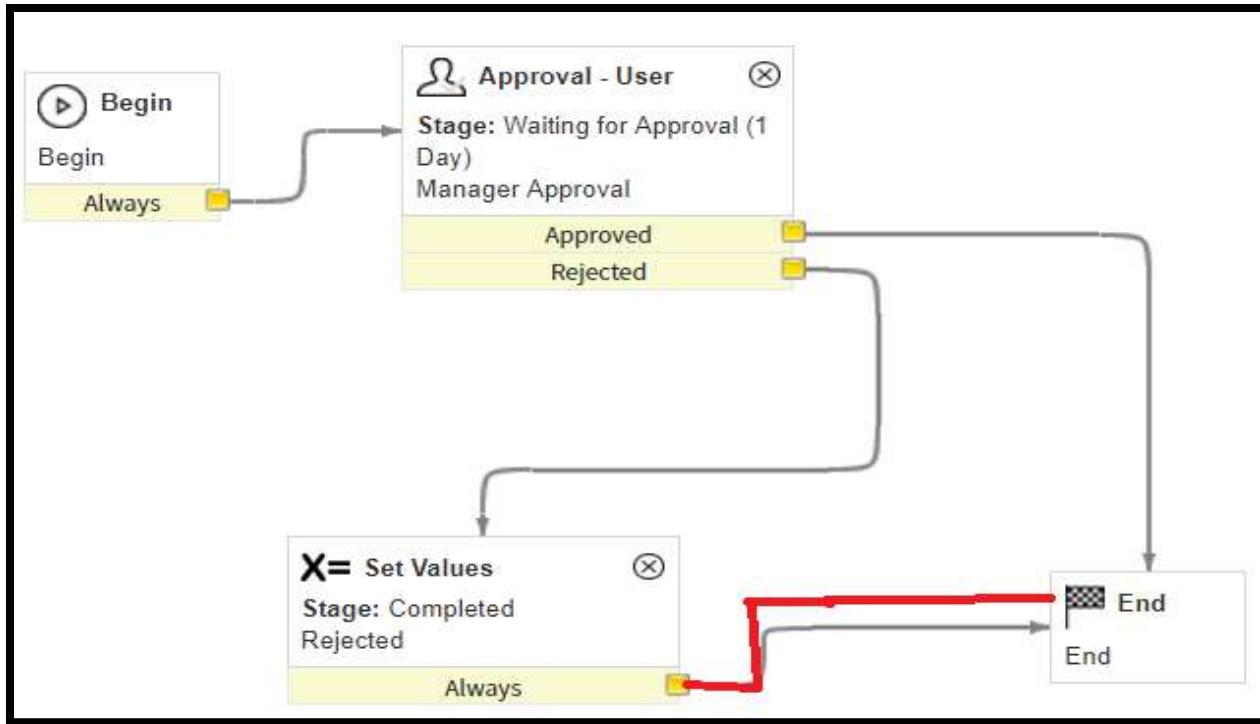
3. **Name:** Rejected
4. **Stage:** Completed
5. **Values Section:** [Approval] [Rejected]
6. Click on **Submit**



7. Drag from the yellow box beside **Rejected** on the **Approval - User** activity to the new **Set Values** activity.



8. Drag again from the yellow box beside **Always** on the **Set Values** activity to **End**.



**Note:** This activity marks the request as **rejected** if the manager **rejects** the request and then ends the workflow

## Add an action for when the approver Approved the request.

We are going to complete the following steps to add an action for when the approver **Approved** the request.

### Procedure

1. Drag the activity **Set Values** onto the arrow between **Approval - User** and **End**.
2. Complete the form with the following information.

Workflow Activity  
New record [Diagrammer view]

Name: Approved

Stage: Fulfillment

Values:

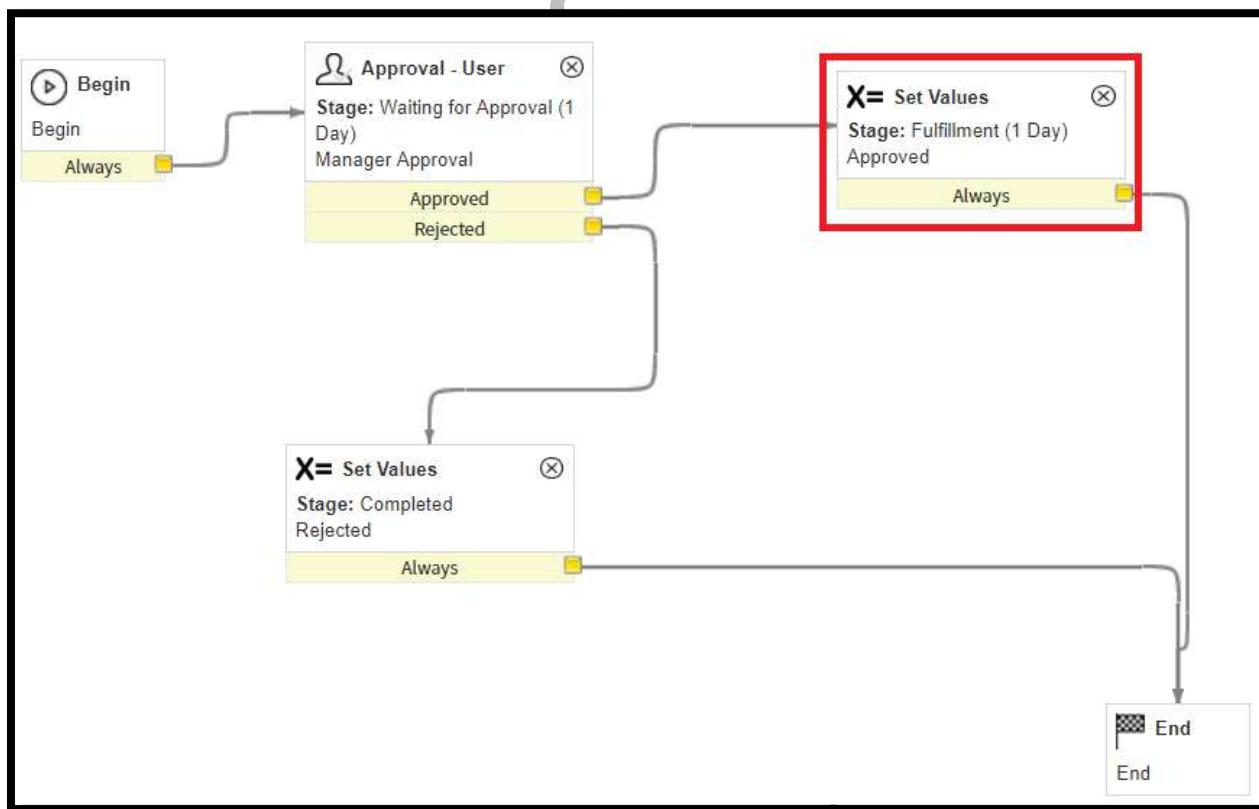
The Set Values activity sets the value of the fields specified below into the current record. [More Info](#)

Set these values:

Approval: Approved

**Submit**

3. **Name:** Approved
4. **Stage:** Fulfillment
5. **Values:** [Approval] [Approved]
6. Click on **Submit**



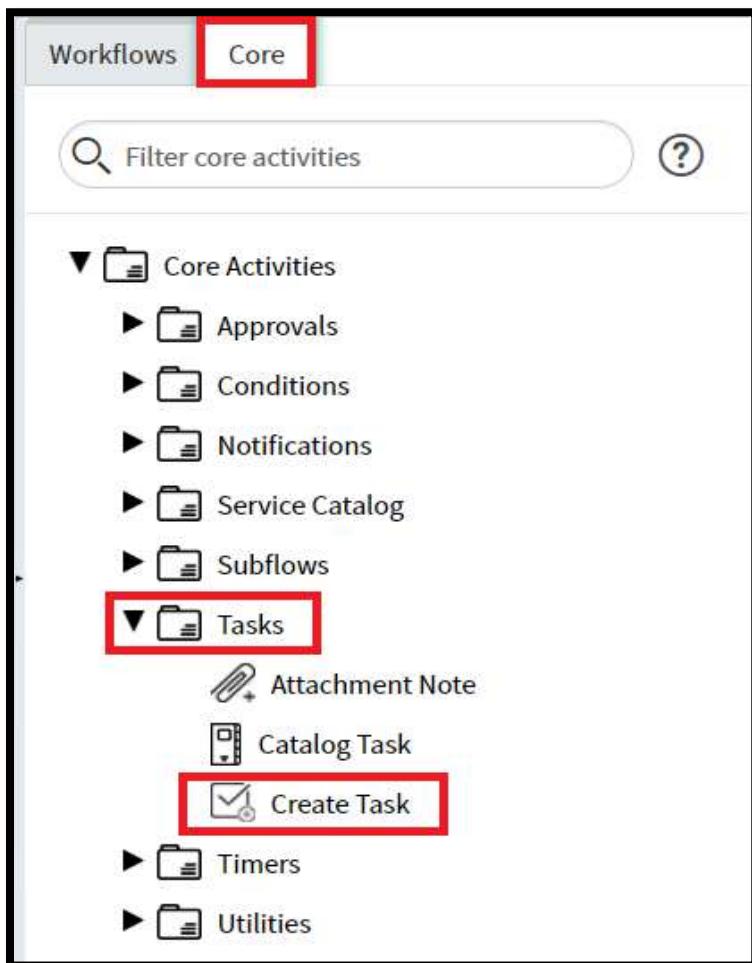
**Note:** This activity marks the request as approved once a manager approves it.

## Add Task Activity

This task activity will be defining Procurement to procure a I phone mobile for the user.

### Procedure

1. Expand Tasks and drag the activity Create Task onto the arrow between Approval - User and End,



2. Fill the form with following information

New Activity: Catalog Task ? X

Workflow Activity  
New record [Diagrammer view]

Submit

Name  
 Phone Procurement

Stage  
 Fulfillment Q i

Basics ▼

The Catalog Task activity creates a catalog task for the current record. [More Info](#)

The Priority will be set on the new catalog task. Check Wait for completion if you want the workflow to pause until the catalog task is complete. If you don't check Wait for completion, the catalog task is created and the workflow proceeds.

Task Table  
 sc\_task

Priority  
 3 - Moderate

Wait for completion  
 checked

Populate task variables

In 'Task value from' specify the source of data for populating the fields in the new task. Select from Fields, Template, or Values. Once the source is selected, the appropriate fields will display.

Task value from

Fields

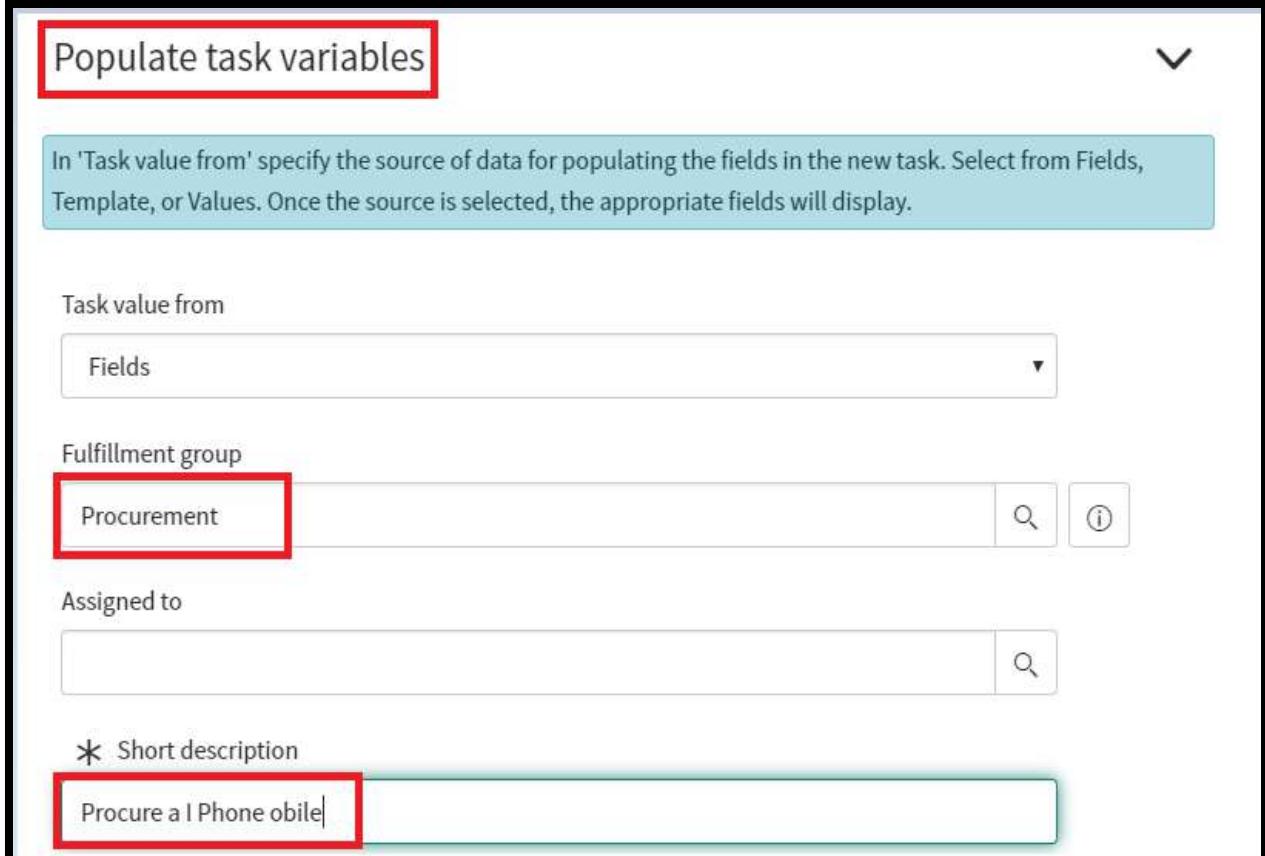
Fulfillment group

Procurement

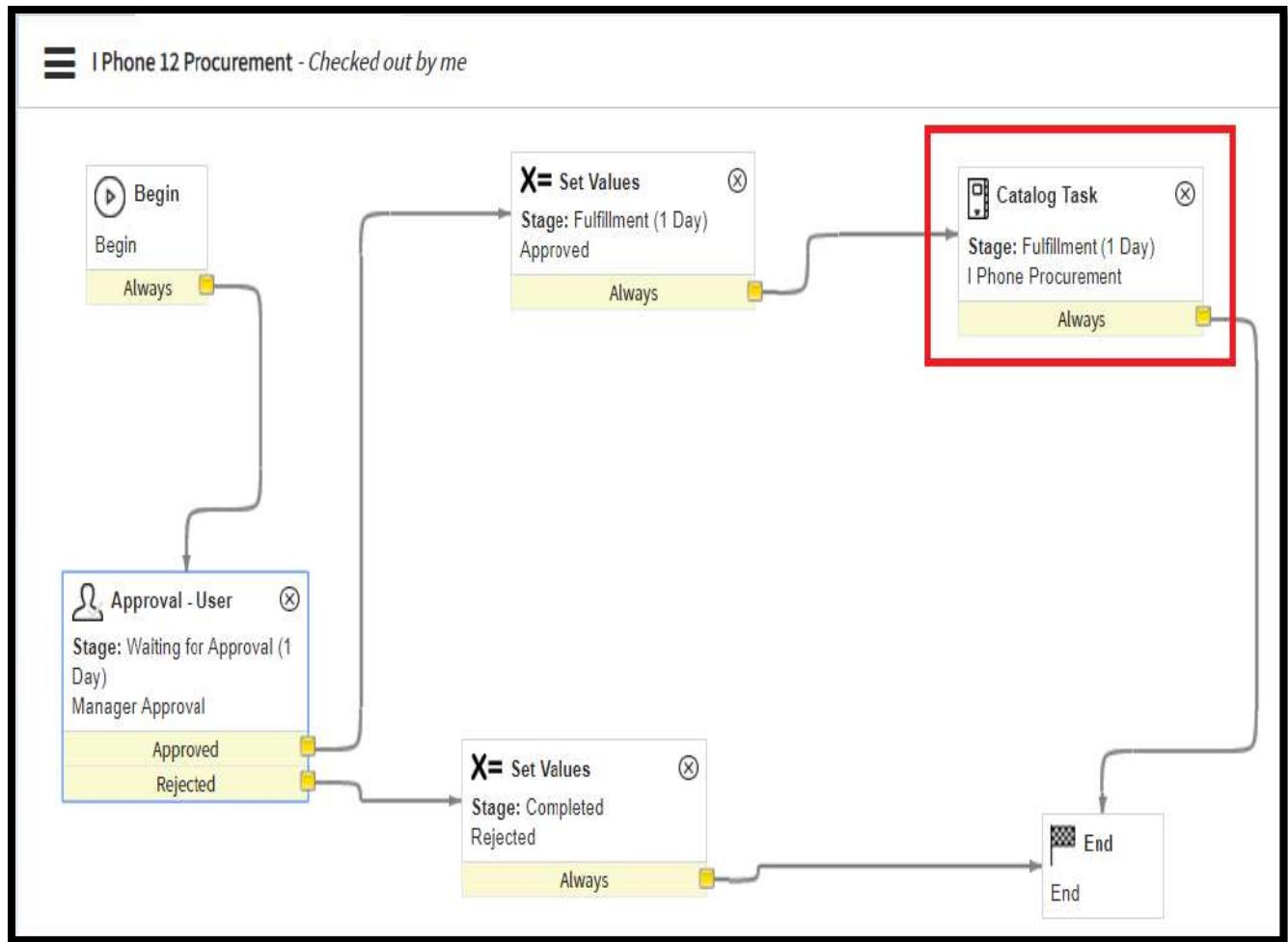
Assigned to

Short description

Procure a I Phone obile



3. **Name:** I Phone Procurement
4. **Stage:** Fulfillment
5. **Task Type:** Catalog Task [sc\_task]
6. **Priority:** 3 – Moderate
7. **Fulfillment group:** Procurement
8. **Short description:** Procure a I phone 12s Mobile
9. Click on Submit

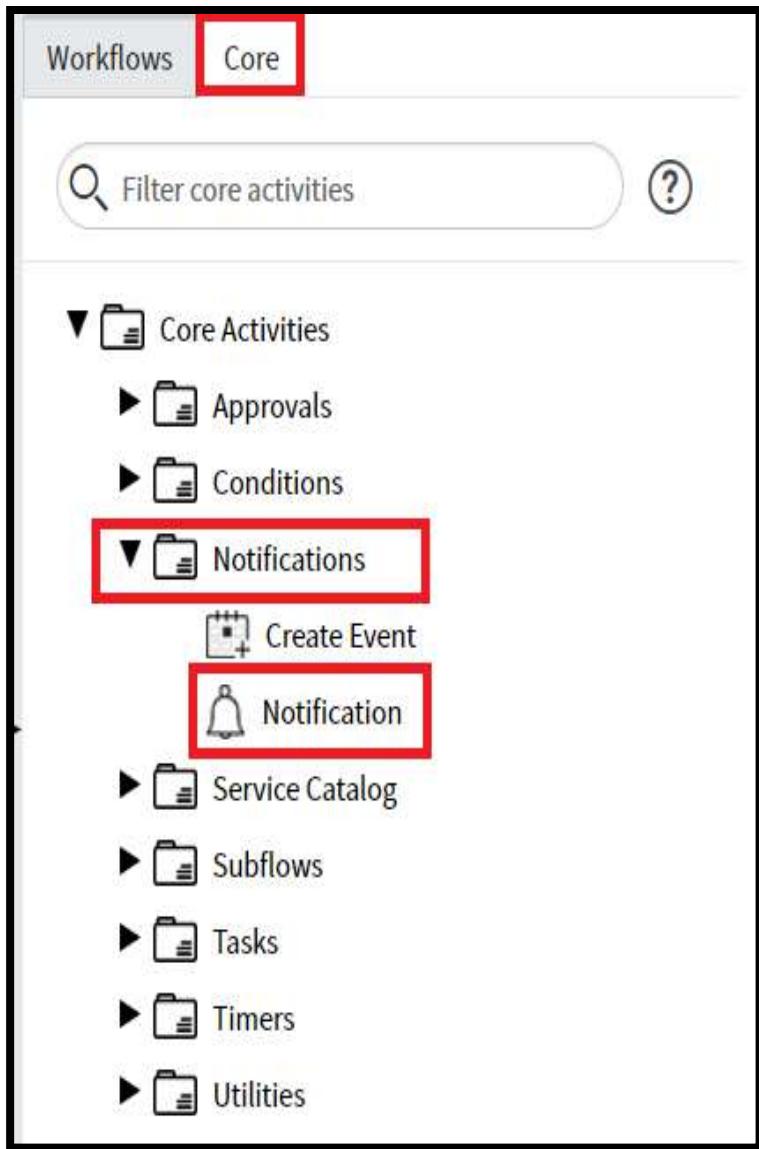


## Add Notifications Activity

This activity used to mark the request as approved if a manager approves it then send the notification to customer.

### Procedure

1. Expand Notifications and drag the activity Notification onto the arrow between iPhone 12 s Procurement and End,
2. Fill the following information



New Activity: Notification (?) X

Workflow Activity  
New record [Diagrammer view]

Name Submit

Procurement

Stage

Fulfillment

Addressee(s)

The Notification activity sends an email or SMS message to specified users or groups. [More Info](#)

Specify individual recipients in the 'To' field and group recipients in the 'To (groups)' field. To edit these fields, click the corresponding lock icon. To select specific users or groups by name, use the lookup lists. To select users or groups from field values on the current record at runtime, click the tree icon.

Check 'Advanced' to use a script for specifying additional recipients. When you check Advanced, a text box appears where you can enter your script. In the script, set the variable 'answer' to a comma-separated list or an array of user and/or group ids.

To To (groups)

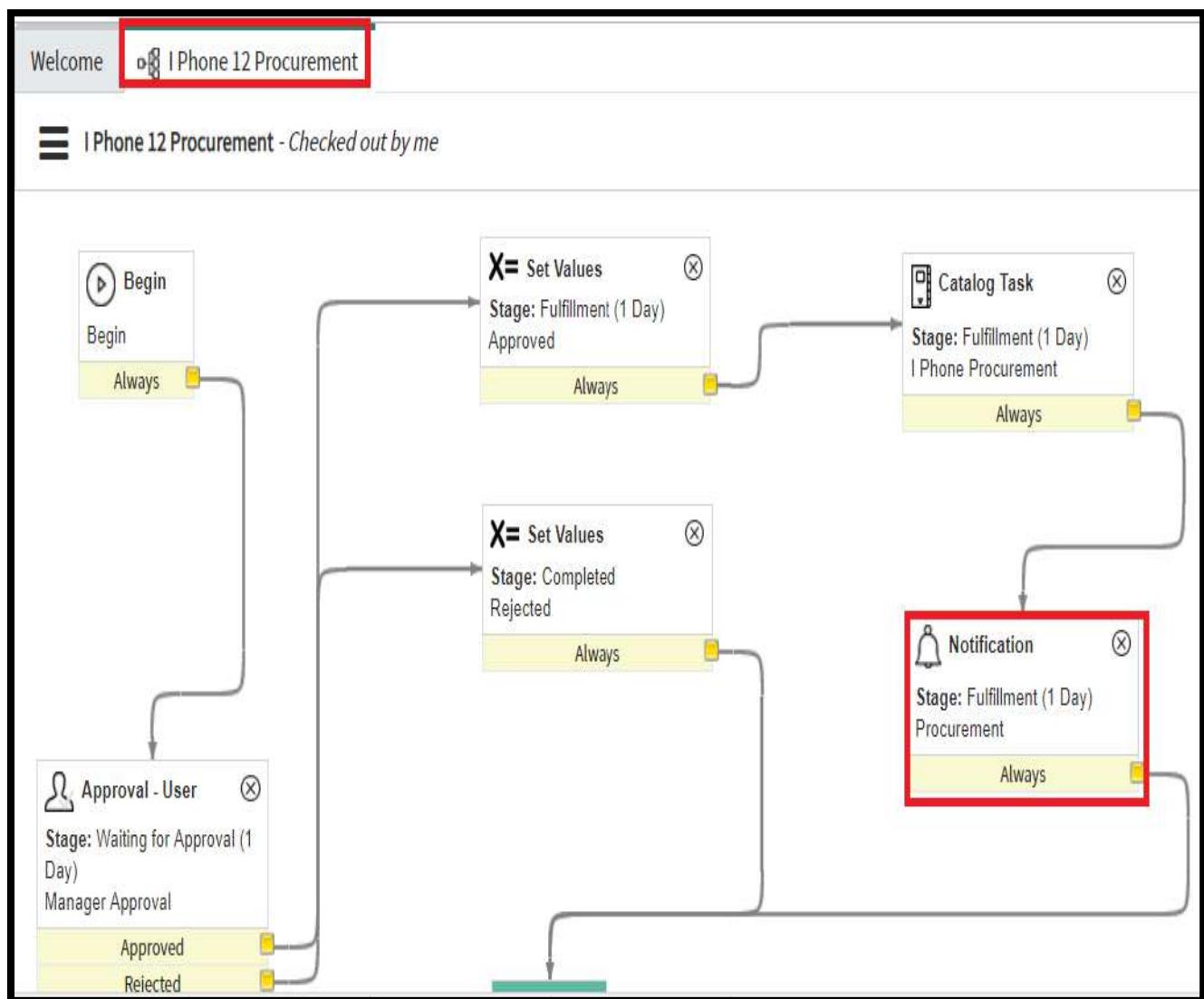
\${request.requested\_for}

Advanced

Message Subject

Your I phone 12s mobile has been procured

3. **Name:** Procurement
4. **Stage:** Fulfillment
5. **Address to:** Click the **lock** icon in the Addressee(s) section, and then click the select fields icon. Expand **Requested** and **select Requested for**.
6. **Subject:** Your I phone 12s mobile has been procured.
7. Click on **Submit**

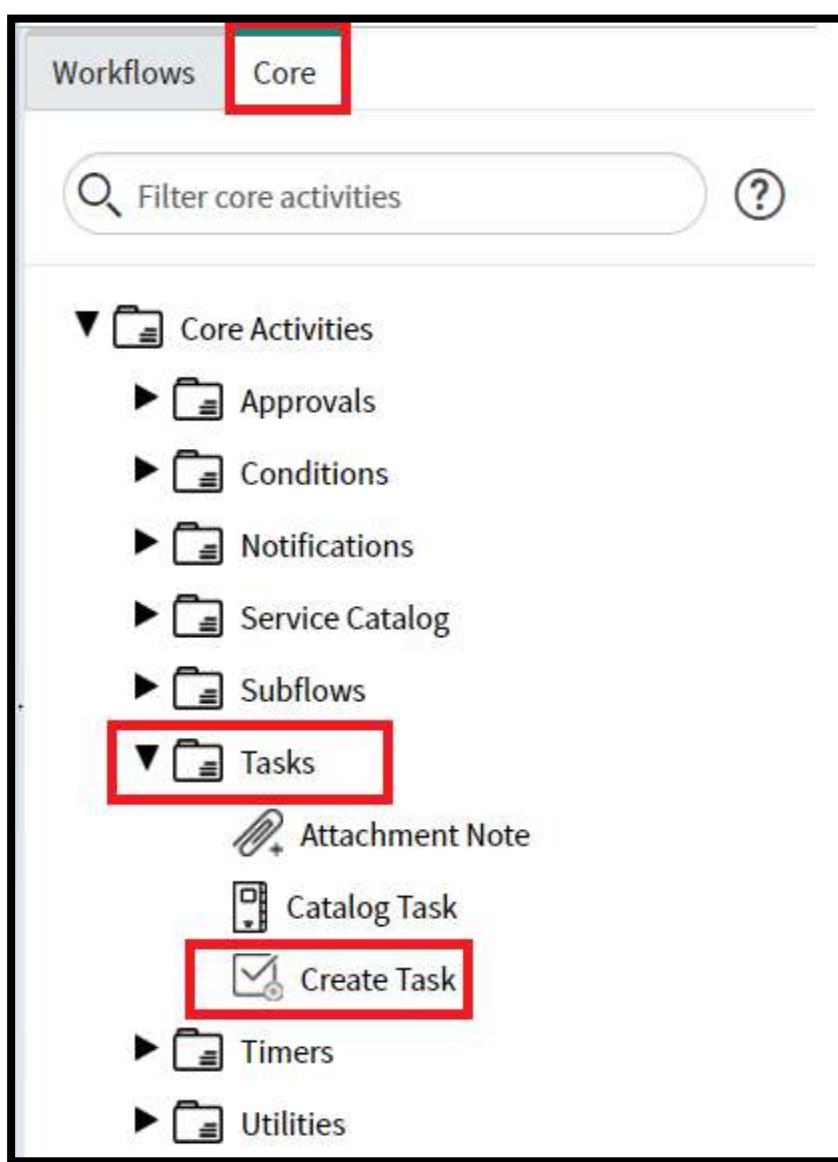


## Add Task Activity

This task activity will be defining Hardware to configure the I phone 12s mobile and prepare it for use.

### Procedure

1. Drag the activity **Create Task** onto the arrow between **I phone 12 procurement** and **End**,
2. Fill the following information below



New Activity: Create Task [?](#) X

Workflow Activity  
New record [Diagrammer view]

Name  Submit

Stage  Search

**Basics** ▼

The Create Task activity creates a task for the current record. [More Info](#)

The Priority will be set on the new task. Check Wait for completion if you want the workflow to pause until the task is complete. If you don't check Wait for completion, the task is created and the workflow proceeds.

\* Task type  ▼

Priority  ▼

Wait for completion  ▼

**Populate task variables** ▼

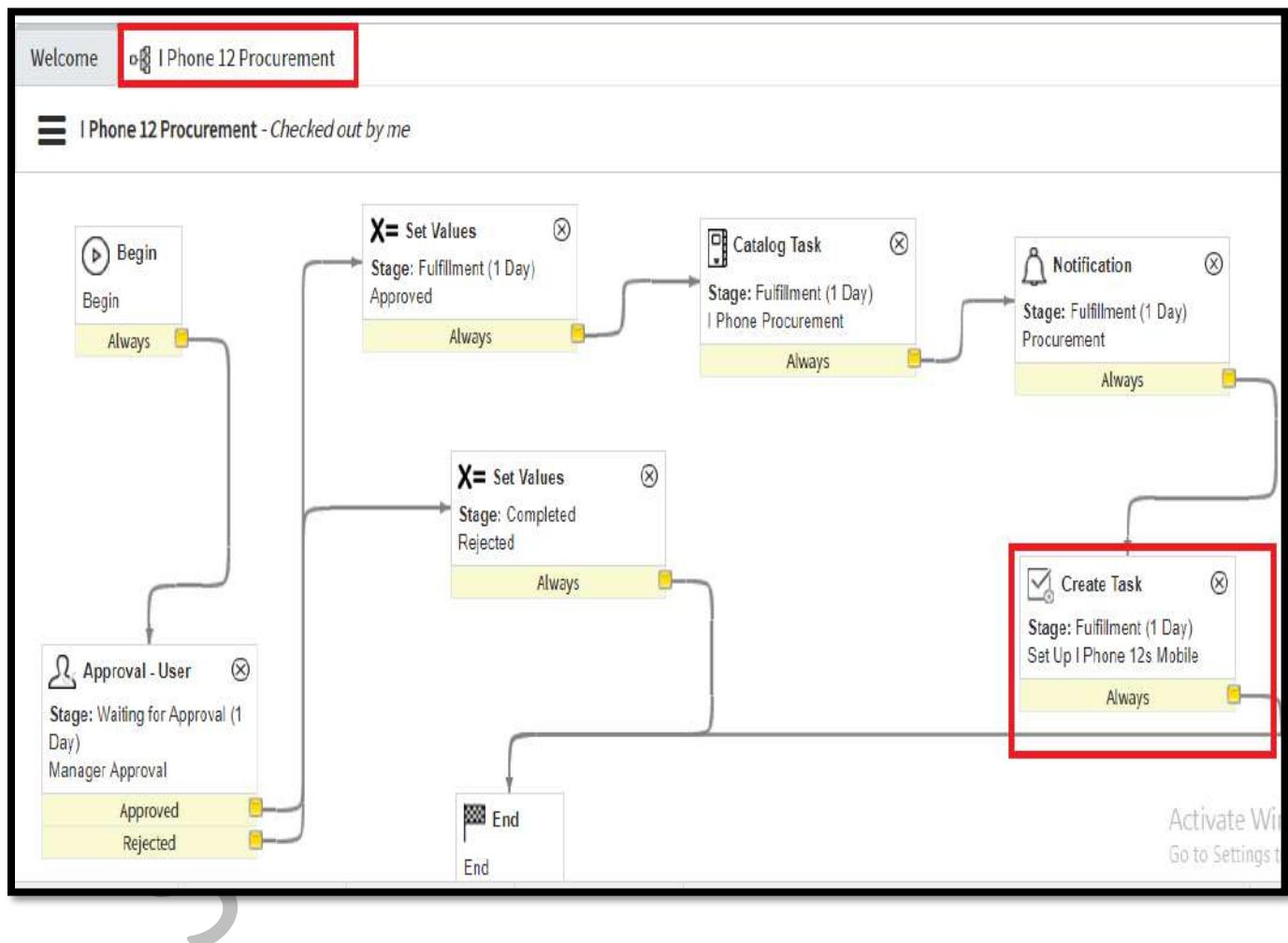
Fields ▼

Fulfillment group  Search

Assigned to Search

\* Short description  ▼

3. **Name:** Set up I Phone 12 Mobile
4. **Stage:** Fulfillment
5. **Task Type:** Catalog Task
6. **Priority:** Moderate
7. **Fulfillment Group:** Hardware
8. **Short Description:** Set up I Phone 12s Mobile

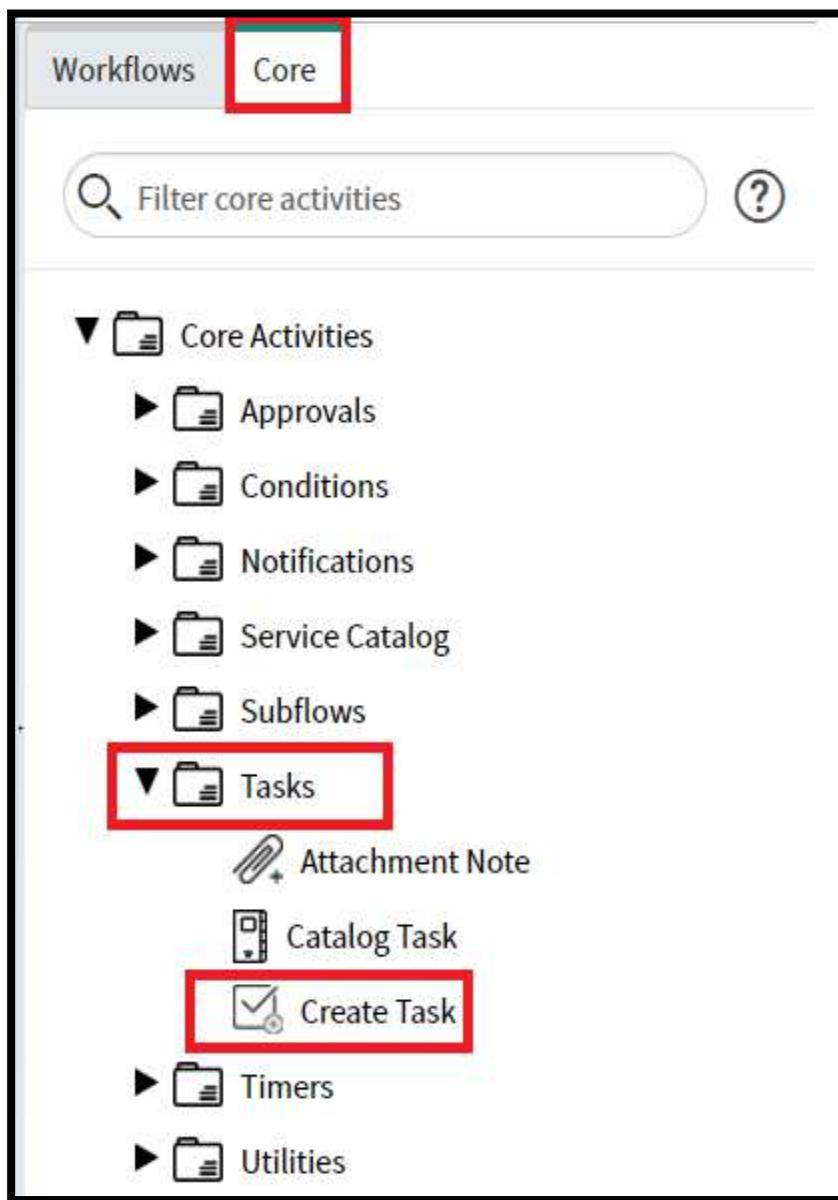


## Add Task Activity

This task will be informing the requester to come pick up the **I phone 12s mobile**.

### Procedure

1. Drag the activity Create Task onto the arrow between Set Up I Phone 12s mobile and End,
2. Fill the following information



New Activity: Create Task (?) X

Workflow Activity  
New record [Diagrammer view]

Name Submit

Pickup I Phone 12s mobile

Stage

Delivery

Basics

\* Task type

Catalog Task [sc\_task]

Priority

3 - Moderate

Wait for completion

Populate task variables

\* Short description

Pick up I phone 12s mobile

Script

Check 'Advanced' if you want to use a script to assign values on the task. When you check Advanced, a text box appears where you can enter your script. Use the 'task.' notation to access the fields of the new task.

Advanced

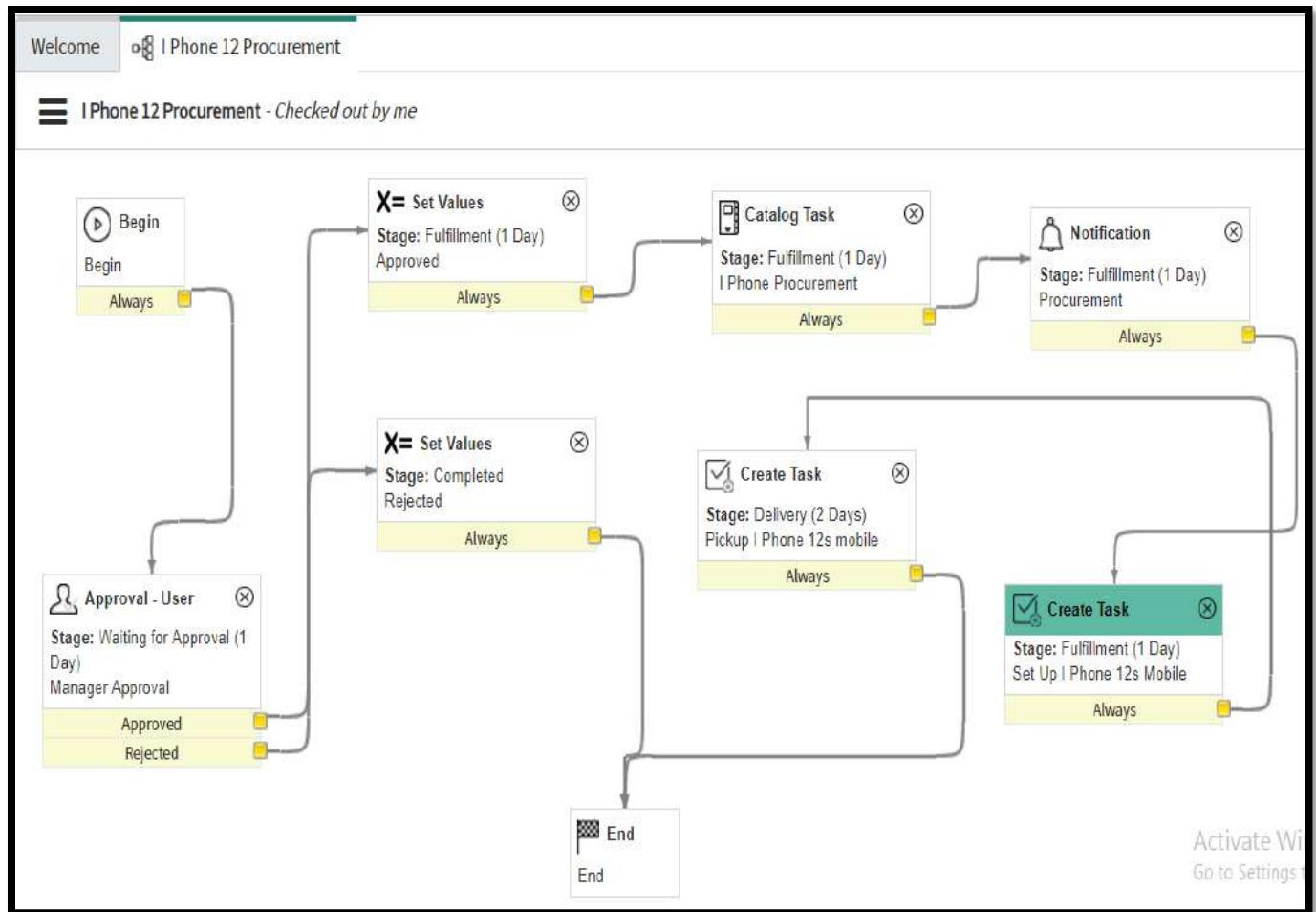
Advanced Script



```
1 // Set values for the task in this script. Use the variable 'task'
2 // when setting additional values.
3 //
4 task.assigned_to=current.requested_for;
5 // For example:
6 //     task.short_description = current.short_description;
7
8
```

3. **Name:** I Phone 12s mobile
4. **Stage:** Delivery
5. **Task Type:** Catalog Task [sc\_task]
6. **Priority:** 3 - Moderate
7. Advanced field assigns this task to the requester.
8. **Short description:** Pick up I Phone 12s mobile.
9. **Advanced:** Select the check box and set the Advanced Script value to

**task.assigned\_to=current.requested\_for;**

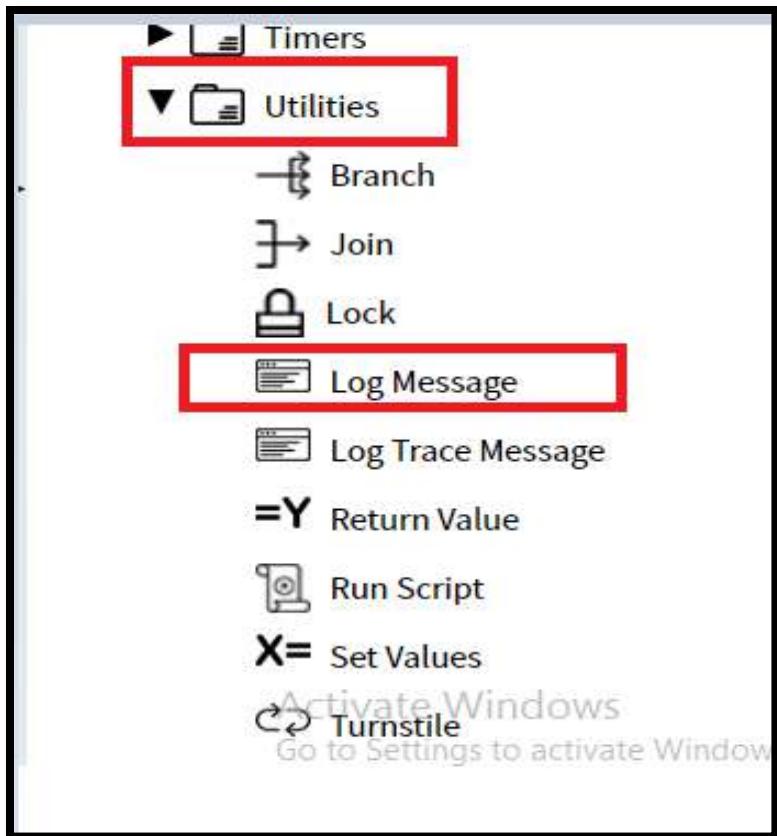


## Add Utilities Activity

This activity uses to leaves a message in the log to record the successful completion of the workflow.

### Procedure

1. Drag the activity **Log Message** onto the arrow between **Pick Up iPhone 12s mobile** and **End**,
2. Fill the following information



A screenshot of the 'New Activity: Log Message' configuration dialog. At the top, it says 'Workflow Activity' and 'New record [Diagrammer view]'. On the right, there are icons for edit, delete, and a three-dot menu, with the 'Submit' button highlighted with a red box. Below are two input fields: 'Name' containing 'Delivered' and 'Stage' containing 'Completed'. There are search and info icons next to the stage field. The entire dialog is framed by a black border.

### Message

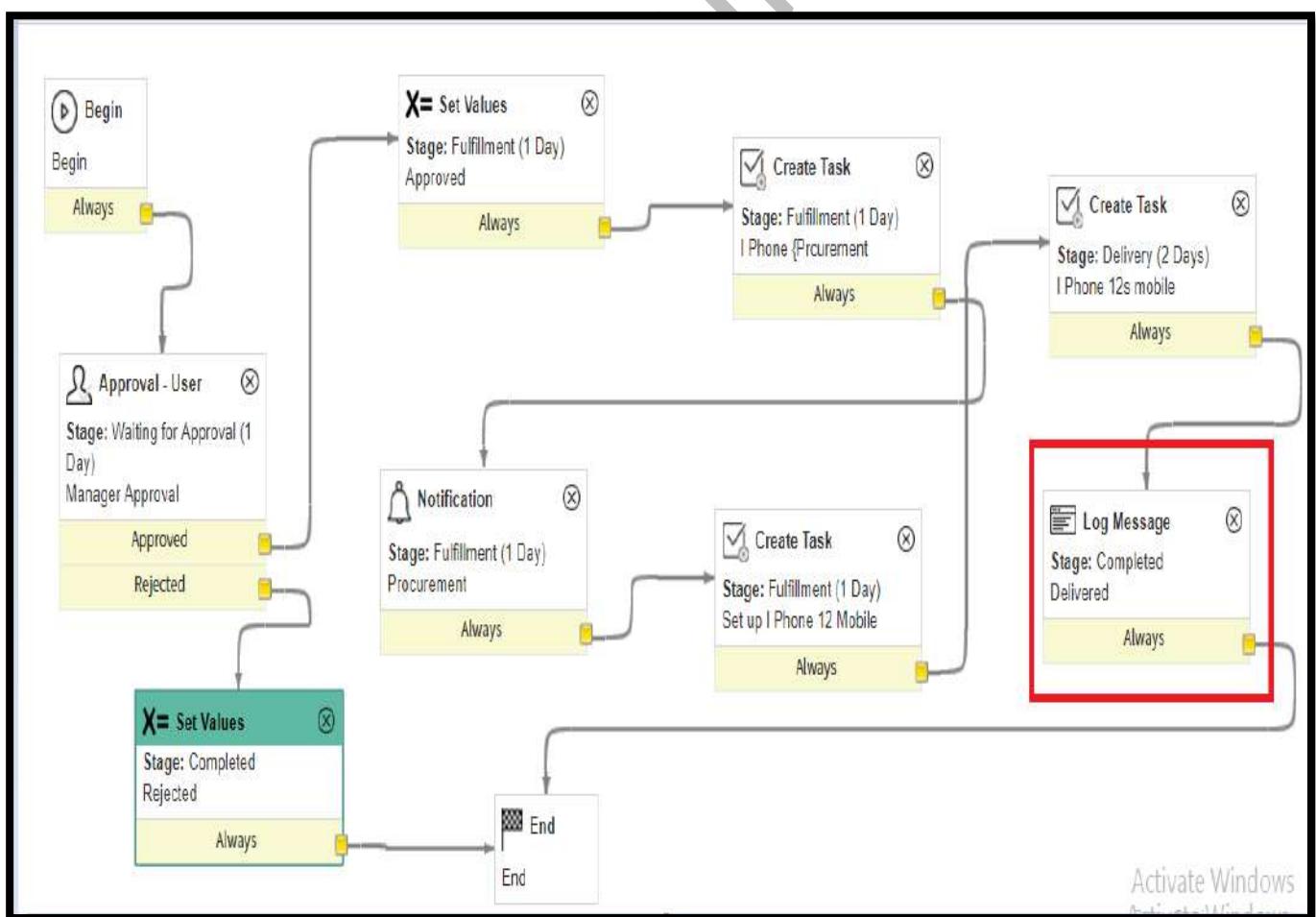
The Log Message activity writes information to the workflow log. Use this activity to add entries to the workflow's log for debugging or tracing purposes. [More Info](#)

Message

The I phone 12s mobile is delivery sucessfully

Submit

3. **Name:** Delivered
4. **Stage:** Completed
5. **Message:** The 12s mobile has been delivered successfully
6. Click on **Submit**



## Validating and Publishing workflow

After adding all activities to our workflow, then we can publish it to make it available for business requirement.

### Procedure

1. Validate our work flow to click on **Validation** button

The screenshot shows a 'Workflow Validation Report' window for the 'I Phone 12 Procurement' workflow. At the top, there's a header bar with a checkmark icon. Below it, the title 'Workflow Validation Report' is displayed. A message 'Workflow Validation Report for Workflow "I Phone 12 Procurement"' is shown. A red box highlights the 'Validate Summary - Valid Workflow - Total checks performed:16 (Info:16, Warn:0, Critical:0)' message. The main area contains a table with columns 'Type', 'Level', and 'Message'. The table rows are:

Type	Level	Message
ValidateParentFlow	Info	Currently I Phone 12 Procurement is not a subflow.
ValidateWorkflowStageColumn	Info	Workflow stages are valid.
ValidateTableChange	Info	All activities are valid for the newly selected table.
ValidateWorkflowEndStages	Info	Workflow end stages are valid.

On the right side of the table, there are 'Activate Windows' and 'Activate Windows' buttons. At the bottom of the report, there's a navigation bar with icons for back, forward, and search, followed by a page number '1 to 16 of 16'.

2. Open our workflow **actions menu** on the left beside the workflow name.

The screenshot shows a 'Workflow Validation Report' dialog box. It lists several validation steps with their status (Info). A red box highlights the 'OK' button at the bottom left. The validation steps are:

- ValidateTransitionIn Info
- ValidateForUnpublishedCustomActivities Info
- ValidateSubflows Info
- ValidateUpdateSetDependencies Info
- ValidateLowestCommonTable Info
- ValidateInputVarUpdateSetDependencies Info

3. Click on **OK**
4. Click Publish to publish the workflow.

**Chapter – 18**

# **Notifications**

## What is Notification

Notifications will share users informed of events that concern them. The system can notify users by email, SMS text message, or push notification.

Use email notifications to send selected users email or SMS notifications about specific activities in the system, such as updates to incidents or change requests.

If we want to change how the instance processes incoming email, see Inbound email actions.

**Note:** only administrator can configure email notifications

1. When to send the notification
2. Who receives the notification
3. What content is in the notification

## Email Properties

1. All email notifications use the email properties that you define and the email accounts that you set up.
2. Email administrators set up **email accounts** to allow the system to connect to external mail services such as **POP3, SMTP, or IMAP servers**. You can use the Service Now-provided email accounts or create your own accounts for your own email services.
3. Use **Email Properties** to configure settings for inbound and outbound email. Email properties apply to all email accounts.
4. For instances that use a **standard email configuration**, the system cannot send or receive emails that are larger than **25MB**, including the email **header, body text, and attachments**. Instances configured to use an **alternate email configuration** may support different maximum total file sizes. The maximum email size limit is enforced regardless of any configured attachment size limits.



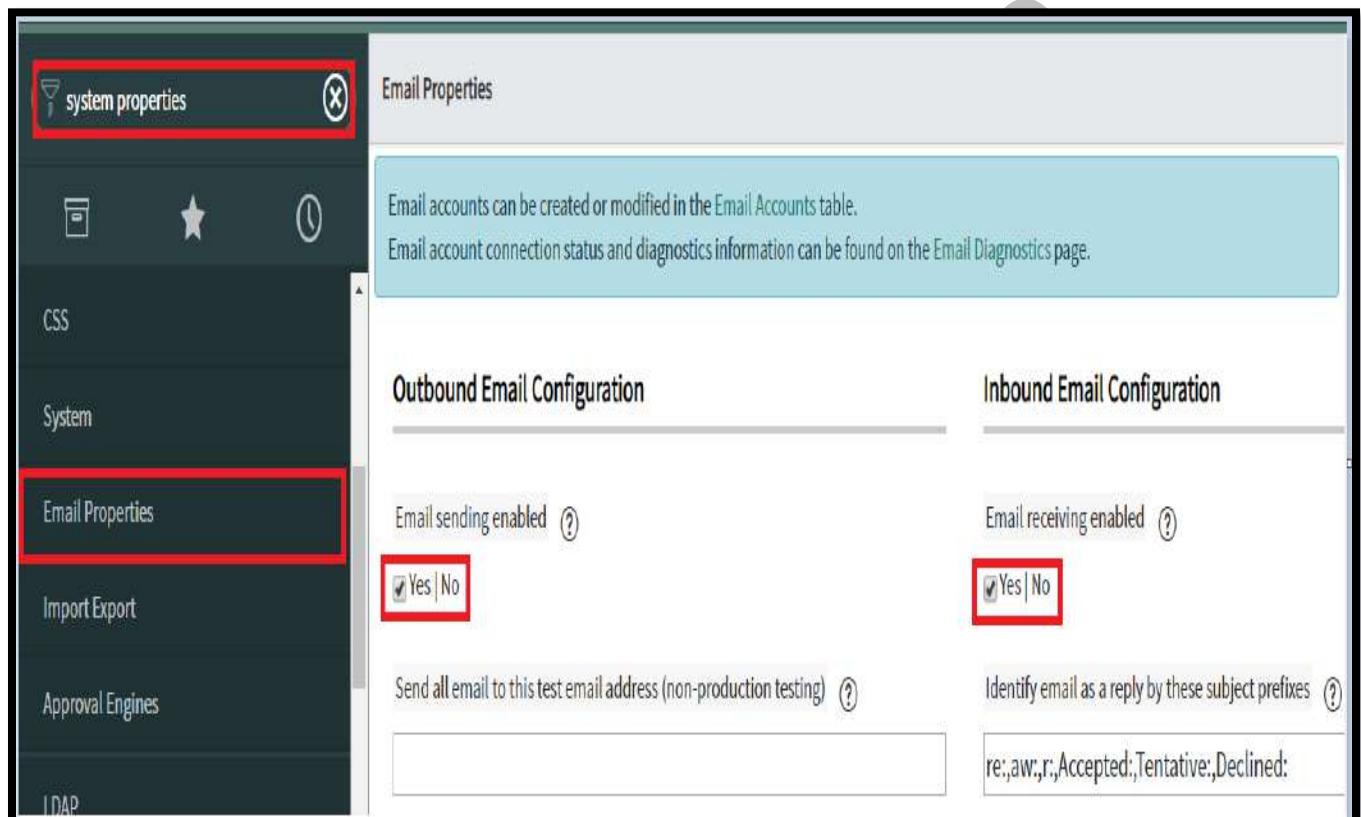
Even if the email and its attachments are less than **25MB**, the actual size of an email message could be larger when it gets encoded by an email client. So these messages might exceed the limit when they reach the instance.

## Exercise 1: Enable Basic Email

If we want send are receiving email notification, first we have to enable service now email accounts

### Procedure

1. Navigate to **System Properties > Email Properties**
2. Enable **Email Sending and Receiving** checkboxes



3. Click on **Save**

## Following conditions are must be evaluating to create or update existing email notification

1. Our notification recipients must be **Active Users** and have a valid email address defined.
2. Service Now users or members of groups must be defined as active users in the User [**sys\_user**] table.
3. They must also have a valid email address defined for their primary channel (device) in the Notification Device [**cmn\_notif\_device**] table.
4. If users do not have an active profile and a valid email address, they will not receive notifications.
5. Your notification recipients must have the appropriate notification preferences enabled.
6. If the notification is **subscribable**, each Service Now user or group member must have the notification and channels (devices) for the notification enabled in **their notification preferences**.
7. Administrator can impersonate users to **Review and Configure** their notification preferences.
8. After we create or update the any notification, we can use the **Preview Notification** option to review it.

## Following Tabs to use to send Email notifications

1. **When to send** —> Conditions required to send the notification.
2. **Who will receive** —> Recipients of the notification.
3. **What it will contain** —> Contents of the notification.
4. **What Digest will contain** —> Contents of the **email digest** if the notification can be delivered in a digest.

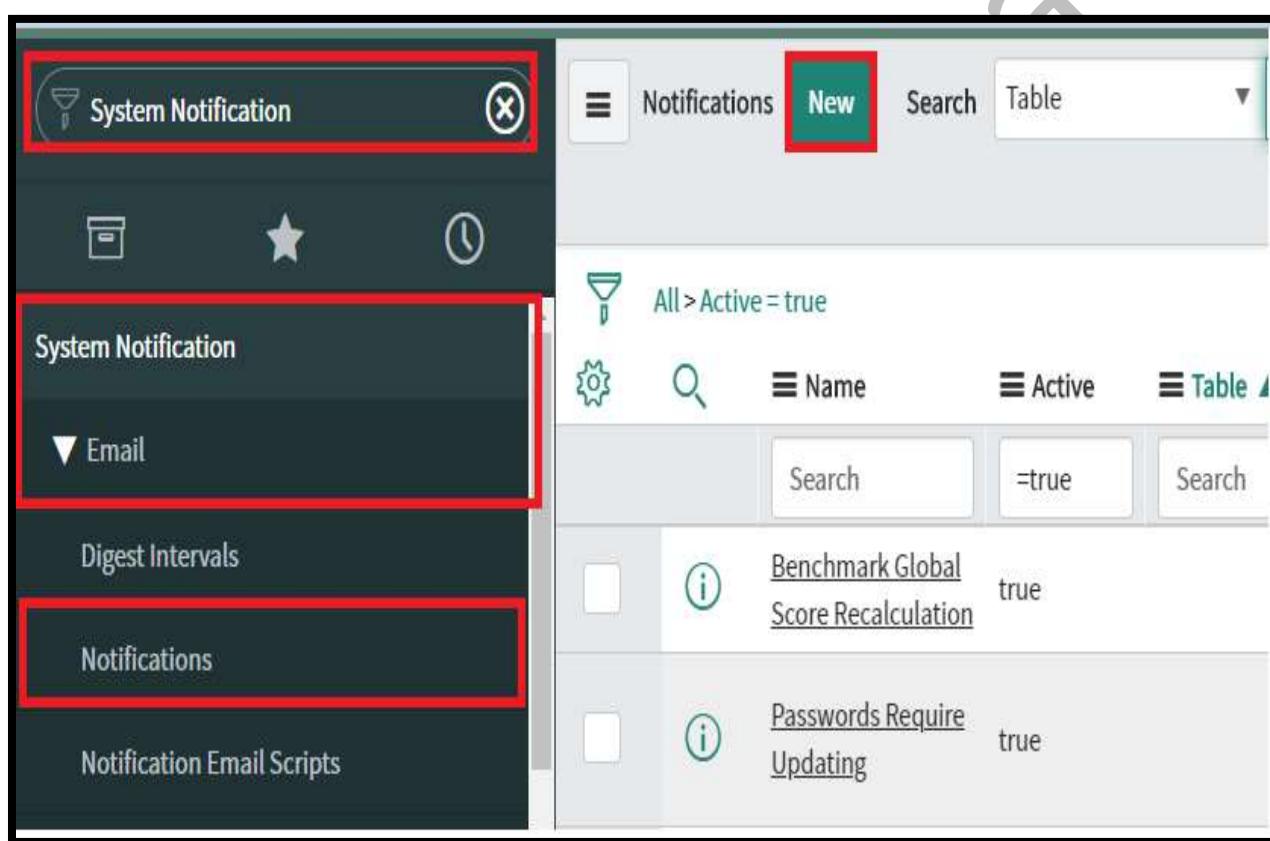
**Note:** If you do not see all the tabs or fields on the form, switch to the Advanced view then we can be able to see all options

## Exercise: 2 How to Create an email notification

We can create an email notification that will be or specifying when to send it, who will receive it, what it contains the body and subject, and if it can be send in an email digest.

### Procedure

1. Navigate to System Notification > Email > Notifications.
2. Click New.



3. Fill Notification form

The screenshot shows the 'Notification' creation screen in ServiceNow. At the top, it says 'Notification New record'. On the right, there are icons for edit, delete, and submit, along with a 'Global' application setting. The main area contains a descriptive text box and several configuration fields:

- Name:** Incident-Assigned to user
- Table:** Incident [incident] (highlighted with a red box)
- Category:** Uncategorized
- Application:** Global
- Active:** checked
- Allow Digest:** unchecked

4. **Name:** Incident – Assigned to user

5. **Table:** Incident

6. **Category:** Uncategorized

The screenshot shows the 'When to send' configuration tab for the notification. It includes tabs for 'When to send', 'Who will receive', and 'What it will contain'. The 'When to send' tab displays the following configuration:

- Send when:** Record inserted or updated (highlighted with a red box)
- Updated:** checked
- Inserted:** unchecked
- Conditions:** Add Filter Condition, Add "OR" Clause
- Assigned to changes:** (highlighted with a red box)

7. Open When to send Tab

**8. Send When: Record Insert or Updated**

**9. Updated: Checked True**

**10. Conditions: [Assigned to] [changes]**

When to send Who will receive What it will contain

Notifications can be sent to specific **Users** and **Groups** or to **User/Groups** in fields on the record that generated this notification.

Users   Groups   
Users/Groups in fields  Caller, Opened by  Subscribable

Update Preview Notification Delete

**11. Open Who will receive Tab**

**12. Users/Group: Caller, Opened by**

When to send Who will receive What it will contain

If using an **Email Template** then **Subject** and **Message** will be used from the template unless overridden with a **Subject** and **Message** on this form.

Content type  HTML only  Importance  -- None --   
Include attachments  From   
Omit watermark  Reply to   
Push Message Only  Push Messages   
Email template  Unsubscribe and Preferences Helvetica    
Subject  Your incident \${number} is Assigned to \${assigned\_to}

**13. Open What it will contain Tab**

**14. Content Type:** HTML only

**15. Email Template:** Unsubscribe and Preferences Helvetica

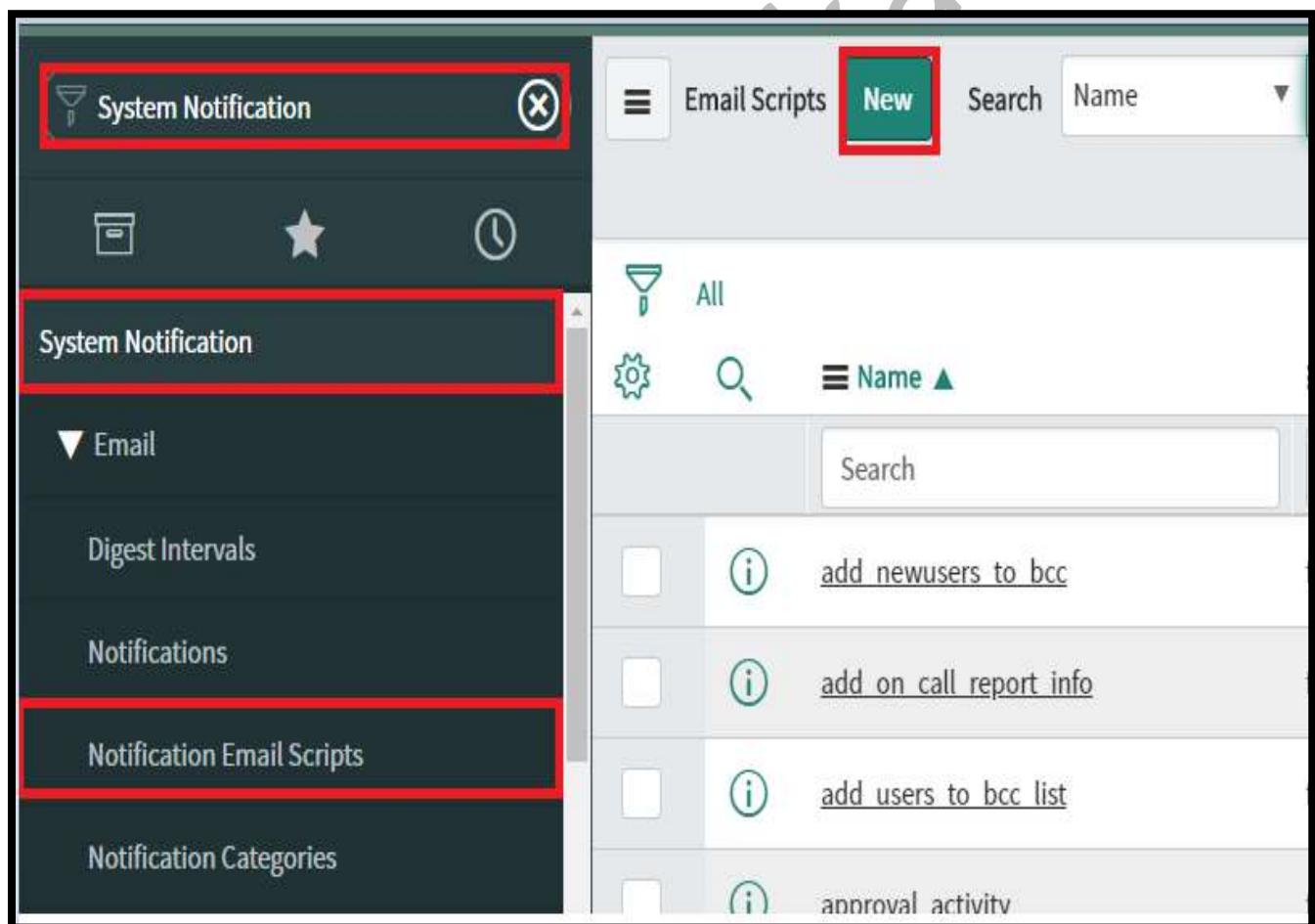
**16. Subject:** Your incident \${number} is Assigned to \${assigned\_to}

## Exercise: 3 Create Notification Email Scripts

We are using **Notification Email Scripts** to print or send Notification message content from a server-side script. Although Notification Email Scripts are application files, we would create them in the main Service Now browser window.

### Procedure

1. Navigate to **System Notification > Email > Notification Email Scripts**
2. Click on **New**



3. Fill notification email script form

The screenshot shows the ServiceNow Script Editor interface. The top bar includes fields for 'Name' (set to 'incident\_assignedto'), 'Application' (set to 'Global'), and a help icon. Below the bar are options for 'Newlines to' (checkbox) and 'HTML'. A toolbar below the options contains icons for various actions like copy, paste, and search. The main area is a code editor with a red border around the script content. The script is a function named 'runMailScript' with ten numbered lines of code:

```
1 (function runMailScript(/* GlideRecord */ current, /* TemplatePrinter */
2   template,
3   /* Optional EmailOutbound */ email, /* Optional GlideRecord */
4   email_action,
5   /* Optional GlideRecord */ event) {
6     var i18nSummary = gs.getMessage('Summary details');
7     var i18nResolvedBy = gs.getMessage('assigned_to: {0}', 
8       '${updated_by}');
9     var i18nClosedNotes = gs.getMessage('assigned_to: {0}', 
10      '${close_notes}');
11    template.print('<p><font size="4" color="#808080" face="helvetica">
12 <strong>' + i18nSummary + '</strong></font></p>');
13    template.print('<p><font size="3" color="#808080" face="helvetica">
14 + i18nResolvedBy + '</font></p>');
15    template.print('<p><font size="3" color="#808080" face="helvetica">
16 + i18nClosedNotes + '</font></p>');
17 })(current, template, email, email_action, event);
```

4. Name: incident\_assignedto

**5. Script :**

```
(function runMailScript(/* GlideRecord */ current, /* TemplatePrinter */
template,
    /* Optional EmailOutbound */ email, /* Optional GlideRecord */
email_action,
    /* Optional GlideRecord */ event) {
    var i18nSummary = gs.getMessage('Summary details');
    var i18nResolvedBy = gs.getMessage('assigned_to: {0}',
    '${updated_by}');
    var i18nClosedNotes = gs.getMessage('assigned_to: {0}',
    '${close_notes}');
    template.print('<p><font size="4" color="#808080" face="helvetica">
<strong>' + i18nSummary + '</strong></font></p>');
    template.print('<p><font size="3" color="#808080" face="helvetica">' +
    i18nResolvedBy + '</font></p>');
    template.print('<p><font size="3" color="#808080" face="helvetica">' +
    i18nClosedNotes + '</font></p>');
})(current, template, email, email_action, event);
```

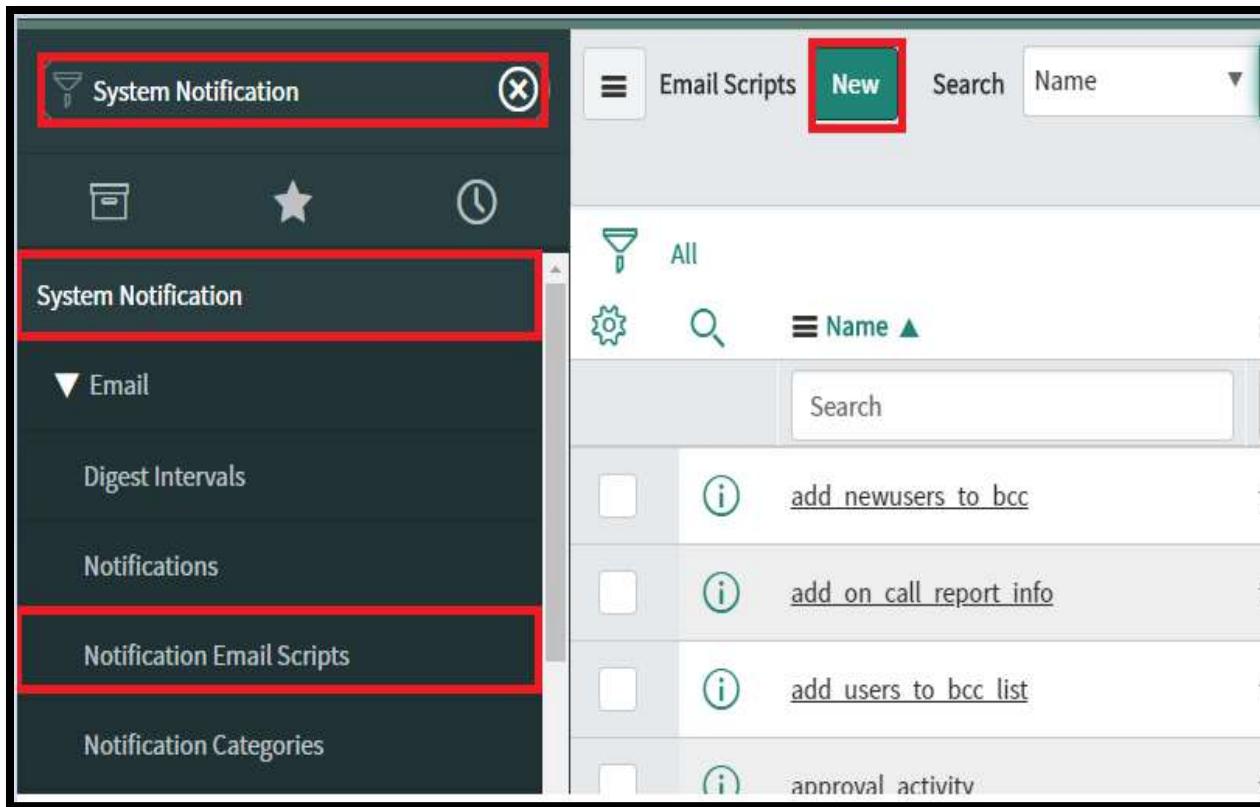
**6. Click on Submit**

## Exercise: 4 Create another notification email script

Create one more notification mail script

### Procedure

1. Navigate to System Notification > Email > Notification Email Scripts
2. Click on New



### 3. Fill notification email script form

The screenshot shows the 'new\_body\_header' notification email script form. The 'Name' field is set to 'new\_body\_header'. The 'Application' is 'Global'. The 'Newlines to' dropdown is set to 'HTML'. The 'Script' editor contains the following code:

```
1. function runMailScript(current, template, email, email_action, event) {  
2.     template.print('<p><font size="6" color="#808080"  
3.         face="helvetica">');  
4.         template.print('${number} - ${short_description} -${assigned_to} ');  
5.     template.print('</font></p>');  
})(current, template, email, email_action, event);
```

4. Name: new\_body\_header

5. Script

```
1 (function runMailScript(current, template, email, email_action, event) {  
2     template.print('<p><font size="6" color="#808080"  
3         face="helvetica">');  
4     template.print('${number} - ${short_description} -${assigned_to} ');  
5     template.print('</font></p>');  
})(current, template, email, email_action, event);
```

6. Click on Submit

## Exercise: 5 Add email script to our Notification

We have to add notification email script to our Notification

### Procedure

1. Navigate to System Notification >Email >Notification
2. Open existing notification record

The screenshot shows the ServiceNow System Notification list view. The 'Notifications' tab is selected. A specific notification record is highlighted with a red box, showing details like 'Incident-Assigned to user' and 'true'. The left sidebar shows navigation options like 'Email', 'Digest Intervals', 'Notifications', 'Notification Email Scripts', and 'Notification Categories'.

3. Open **What it will contain** tab
4. Add our script into **Message HTML**

The screenshot shows the 'What it will contain' tab selected in a ServiceNow interface. It includes fields for 'Email template' (set to 'Unsubscribe and Preferences Helvetica'), 'Subject' (set to 'Your incident \${number} is Assigned to \${assigned\_to}'), and a rich text editor for 'Message HTML'. The rich text editor contains two lines of code: `\${mail\_script:new\_body\_header}` and `\${mail\_script:incident\_assignedto}`. A red box highlights these two lines of code.

5. Add our email scripts like above screen shot

The screenshot shows the 'Notification' screen in ServiceNow. The title bar says 'Notification Incident-Assigned to user'. The top right has buttons for 'Update', 'Preview Notification' (which is highlighted with a red box), and 'Delete'. Below the title is a large blue text area containing instructions and a list of items:

Use Notifications to notify users about specific activities in ServiceNow, such as updates to incidents or change requests. Notifications allow administrators to specify

- When to send the notification
- Who receives the notification
- What content is in the notification

6. Click on **Preview Notification**

The screenshot shows the 'Notification Preview' window. At the top, it says 'Preview records for this breakdown source'. Below that, there are two search fields: 'Event Creator' containing 'System Administrator' and 'Preview Record' containing 'INC0000060'. Under 'Event Creator', there is a red box around the 'Users' section, which lists 'Joe Employee'. A red box also surrounds the 'Subject' section, which contains the text 'Your incident INC0000060 is Assigned to David Loo'. Another red box surrounds the 'Body' section.

7. Check out put for **Notification**

## In which condition the notification is sent:

1. When a record is **inserted or updated**
2. When a particular **event is fired**
3. When triggered as an action step in **Flow Designer**

## How to send a notification CC and BCC?

If we want send notification **CC and BCC** it's not possible by default, you may have noticed that the notifications Who will receive section does not have fields **for CC or BCC recipients**. Add CCs and BCCs using the email global variable. This example script adds the Assigned to's manager as a **CC on the email**.

1. First we have to Create an **email script**
2. Then use below code into that

The screenshot shows the ServiceNow Email Script editor interface. The script is titled "Add manager in CC". The code is as follows:

```
1v (function runMailScript(/* GlideRecord */ current, /* TemplatePrinter */ template,
2v /* Optional EmailOutbound */ email, /* Optional GlideRecord */ email_action,
3v /* Optional GlideRecord */ event) {
4
5    // Add Assigned to's manager to the email as a CC
6    // current.assigned_to.manager.email is coerced to force it from a GlideElement to a string
7
8    email.addAddress('cc',current.assigned_to.manager.email + '');
9
10 })(current, template, email, email_action, event);
```

3. When the email is sent to **Beth's manager, Fred Luddy, is a CC**

Date: Fri, 14 Apr 2017 19:06:20 -0700 (PDT)  
From: IT Service Desk <dev10502@service-now.com>  
Reply-To: IT Service Desk <dev10502@service-now.com>  
To: beth.anglin@example.com  
Cc: fred.luddy@example.com  
Message-ID: <7947078.34.1492221980110@app128047.hkg1.service-now.com>

Chapter – 19

# Water Marks

## Watermarks on notification emails

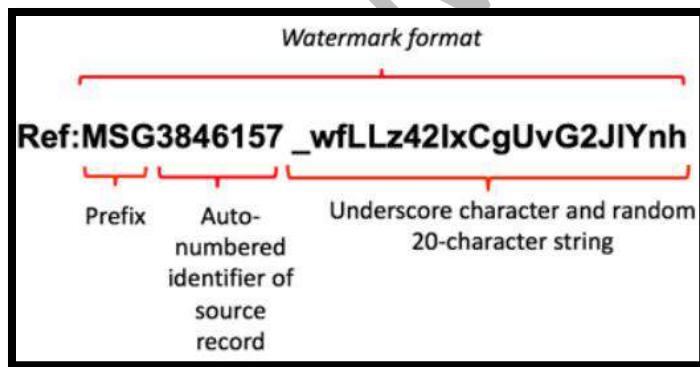
1. By default, the system generates a watermark label at the bottom of each notification email to allow matching incoming email to existing records.
2. Each watermark includes a random 20-character string that makes it unique.
3. The system automatically generates random watermarks for notification emails in base systems.
4. The random 20-character string reduces the possibility of a watermark being guessed or coincidentally matching the watermark of an email from another instance.

## Watermark format

The notification email watermark will always begin with "Ref:" to identify the label as a watermark. After this identifier, the default label is 31 characters' in length and consists

1. Customizable prefix — The default prefix is **MSG**.
2. Auto-numbered identifier — The numeric string identifying the source record, such as **incident, problem, or change request**.
3. An underscore character followed by a random **20-character** string

## Randomized watermark example



When inbound emails are processed, the system matches random watermarks to the appropriate source records

## Watermark configuration

Watermarks are always generated, but you can configure them to based on your requirement

1. We can create a custom watermark prefix for each service now instance to prevent accidentally triggering events in the wrong instance.
2. Have custom prefix characters after **MSG**
3. We can have hidden globally
4. We can omitted from individual email messages

If watermarks are omitted from email notifications, inbound email actions might not work properly. Without a watermark, the system processes inbound email messages as described in Criteria for

## Exercise: 1 Create a custom watermark prefix

By default, the email notifications use the watermark prefix as **MSG**, but if you want create a custom watermark prefix following below steps.

### Procedure

1. Navigate to **System Definition > Number Maintenance**.
2. Click on **New**

The screenshot shows the ServiceNow interface for 'System Definition > Number Maintenance'. The left sidebar has 'System Definition' selected. The main area shows a list of numbers with columns for Prefix, Number, and Count. A new row is being created, indicated by a red box around the 'New' button in the top right. The table data is as follows:

Prefix	Number	Count
(empty)	0	
(empty)	0	
(empty)	0	
ADOBE	10,000	
AINST	10,000	

### 3. Fill watermark form

The screenshot shows a ServiceNow configuration page for creating a new record. The top navigation bar indicates 'Number' and 'New record'. The main area contains five input fields:

- \* Table: Email Watermark (highlighted with a red box)
- Prefix: MSG (highlighted with a red box)
- \* Number: 0 (highlighted with a red box)
- Application: Global
- Number of digits: 7 (highlighted with a red box)

Below the form are two buttons: 'Submit' (highlighted with a red box) and 'Related Links'. A 'Show Counter' link is also visible.

4. Table: Email Watermark [sys\_watermark] table.

5. Prefix: MSG

6. Number: 0

7. Number of digits: 7

8. Click on Submit

## Omit an email notification watermark

We can omit watermarks on email notifications if we do not want the instance to match the notification to an existing record.

When any incoming emails does not contain a watermark, then the system searches the subject line of mail and message body for an incident number. The system attempts to match any incident number that it finds to an existing incident. If there is a matching incident number, the system updates the incident with the values in the incoming email.

## Procedure

1. Navigate to System Notification > Email > Notifications.

	Name	Active	Table
<input type="checkbox"/>	<a href="#">Incident commented for ITIL</a>	true	Incident [incident]
<input type="checkbox"/>	<a href="#">Incident Opened and Unassigned</a>	true	Incident [incident]
<input type="checkbox"/>	<a href="#">Incident resolved by Problem (ITIL)</a>	true	Incident [incident]
<input type="checkbox"/>	<a href="#">Incident Closed</a>	true	Incident [incident]

1. Open selected **email notification** to update
2. Click on **Advanced View** under related link.
3. In the **What it will contain** section, select the **Omit watermark** check box.

Content type	HTML only	Importance	-- None --
Include attachments	<input type="checkbox"/>	From	
Omit watermark	<input checked="" type="checkbox"/>	Reply to	

4. [Optional] If you want response email messages to generate new incidents, remove the record number \${number} variable from the Subject and Message **HTML fields**.

## Chapter – 20

# Access Control List (ACL)

## What is ACL (Access Control List)

Access Control List Rules for access control lists (ACLs) restrict the user access to data by requiring users to pass a set of requirements before they can interact with i.e. can be able to restrict everyone who can **read, update, create, delete** records into service now tables

1. The applications and modules or objects operation being secured
2. The permissions required to access the applications and modules and objects

Access Control Rules allow access to the specified resource if all three of these checks evaluate to true:

1. The user has one of the roles specified in the Role list, or the list is empty.
2. Conditions in the Condition field evaluate to true, or conditions are empty.
3. The script in the Script field (advanced) evaluates to true, or sets the variable "answer" to true, or is empty.

The three checks are evaluated independently in the order displayed above.

To gain access to an object and operation, a user must pass all permissions listed in an access control. For example, this access control restricts access to write operations on the incident table.

## Procedure

1. Navigate to **System Security > Access Control(ACL)**
2. **Open Existing ACL** write operation record from incident table

The screenshot shows the ServiceNow System Security interface. On the left, the navigation bar includes 'System Security', 'Instance Security Center', 'Access Control (ACL)' (which is highlighted with a red box), 'IP Address Access Control', 'Objects', 'Operations', and 'Protocol Profiles'. At the top right, there is a search bar with 'Name' and 'Incident' dropdowns. The main area displays a table of access control rules for the 'incident' object:

	Name	Operation	Type
<input type="checkbox"/>	incident	read	record
<input type="checkbox"/>	incident	read	record
<input type="checkbox"/>	incident	read	record
<input type="checkbox"/>	incident	write	record
<input type="checkbox"/>	incident	write	record

The top screenshot shows a general Access Control rule for the 'incident' table. It has the following settings:

- Type: record
- Operation: write (highlighted with a red box)
- Application: Global
- Active: checked
- Admin overrides: checked
- Name: Incident [incident] (highlighted with a red box)
- Description: Allow write for records in incident, for users with role itil, and if the ACL condition (incident\_stateNOT IN7,8^EQ) evaluates to true.

The bottom screenshot shows a detailed view of the 'Role' condition for the same rule. It includes:

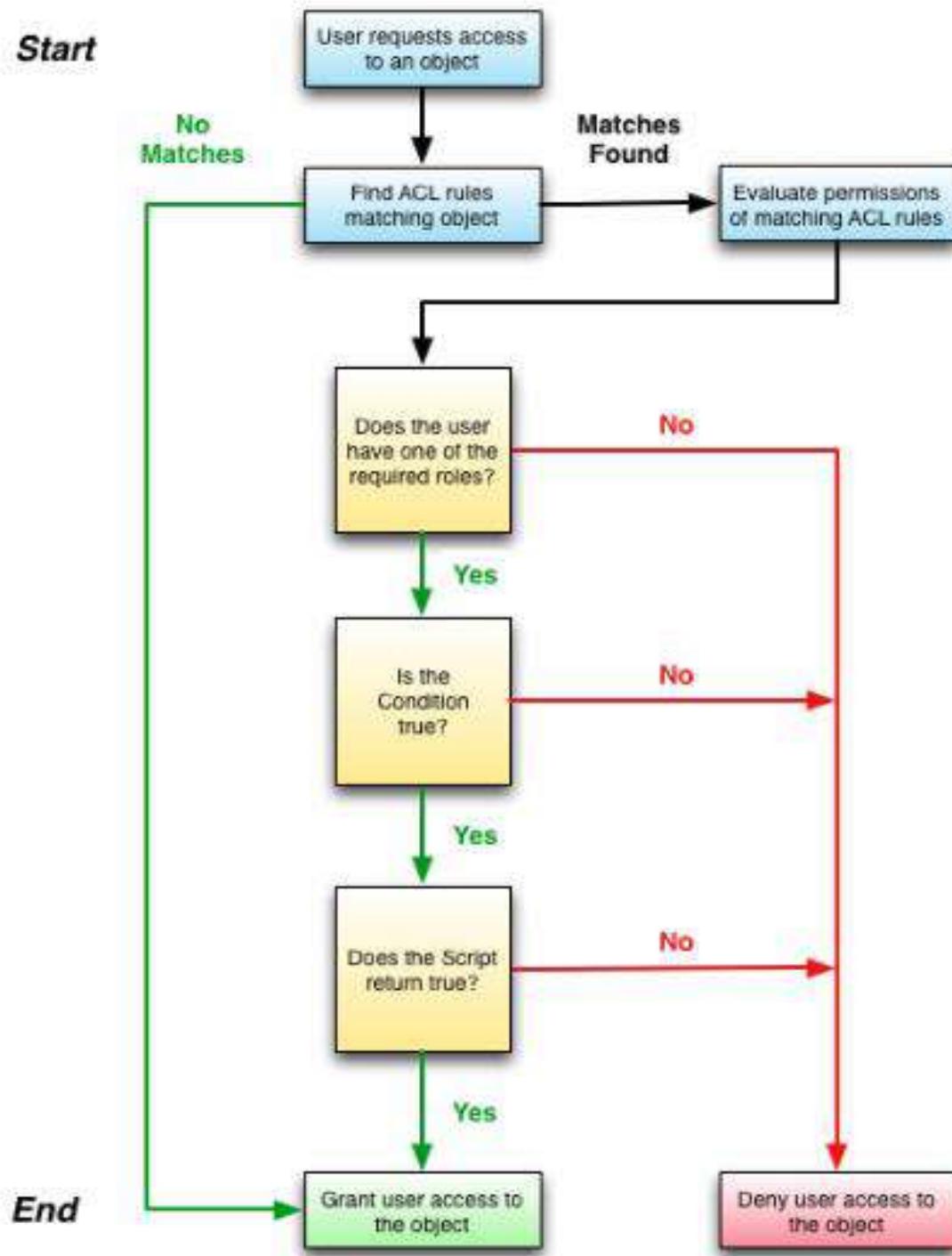
- Requires role: itil (highlighted with a red box)
- Condition: Incident state is not one of (highlighted with a red box)
  - On Hold
  - Resolved
  - Closed (highlighted with a red box)
  - Canceled

## ACL evaluation process

An ACL rule only gives a permission a user access to an application and module and object if the user meets all of the permissions required by the matching ACL rule and conditions.

1. The **Condition** must evaluate to true.
2. The **script must evaluate to true** or return an answer variable with the value of true.
3. The user must have one of the **roles in the required roles list**. If the list is empty, this condition evaluates to true.
4. [Record ACL rules only] The matching table-level and field-level ACL rules must both evaluate to true.

## ACL evaluate permissions



1. Whenever a user requests data, the system can search for access control rules that match the requested object and operation.
2. If there is a matching access control rule, then the system evaluates if the user has the permissions required to access the object and operation.
3. If an access control rule specifies more than one permission, then the user must meet all permissions to gain access to the object and operation.
4. Failing any one permission check prevents the user from accessing the matching object and operation.
5. If a user does not meet the permissions of the first matching rule, the system evaluates the permissions of the next matching access control rule as specified by the access control processing order.
6. If the user fails to meet the permissions of any matching access control rule, the system denies access to the requested object and operation.
7. Depending on the object secured, the ACL rule hides a field on a form, hides rows from a list, or prevents a user from accessing a UI page.



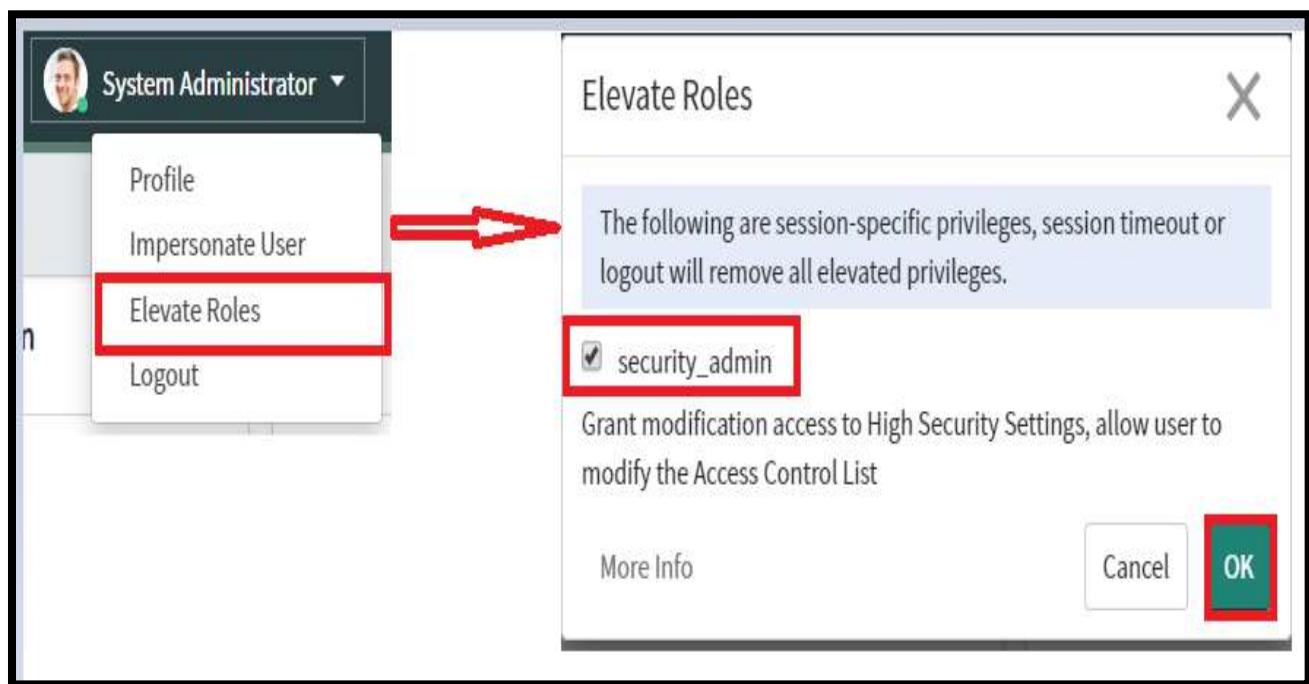
If there are no matching access control rules for the requested object and operation, then the system grants the user access to it. In practice, it is rare for the system to find no matching rules because the system has a set of default access control rules that protect all record operations.



The wildcard field ACL rule `(*.*)` for the create operation reuses the same permissions as the write operation. This means that the create permissions are the same as the write permissions unless you define an explicit create operation ACL rule.

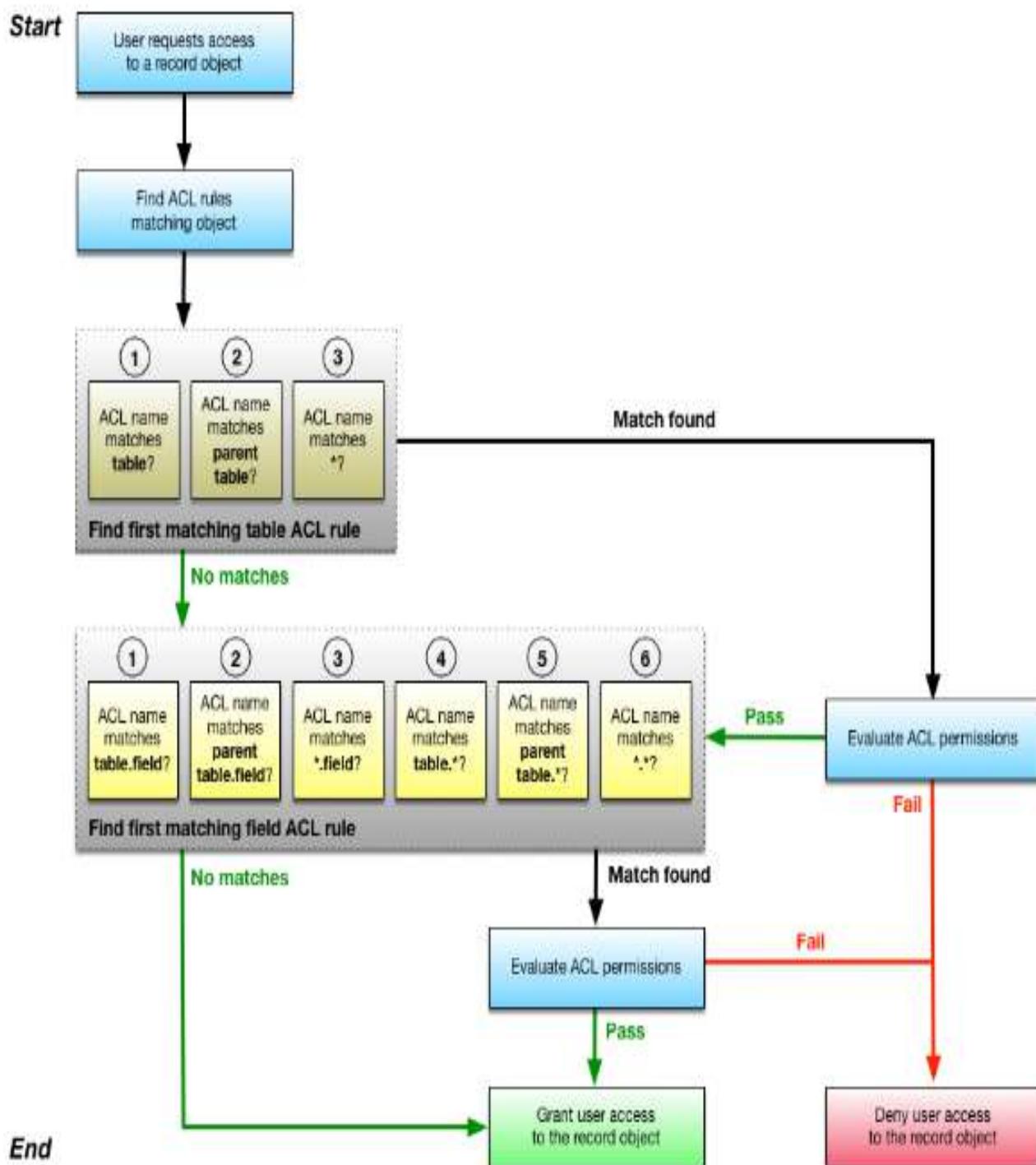
## Required role to create ACL Rules

Normal admin users can view and debug access control rules. However, to create or update existing access control rules, administrators must elevate privileges to the **security\_admin** role. See [Elevate to a privileged role](#) for instructions.



1. Expand User menu
2. Click on **Elevate Roles**
3. **Check** security\_admin role
4. Click on **OK**

## ACL matching Diagram



## Levels of ACL Rules

We can implement ACL rules for multiple levels of different component in the instance

1. Table Level
2. Field Level

### Table ACL rules

The user must first pass the table ACL rule. Since the base system includes STAR (\*) table ACL rules that match every table, the user must always pass at least one table ACL rule. The base system provides additional table ACL rules to control access to specific tables

Table ACL rules are processed in the following order:

1. It must match the **table name**. For example, incident, problem, change
2. It must match the **parent table name**. For example, task, cmdb\_ci.
3. It must match any table name (\*). For example, \*.

If a user fails all table ACL rules, the user cannot access the fields in any table. If a user passes a table ACL rule, the system then evaluates the field ACL rules.

### Field ACL rules

After a user passes a table ACL rule, field ACL rules are processed in the following order:

1. It must match the table and field name. For example, **incident.caller\_id**.
2. It must match the parent table and field name. For example, **task.caller\_id**
3. It must match any table (\*) and field name. For example, **\*.number**
4. It must match the table and any field (\*). For example, **incident.\***.
5. It must match the parent table and any field (\*). For example, **task.\***
6. It must match any table (\*) and any field (\*). For example, **\*.\***

A user must pass the table ACL rule to be granted access to the table's fields. For example, the user must first pass the table ACL rule for the incident table to access the **Caller** field in the incident table.

The first successful field ACL evaluation stops ACL rule processing at the field level. When a user passes a field ACL rule, the system stops searching for other matching field ACL rules. For example, if a user passes the field ACL rule for **incident.caller\_id**, the system stops searching for other ACL rules that secure the **Caller** field in the incident table.

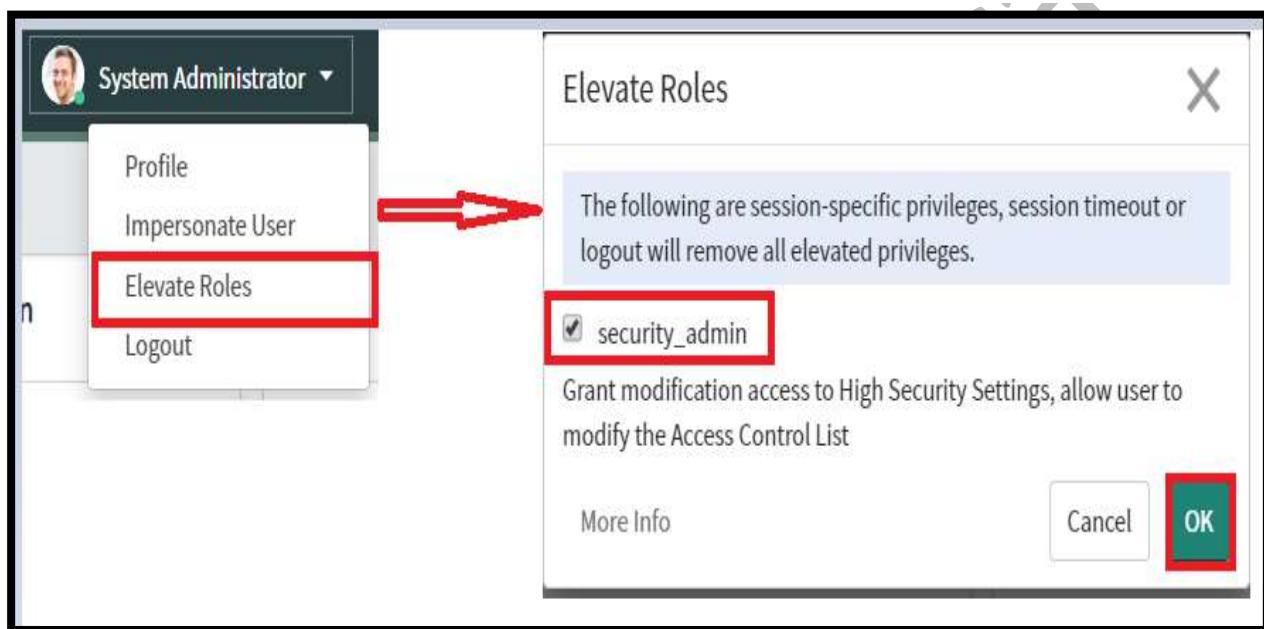
## Exercise 1: Create an ACL rule

We can create a custom ACL rule to restrict user access to new objects or to change the default security behavior in our instance.

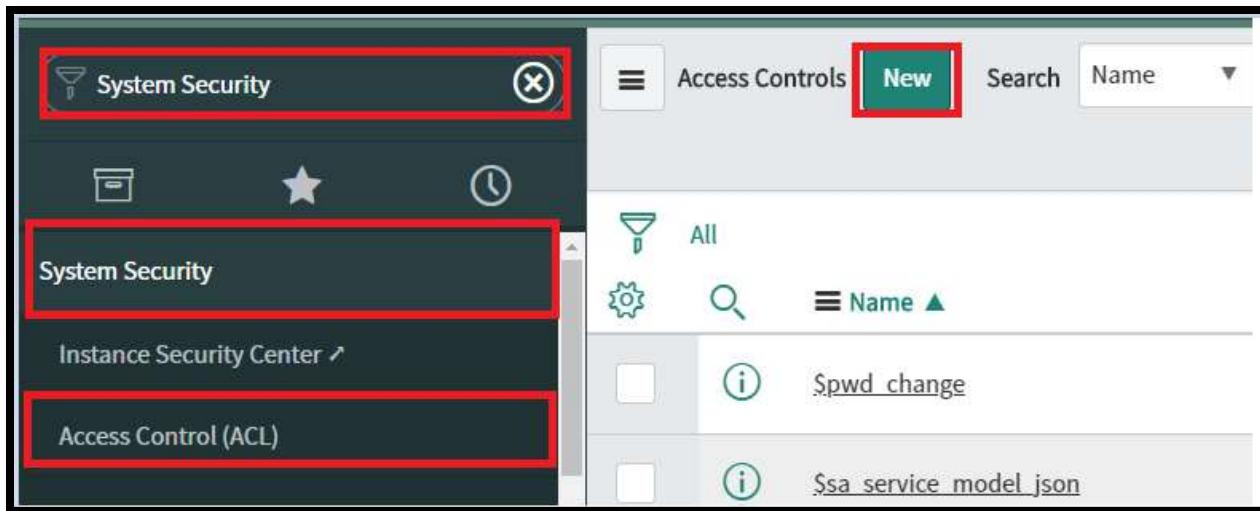
While creating new ACL rules, first you must be elevating privileges to the **security\_admin** role. For tables that are in a different scope from the ACL rule record, the types of rules are limited.

### Procedure

1. **Elevate privileges** to the **security\_admin** role.



2. Navigate to **System Security > Access Control (ACL)**.

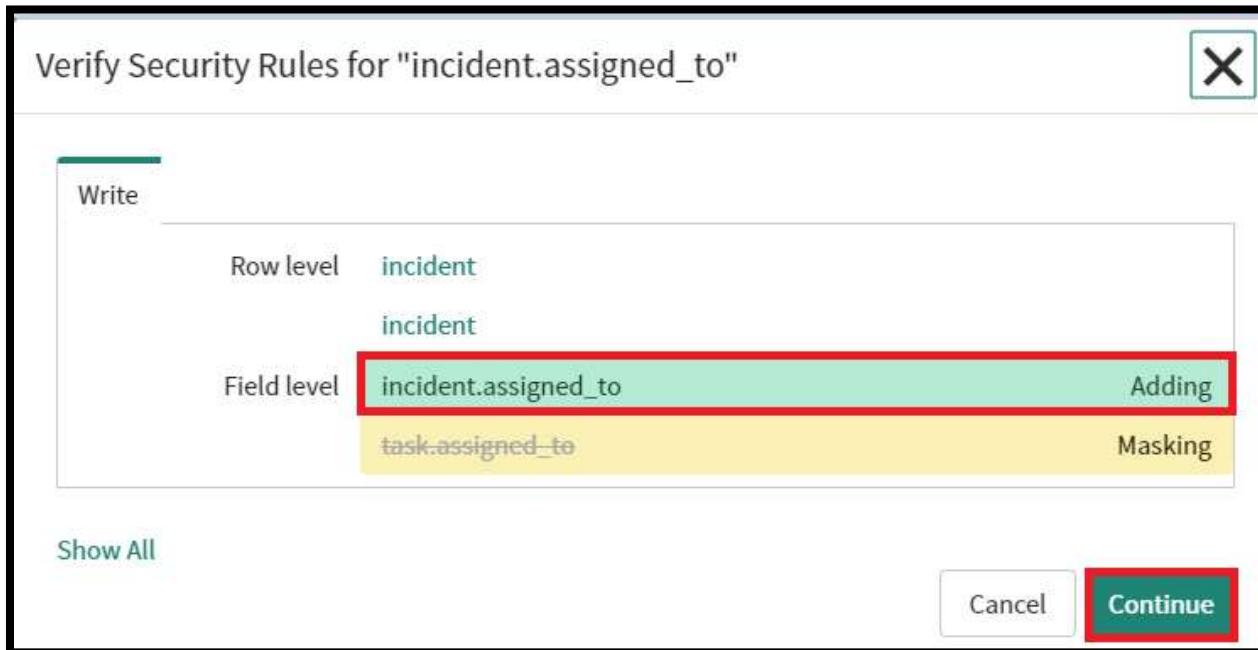


3. Click on New

This screenshot shows the 'New Access Control' configuration page. It includes fields for Type (set to 'record'), Operation (set to 'write'), Application (set to 'Global'), Active status (checked), Admin overrides (checked), and Advanced settings. The 'Name' field is set to 'Incident [incident]'. The 'Assigned to' dropdown is also highlighted with a red box. Below this, the 'Requires role' section shows a table with one row assigned to the 'itil' role. A plus sign indicates the option to add more rows. The condition section at the bottom shows a filter for 'State is not Closed'.

Condition	Value
63 records match condition	<a href="#">Add Filter Condition</a> <a href="#">Add "OR" Clause</a>
State	is not Closed

4. **Type:** record
5. **Operation:** write
6. **Name:** [Incident] [assign\_to]
7. **Role:** itil
8. **Condition:** [State] [is not] [Closed]
9. Click on **Submit**
- 10.** Verify security rules when **Submitted**



11. Click on **Continue**
12. Then check how it is working

Chapter – 21

MvasSunkara

## Inbound Email Action

## What is Inbound Email Action

Inbound email actions are enable to define the actions an instance takes when receiving email. inbound email actions define what actions Service Now takes when in response to incoming email.

1. Is the message a reply or forward?
2. Does the message match a record in the database?
3. Does the message match the conditions?

**The system can take two types of actions:**

1. **Record action:** We can set a value for a field in the target table.
2. **Email reply:** sending an email back to the source that triggered the action.

## Types Inbound email action

The system classifies all incoming email into one of three types: forward, reply, or new.

### New

The system classifies an email as **New** when it fails to match it to the forward and reply inbound action types.

### Forward

**The system classifies an email as a forward only when it meets all these criteria:**

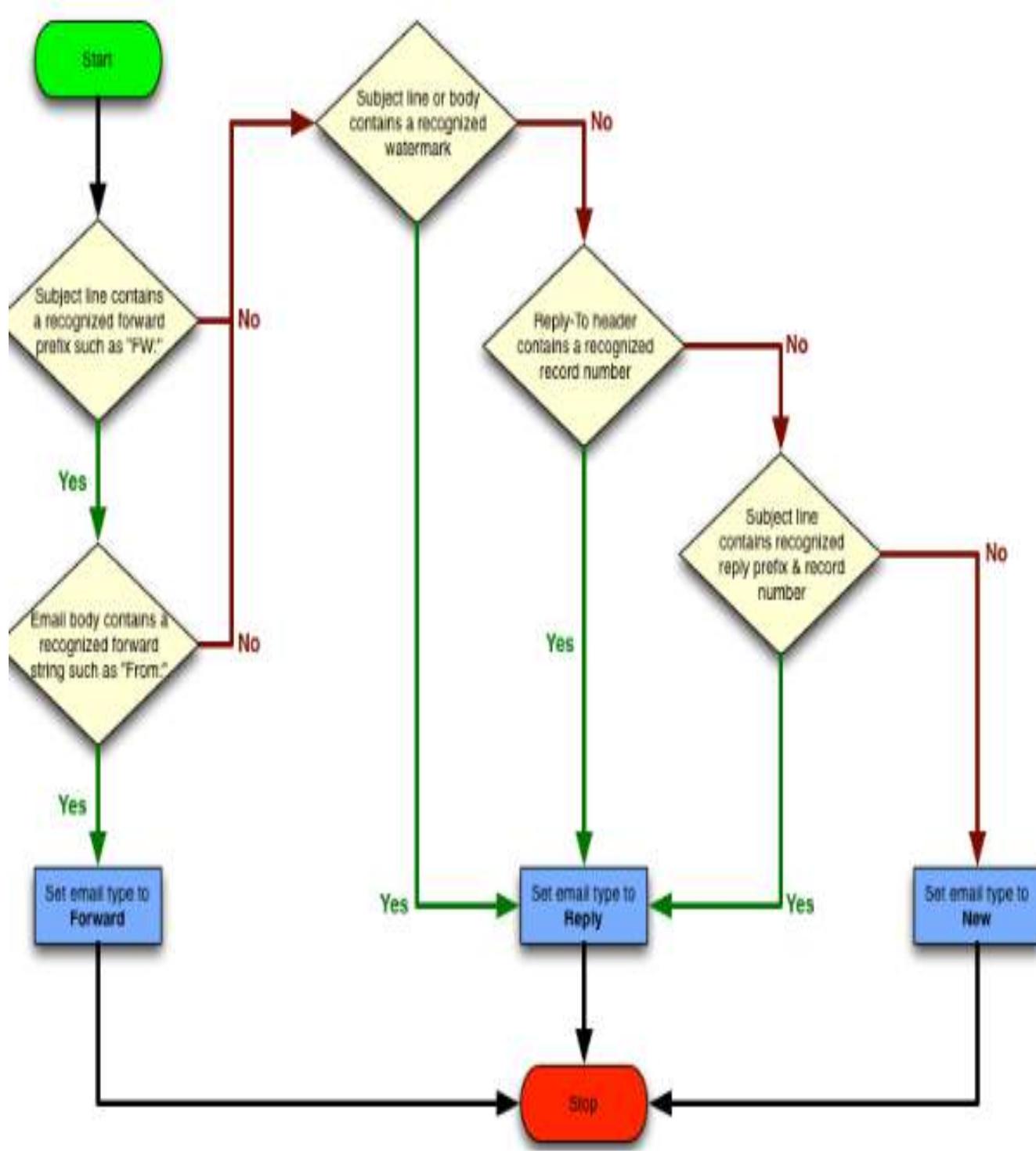
1. The subject line contains a recognized forward prefix such as **FW:**
2. The email body contains a recognized forward string such as **From:**
3. The system classifies any email that meets these criteria as a forward, even if the message contains a watermark or record number that otherwise classifies it as a reply.

### Reply

**The system classifies an email as a reply when it fails to match it to the forward inbound action type and it meets any one of these criteria:**

1. The subject line or email body contains a recognized watermark such as **Ref:MSG0000001**.
2. There is no watermark and the Reply-To header contains a recognized record number such as **INC0005552**
3. There is no watermark and the subject line contains a recognized reply prefix such as RE: and a recognized record number such as INC0005574

## Determining the type of incoming email



## How to send watermark or record number?

If an inbound message is recognized as a reply or forward ServiceNow attempts to match the incoming email with an existing record by looking for a unique watermark in the subject line or message body. By default, watermarks are inserted as the last line of outbound messages.

Dear Assigned to: Beth,

An overdue Needit Task is assigned to you:

Number: NITASK003001

Short description: facilities : facilities2 : Need new office chair

Please complete this task as soon as possible.

In addition to this overdue Needit Task, you have 2 more overdue Needit Tasks.

Triggering record: [LINK](#)

Same triggering record: [NITASK003001](#)

Related record: [LINK](#)

Same related record: [Beth Anglin](#)

[Unsubscribe](#) from this notification by email or [click here](#). Manage your [Notification Preferences](#) or [click here](#).

Ref:MSG0000104

If no watermark is found, ServiceNow searches the subject and body for a record number.

## Conditions

The final step in determining which Inbound Action executes is to check the conditions for a match. Use the Condition builder to create the condition or write a condition script. If there is no value in a condition field, the field returns true.

### Inbound Email Actions execute only when:

1. The incoming email type matches the inbound action type
2. The watermark or record number matches a record on the target table
3. The inbound action Conditions evaluate to true

## Exercise: 1 Creating Inbound Email Actions

We are going to create an inbound email action to create an incident automatically in incident table when a customer sends an email

### Procedure

1. System Policy > Email > Inbound Action
2. Click on New

The screenshot shows the ServiceNow System Policy interface. On the left, there is a sidebar with the following navigation items: System Policy, Email (which is expanded), Templates, Layouts, Client Templates, Quick Messages, and Inbound Actions. The 'Inbound Actions' item is highlighted with a red box. On the right, the main area is titled 'Inbound Email Actions' with a 'New' button. Below this is a search bar and a table with three rows of data. The columns in the table are: a checkbox, an info icon, a name, an active status, and an event name. The data rows are:

Action	Name	Active	Event name
<input type="checkbox"/>	Unsubscribe from Notification	true	email.read
<input type="checkbox"/>	Process CAB meeting invite replies	true	email.read
<input type="checkbox"/>	Create Live Feed Reply	true	email.read

3. Fill Inbound Email Action form

The screenshot shows the 'Inbound Email Actions' form in 'New record' mode. The top bar includes a back arrow, a save icon, a refresh icon, a plus sign, a trash icon, and a 'Submit' button. A note in a light blue box states: 'Inbound email actions specify how ServiceNow creates or updates task records in a table when the instance receives an email. The inbound email action looks for a watermark in the email to associate it with a specific task. If the conditions specified in the inbound action are met, the script is run. [More Info](#)'.

The form fields are:

Name	Creating New Incident	Application	Global
Target table	Incident [incident]	Active	<input type="checkbox"/>
Action type	Record Action	Stop processing	<input type="checkbox"/>

4. **Name:** Creating New Incident
5. **Target Table:** Incident
6. **Action Type:** Record Action

The screenshot shows the 'When to run' tab of an inbound action configuration. The tab has three tabs: 'When to run' (selected), 'Actions', and 'Description'. The 'When to run' tab contains the following fields and descriptions:

- Type:** A dropdown menu set to 'New'.
- Order:** A text input field containing '200'.
- From:** A search input field with a magnifying glass icon.
- Conditions:** A section stating "All of the following conditions must be true, to trigger this inbound action."

7. Open When to run Tab
8. Execution Order: 200

When to run	Actions	Description
1	// Note: current.opened_by is already set to the first UserID that matches the From: email address	
2		
3	current.caller_id = gs.getUserID();	
4	current.comments = "received from: " + email.origemail + "\n\n" +	
5	email.body_text;	
6	current.short_description = email.subject;	
7		
8	current.category = "inquiry";	
9	current.incident_state = IncidentState.NEW;	
10	current.notify = 2;	
11	current.contact_type = "email";	
12	<b>if</b> (email.body.assign != undefined)	
13	current.assigned_to = email.body.assign;	
14		
15	<b>if</b> (email.importance != undefined) {	
16	<b>if</b> (email.importance.toLowerCase() == "high") {	
17	current.impact = 1;	
18	current.urgency = 1;	
19	}	
20	}	
21		
22	current.insert();	

9. Write code like Above screen shot

10. Click on **Submit**

**Chapter - 22**

Sunkara  
**Reports**

## What is Report

Service Now platform can be providing reporting capabilities that we can create and sharing reports that defines the current state of instance data, such as how many open incidents of each priority there are and how many in active. Reporting functionality is available by default for all tables.

Service Now generating and displaying reports in visualizations manner of our data that you can share with users on dashboards and service portals, we can be able to export to PDF, and send the reports through email. Now we have to understand how to **create, run, edit, view, and share** reports.

## Types of Reports

We can create different types of reports and share them into across all people in our organization based on our client requirement

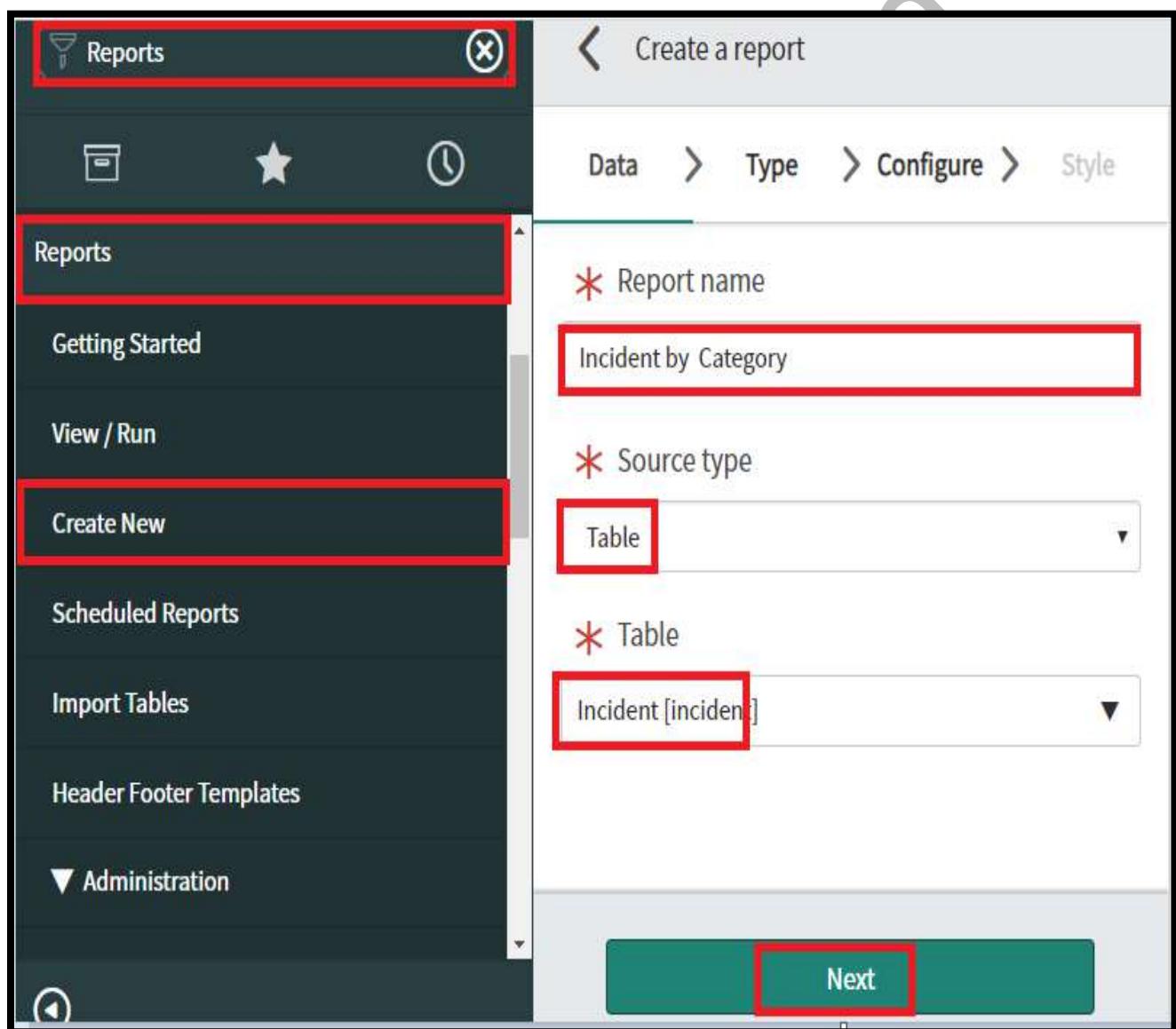
- 1.** List
- 2.** Bar Charts
- 3.** Pie Charts
- 4.** Pareto
- 5.** Histogram
- 6.** Pie
- 7.** Speedo Meter
- 8.** Dial
- 9.** Pivot
- 10.** Box
- 11.** Pyramid
- 12.** Trend
- 13.** Donuts
- 14.** Area
- 15.** Heat map
- 16.** Map
- 17.** Bubble
- 18.** More...

## Exercise: 1 Creating a new Report

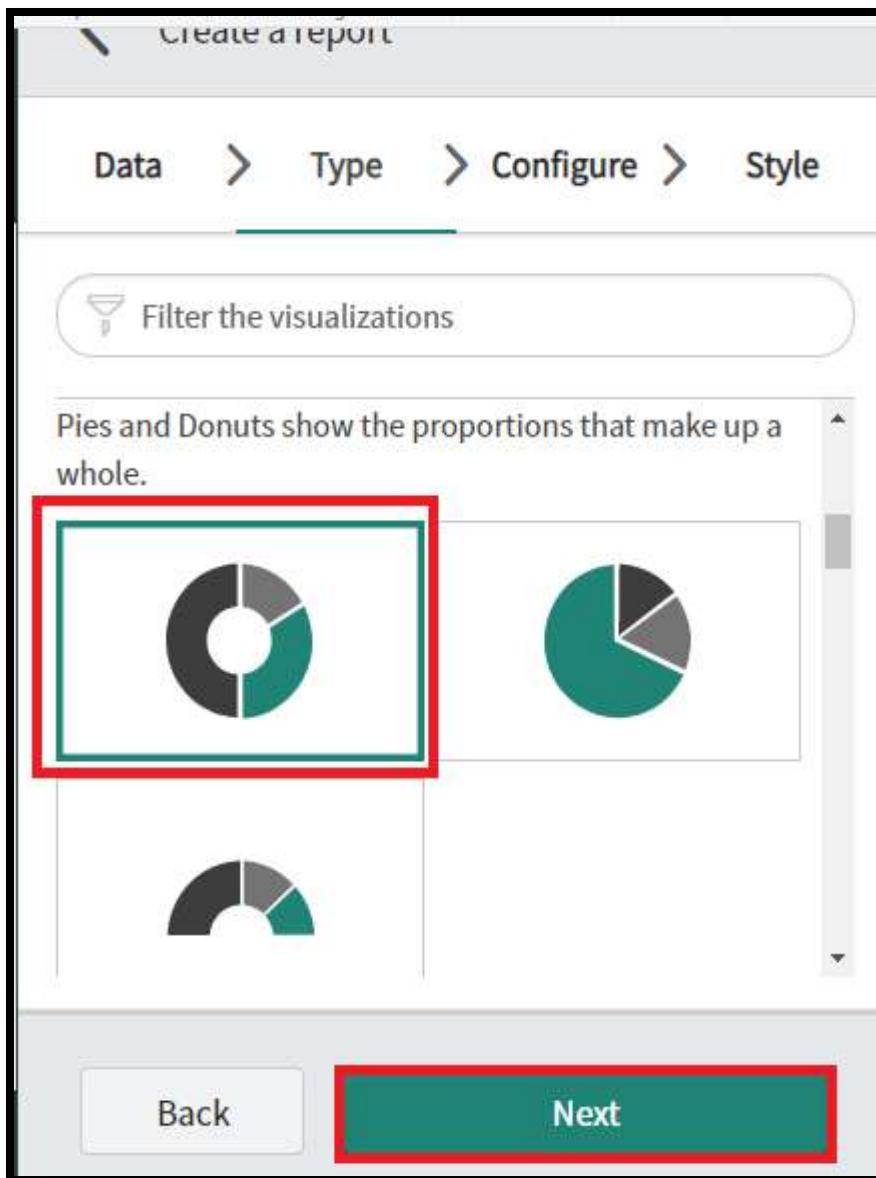
We are going to creating new report and share to respective network group

### Procedure

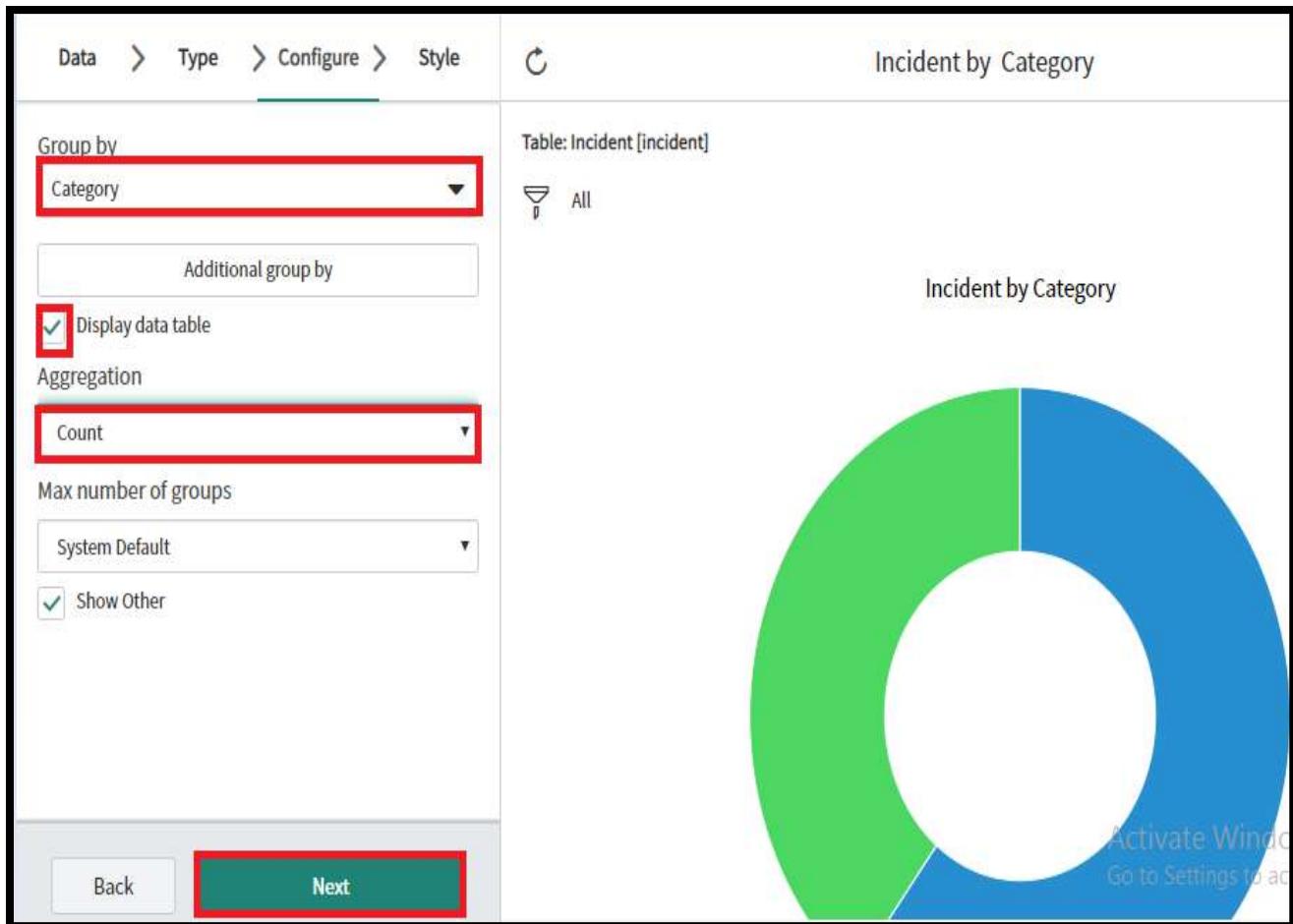
1. Navigate to Reports > Create New
2. Report Name: Incidents by category
3. Source Type: Table
4. Table: Incident



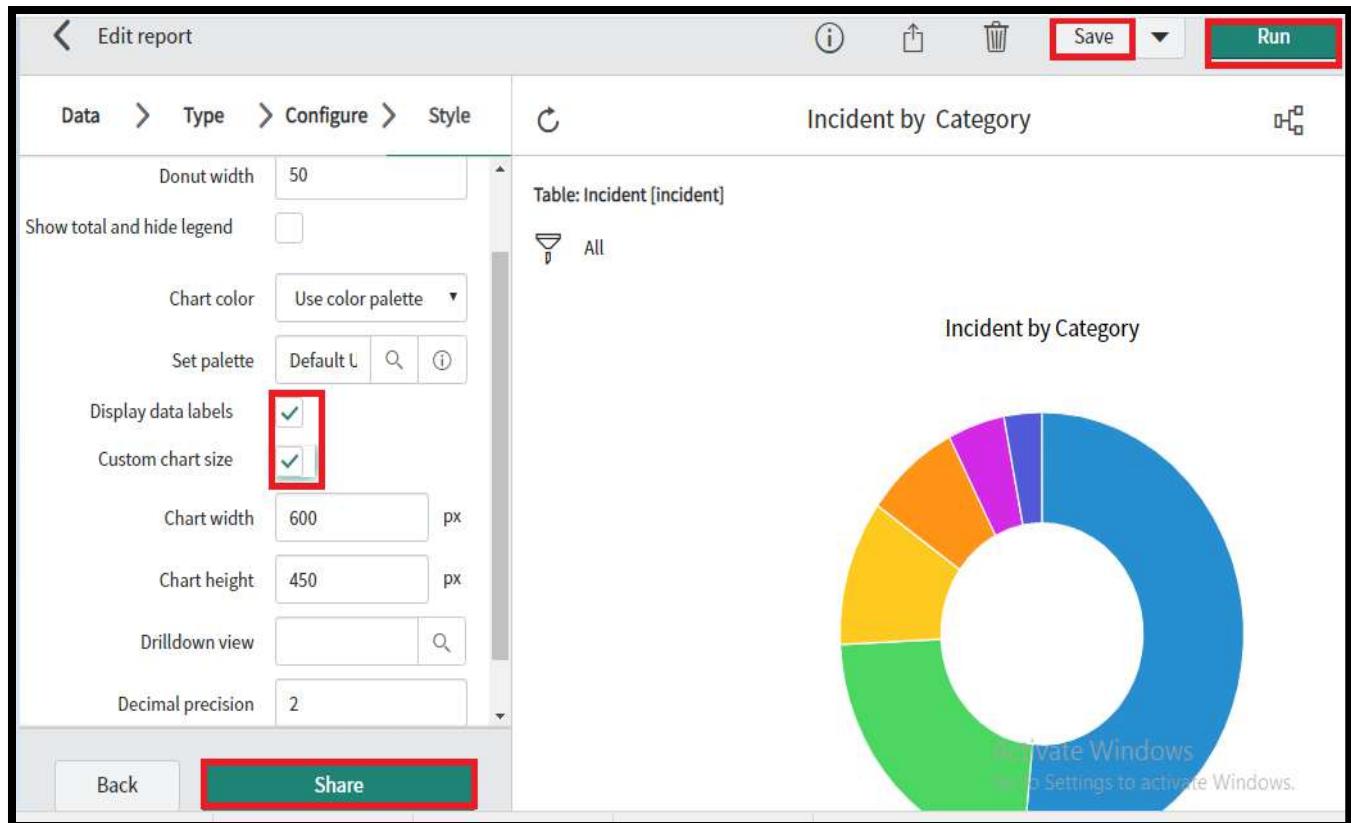
5. Click on Next Button



6. Select Pie chart
7. Click on Next Button



8. **Group by:** category
9. **Display Data table:** checked = true
10. **Aggregation:** Count
11. **Max num of groups:** system default
12. Click on **Next**

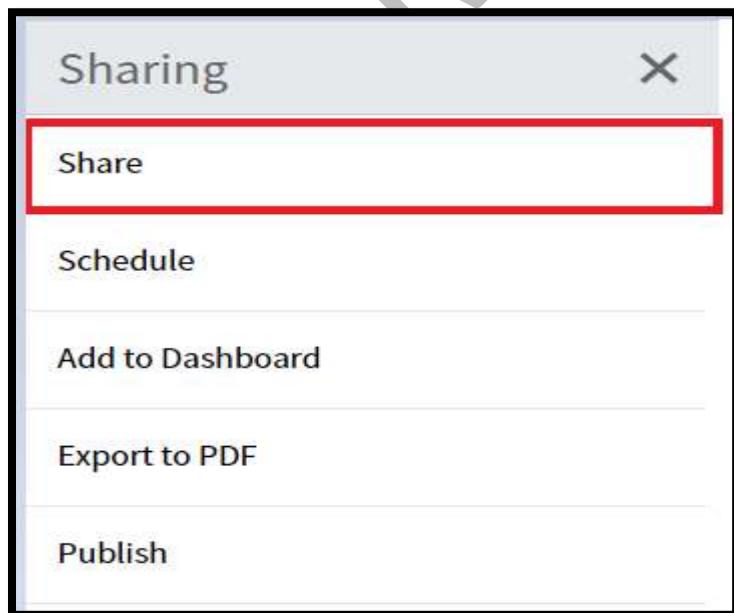


13. Display Data labels: checked true

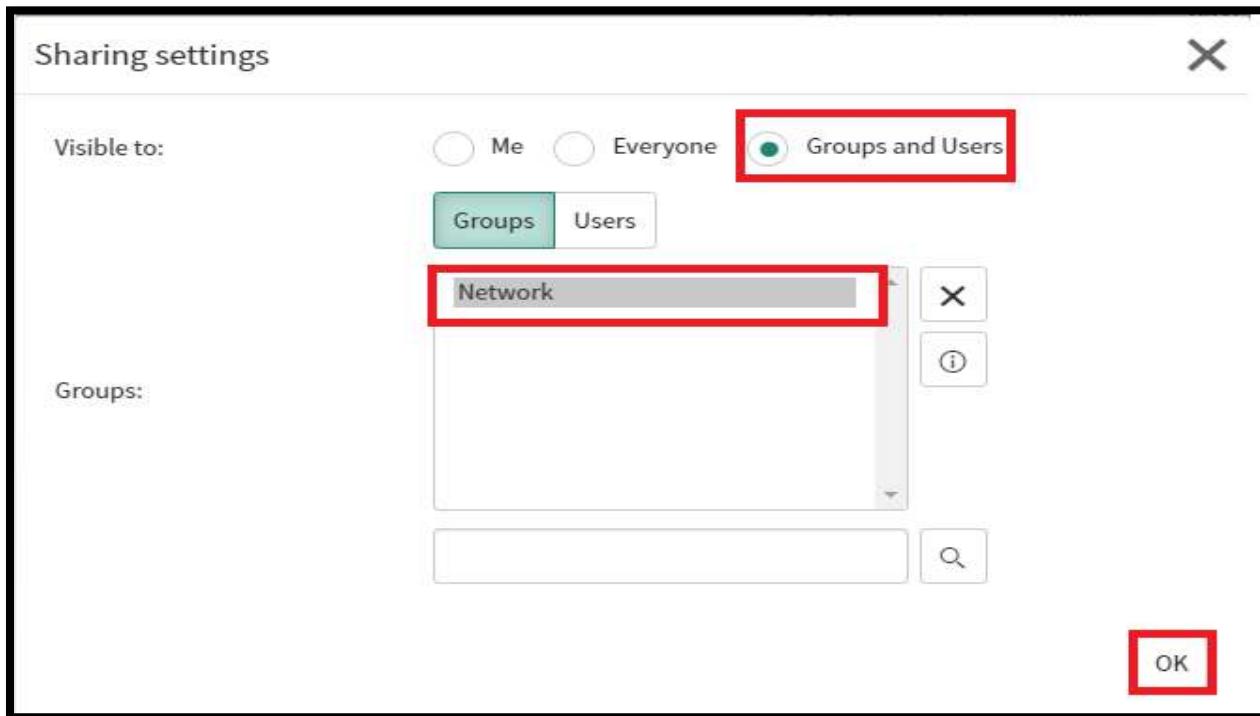
14. Custom chart table: checked true

15. Click on Save

16. Click on Click on Share Button



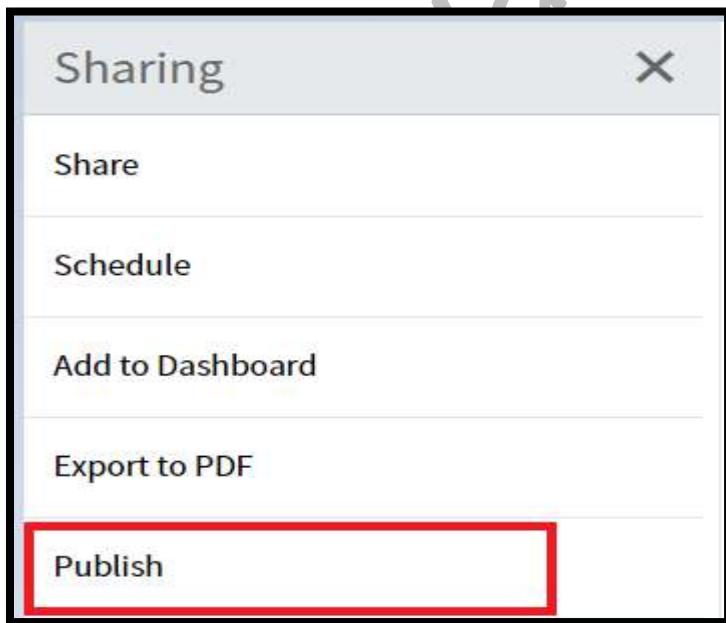
17. Click on **Share**



18. **Visible to:** Group and Users

19. **Groups:** Network

20. Click on **OK**



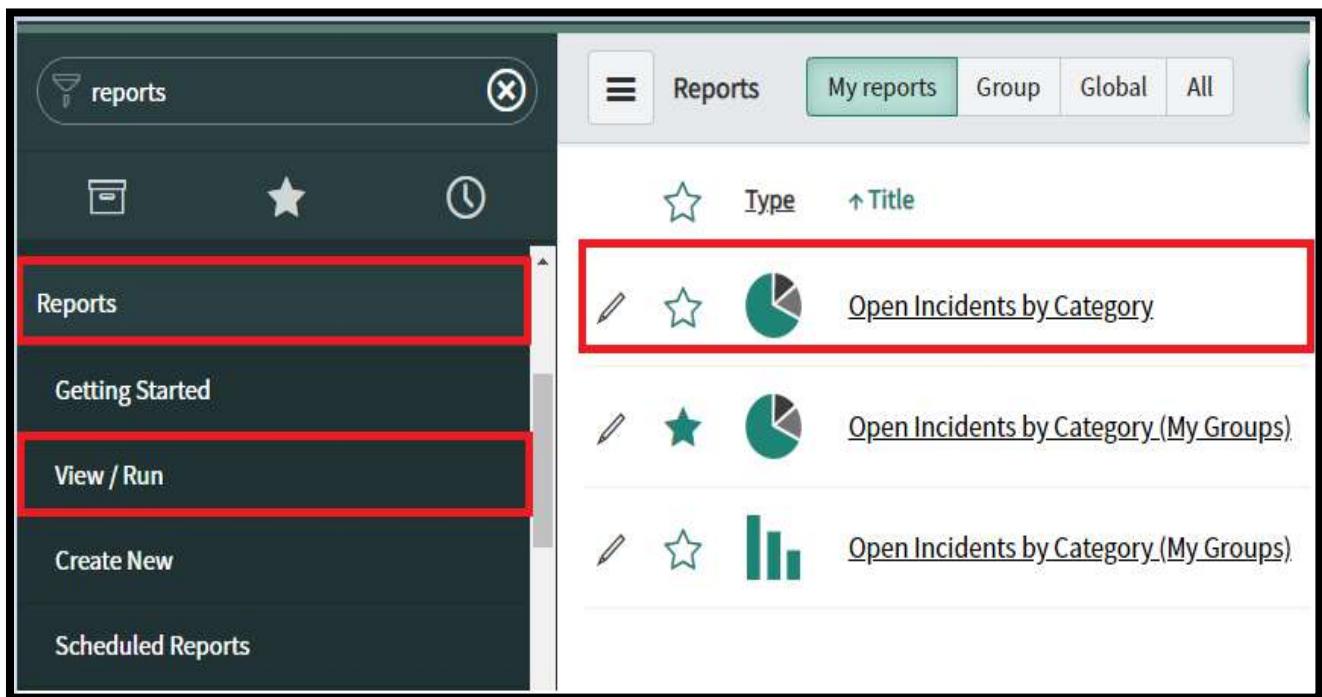
21. Click on **Publish**

## Schedule and sharing report

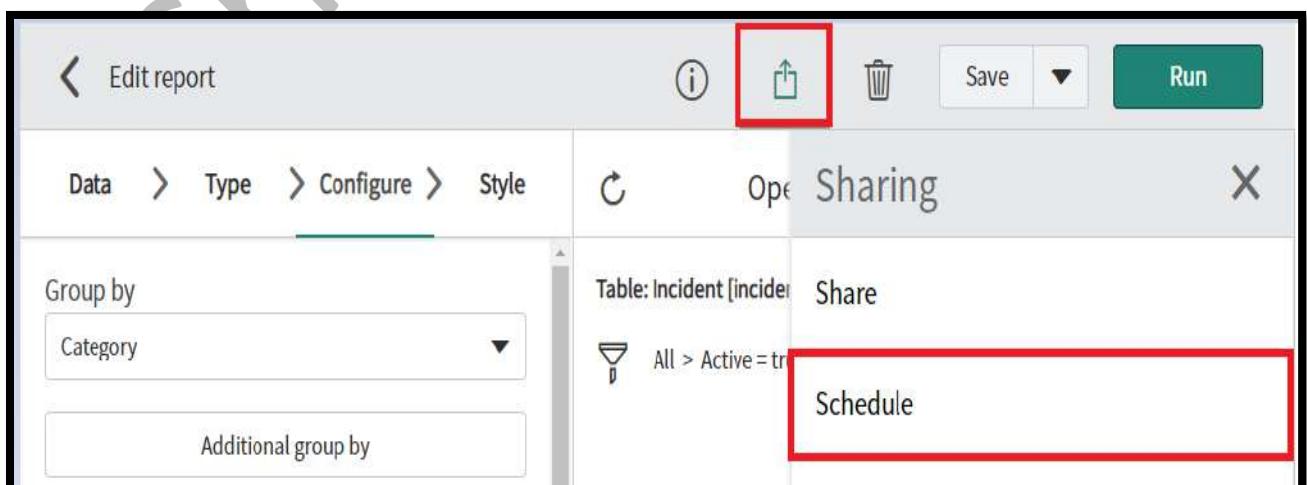
We are going to schedule and automate the distribution of reports, schedule reports will help us to send reports in visualization manner regularly in our emails to different groups and users

### Procedure

1. Navigate to Reports > Click on View/Run.
2. Select our existing report to schedule for distribution.



3. Click the arrow next to the Save button to open the Report options menu and



Schedule an email containing this report

Report

Open Incidents by Category

Active

Users

Naomi Greenly

Groups

Network

Email addresses

srinivas.sunkara@servicenow.com

Run

Daily

Time

Hours 09 30 00

Conditional

Omit if no records

```
graph LR; User[User] --- Naomi[Naomi Greenly]; Group[Group] --- Network[Network]; Email[srinivas.sunkara@servicenow.com]
```

4. **User:** Select any user to send report
5. **Groups:** Select any group to send report
6. **Select Addresses:** provide any other user mail id to send report
7. **Run:** daily
8. **Time:** 9:30 AM

Omit if no records

Subject

Today reports about Category

Type

PDF-landscape

Zip output

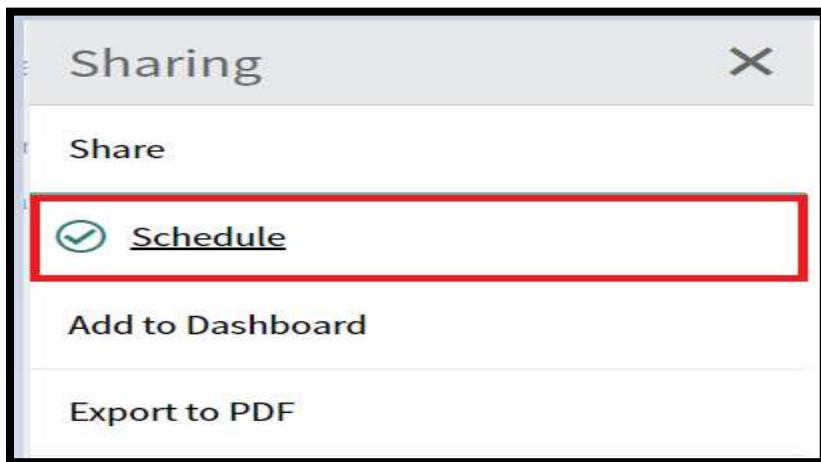
Include with

**Submit**

**9. Subject:** Today reports about category

**10. Type:** PDF-land scape

**11. Click on Submit**



**12. Check scheduled report**

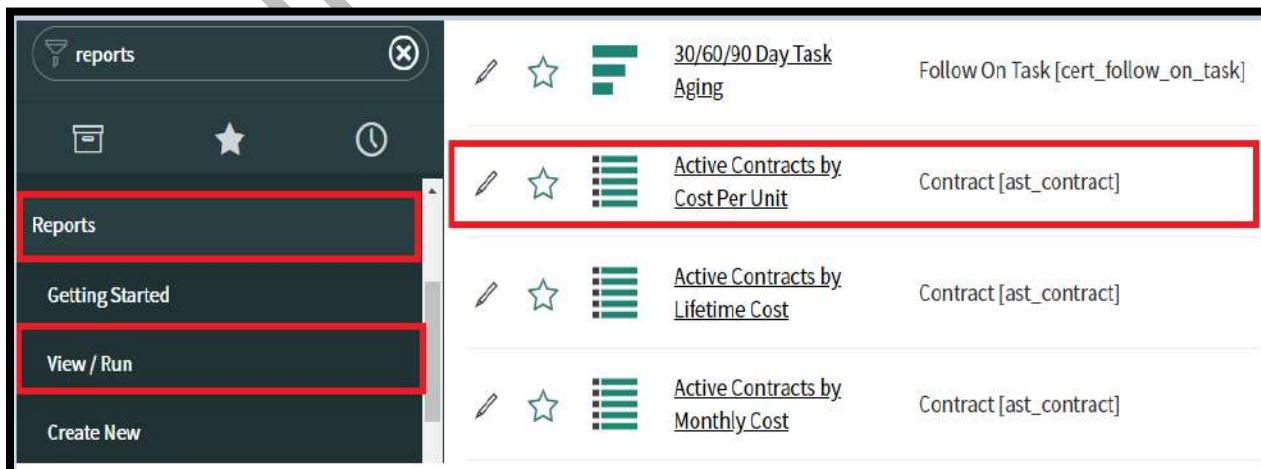
## Delete a report

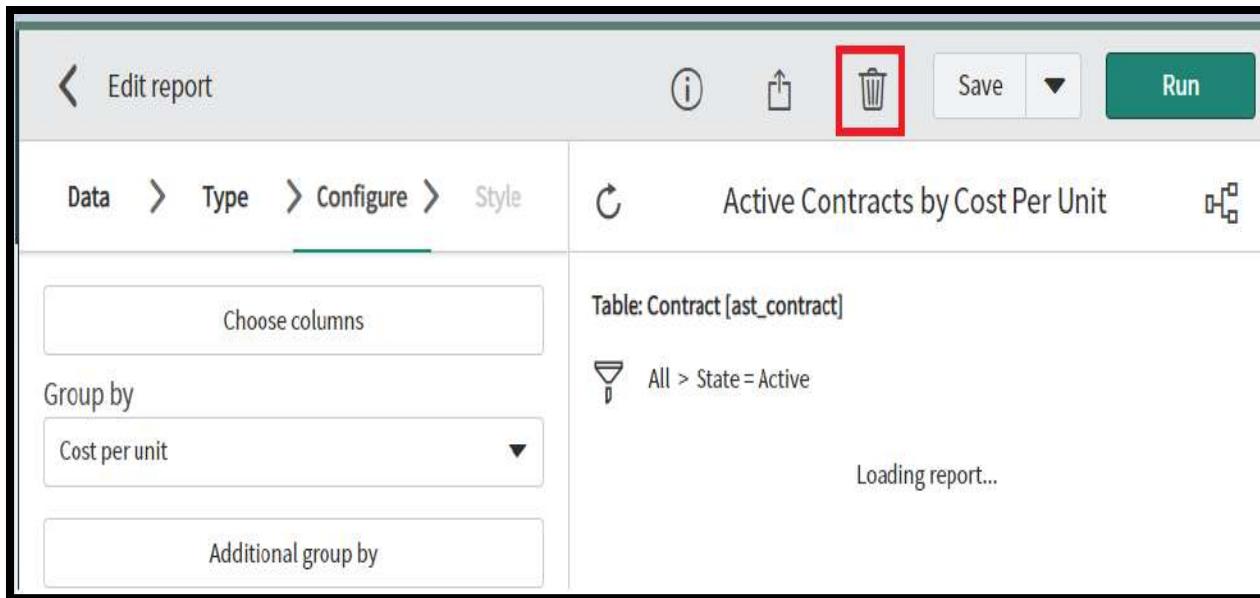
We are going to delete reports those are no longer used in our instance.

**Note:** Only report creator or snow administrator of the report to delete it

### Procedure

1. Navigate to Reports > View / Run.
2. Select the report to delete.





3. When the report opens, click the **Delete icon** and confirm that you want to delete the report.

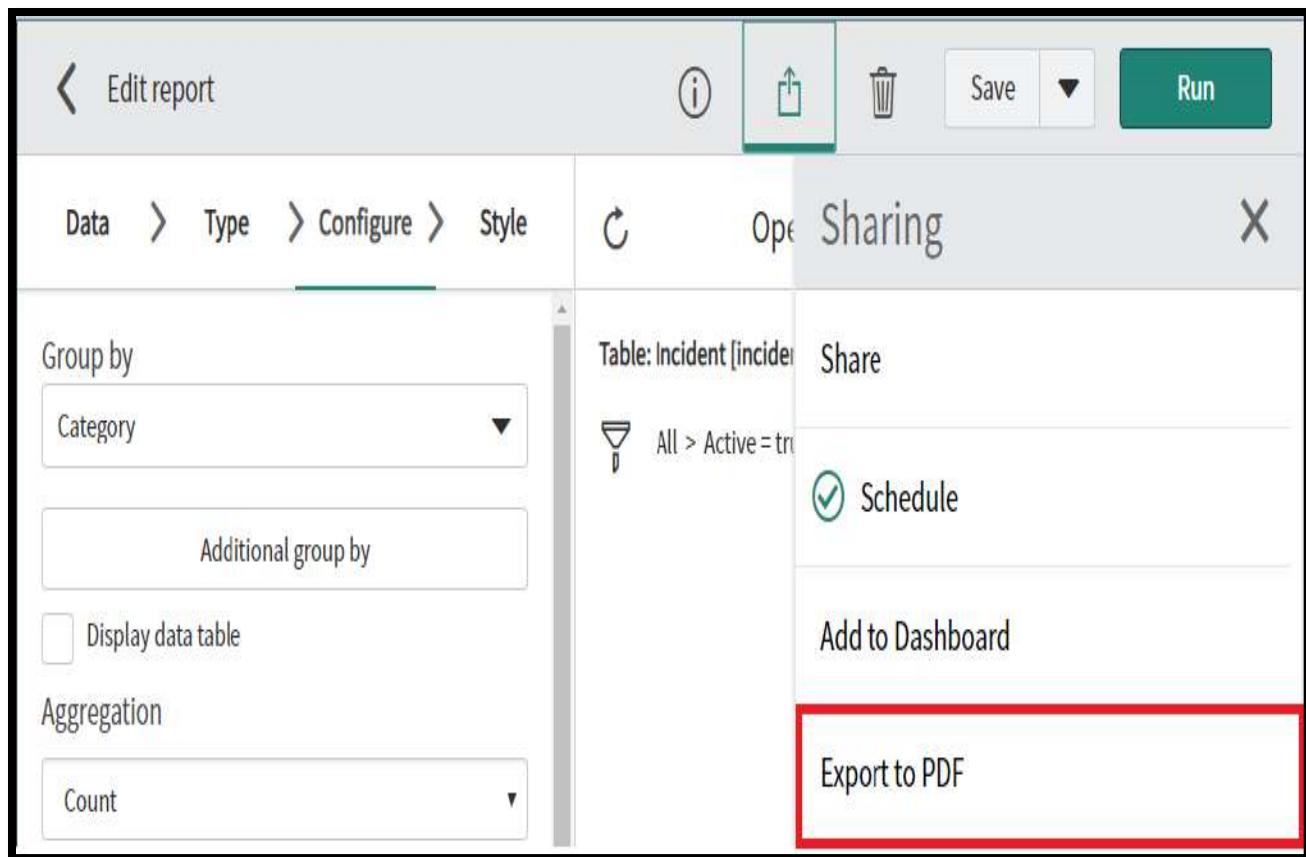
## Export report to PDF

We are going to exporting our reports to PDF file and share through mail

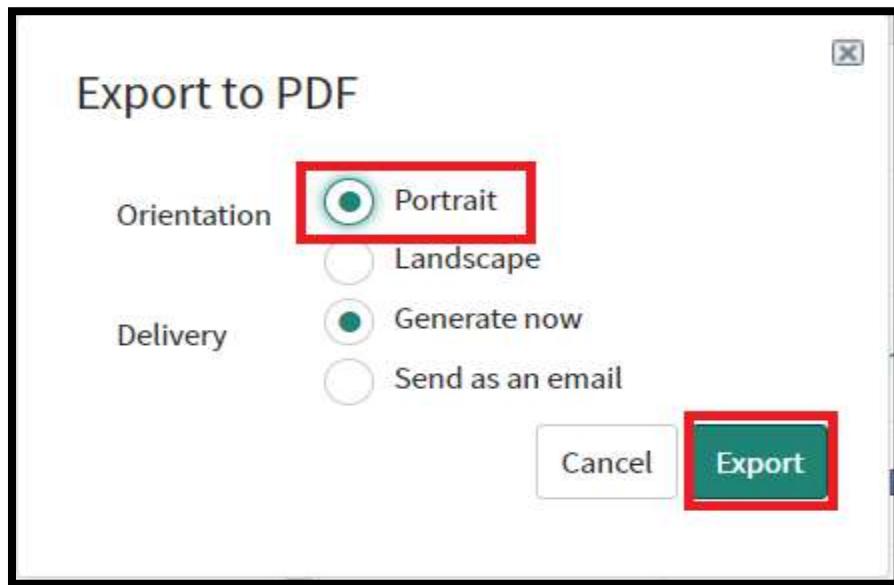
### Procedure

1. Navigate to **Reports > View / Run**.
2. Select the report to **Export PDF**.

The screenshot shows the 'Reports' page. On the left, there's a sidebar with options: 'Reports' (highlighted with a red box), 'Getting Started', 'View / Run' (highlighted with a red box), and 'Create New'. The main area lists reports with columns for 'Type', 'Title', 'Table', and 'Scheduled'. Two reports are visible: 'Open Incidents by Category' (Incident [incident], scheduled) and 'Open Incidents by Category (My Groups)' (Incident [incident]). A search bar at the top has the text 'Title contains: incidents by category'.

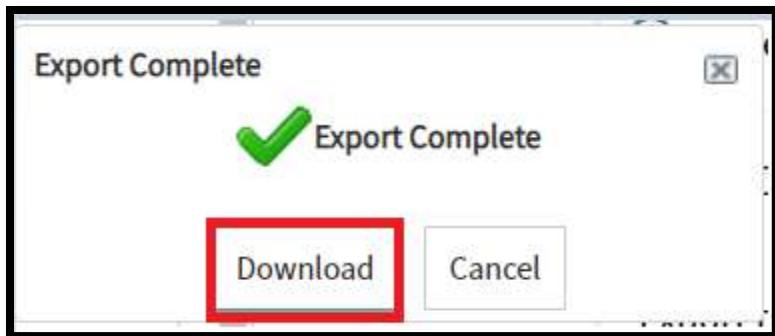


3. Click on **Export to PDF**

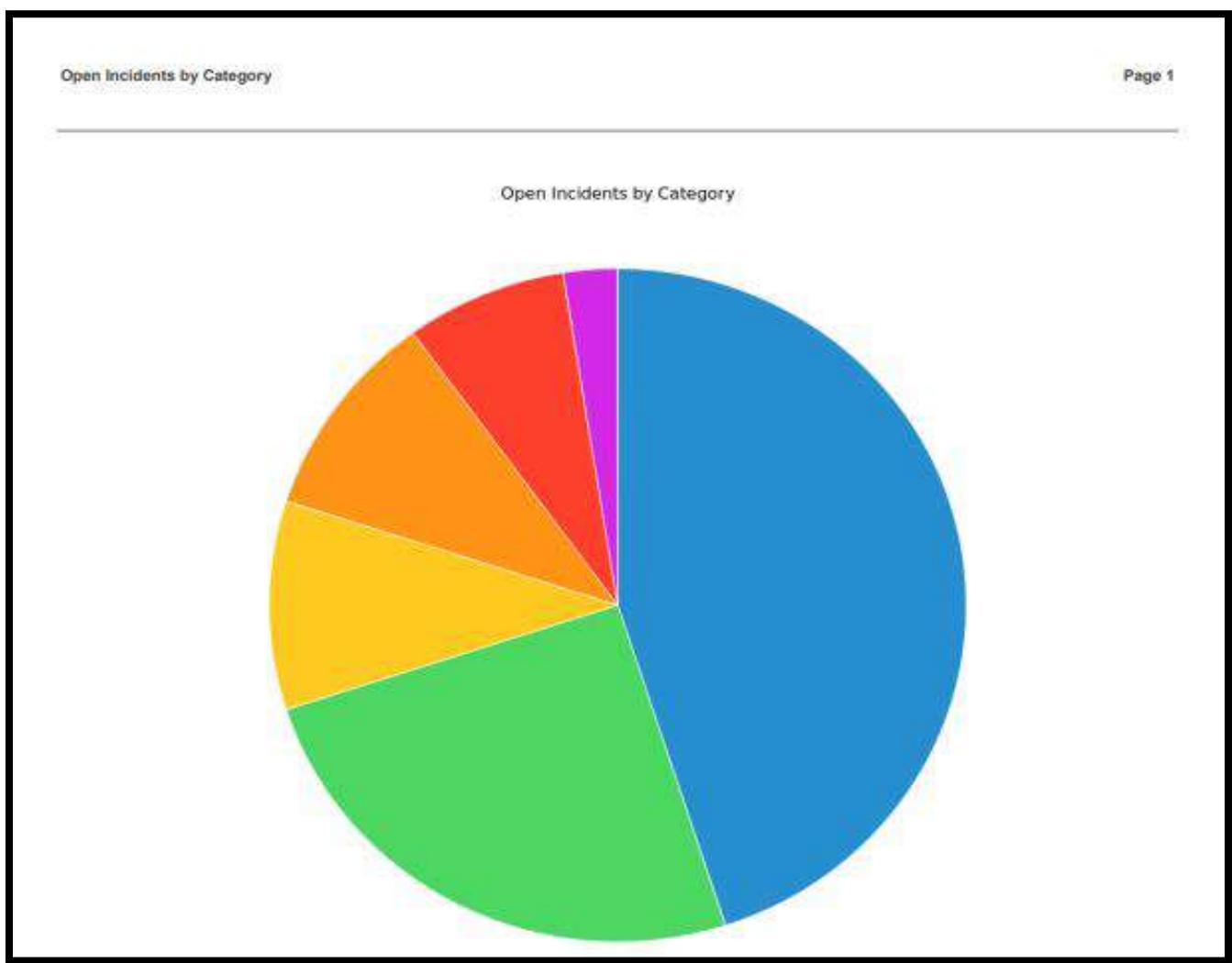


4. Orientation: Portrait

5. Click on **Export Button**



6. Click on **Download** Button



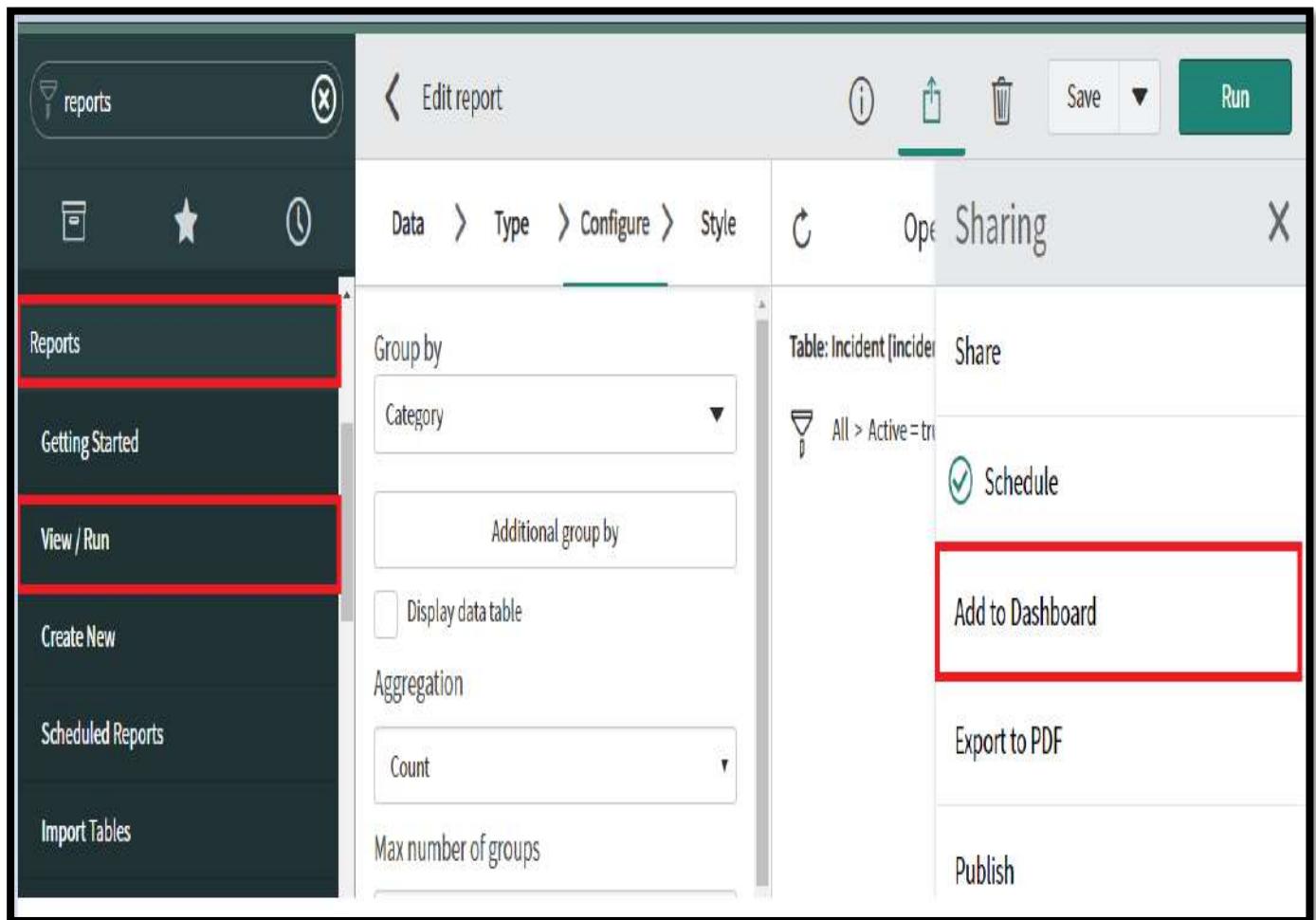
7. Check the result in **PDF File**

## Report add to Dashboard

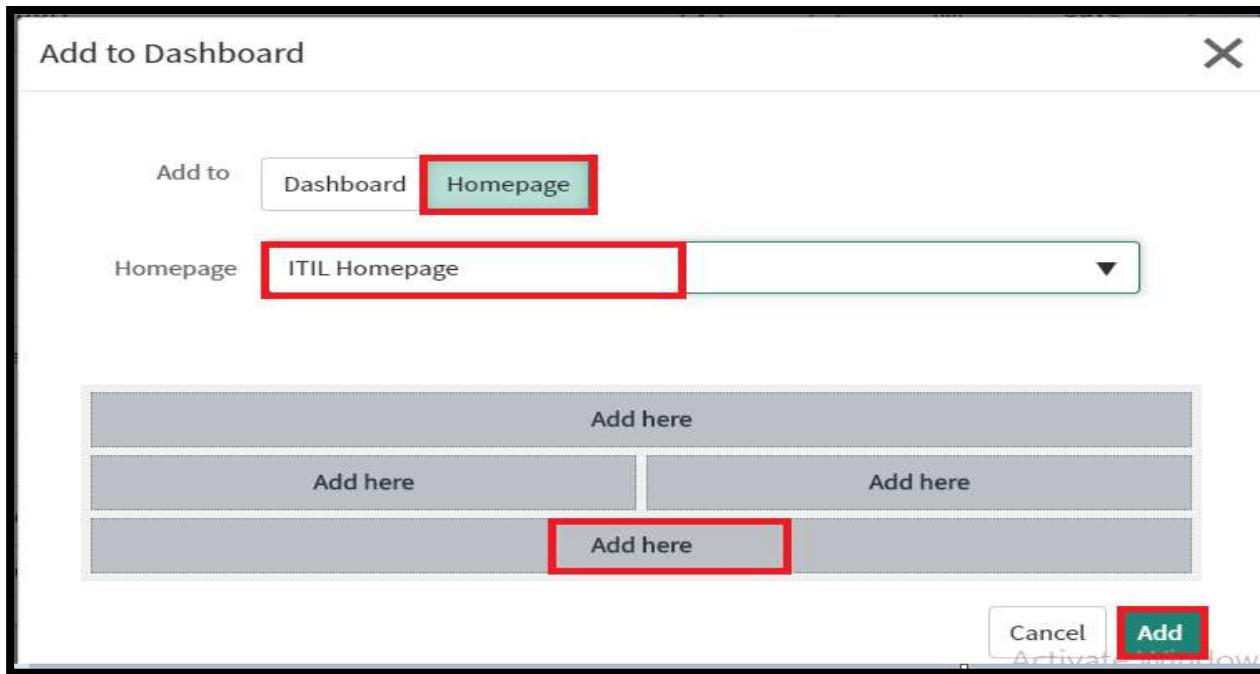
We are going to add a report to our dashboard for self-service, itil, admin interfaces

### Procedure

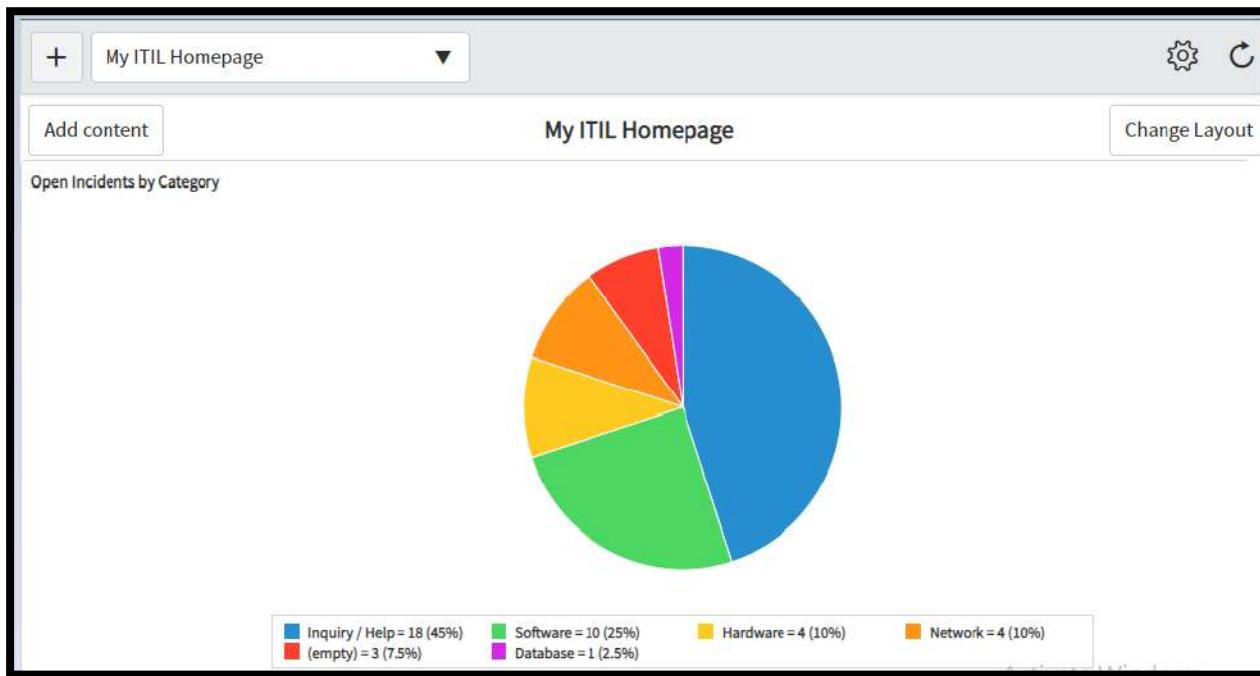
1. Navigate to **Reports > View/Run**
2. Select report to add your **Dashboard**
3. Click on Add to **Dashboard**



4. Select **Home Page** tab
5. **Home page:** ITIL Home Page
6. Click on **Add Here**



7. Click on Add Button



Second Edition release soon...