SERVICENOW WEEK – 1

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Introduction:

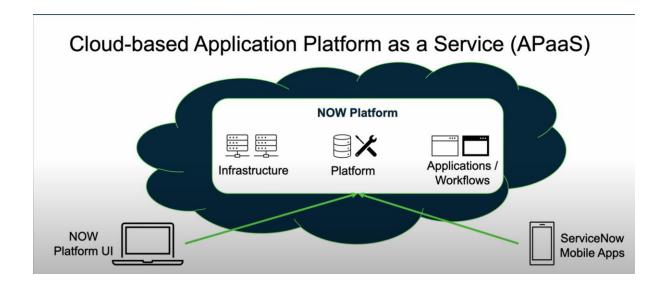
- → ServiceNow was founded in 2003 by Fred Luddy, Initially it was named GlideSoft but the name was later changed to ServiceNow.
- → Fred throughout his career observed that there were many situations where the IT professionals made business people look foolish and this caught freds attention and led him to think about solving this problem.
 - What if IT services were designed and delivered in a way that allowed businesspeople to solve business problems themselves?
 - Is it possible to build a platform where interacting with IT services is intuitive, well-delivered, and enjoyable to work with?



- Department to the cloud and say goodbye to the IT guys of the world!
- → Fred built a platform where business people can solve business problems themselves.

→ Definition :

Servicenow is a software company founded by Fred Luddy in 2003, to solve problems that large enterprises face with IT Systems, by offering a easy-to-use, cloud based platform where business people can solve business problems themselves.



→ The NOW Platform provides infrastructure, platform and workflows, where business people can use the platform using their PC's or mobile devices.

Infrastructure

 Compute Resources: Datacenters, racks, servers, ports, network resources, fans, etc.



- **Security**: The platform is secured via multiple technologies which have been certified by third-party security organizations
- Service Level Agreements: Paired datacenters provide redundancy and failover;
 Redundancy is built into every layer including devices, power, and network resources
- Backups: 4 daily full backups per week and 6 days of daily differential backups
 - → Infrastructure includes compute resources such as datacentres, racks, servers etc.
 - → It also includes security which is secured via multiple technologies.
 - → It emphasizes the use of paired data centres to ensure continuous service through redundancy and failover mechanisms, this also ensures backups.

Platform

 All applications (OOB and custom) for the entire enterprise are supported by a single, common, datamodel and database



- Ability to develop custom applications and workflows that integrate seamlessly into the platform
 - → It supports both out-of-the-box (OOB) and custom applications across the enterprise. It is supported by a single, common, data model and database to ensure consistency.
 - → Additionally, the platform enables the seamless integration of custom applications and workflows, if there's no workflow then business people can build one themselves based on requirements.

Applications / Workflows

ServiceNow comes with a robust suite of applications which are functionally categorized into 4 primary workflows:



- IT Workflows: Service Management (24), Operations Management (13), Business Management (10), Asset Management (4), DevOps (4), Security Operations (8), Governance, Risk, and Compliance (13), Telecommunications Network, Performance Management (3)
- Employee Workflows: HR Service Delivery (16), Workplace Service Delivery (10), Legal Service Delivery (10), Procurement Service Management (6), Safe Workplace Suite (1)
- Customer Workflows: Customer Service Management (29), Field Service Management (11), Connected Operations (4), Financial Service Operations (25), Telecommunications Service Management (24)
- · Creator Workflows: App Engine (15), IntegrationHub (8)
 - → NOW Platform includes wide range of workflows which are pre-built and ready to use.
 - → These are categorized into four primary workflows
 - IT Workflows
 - Employee Workflows
 - Customer Workflows
 - Creator Workflows
 - → These categories are divided into sub-categories and based on requirements business people can choose one, each sub-category contains multiple number of applications and if there's no application that matches, then you can create one.

ServiceNow Platform Overview:

- → NOW platform is an Application Platform as a Service(APaaS)
- → ServiceNow is completely cloud based
- → ServiceNow provides infrastructure, platform and application & workflows, where users can create their own application if any of the applications or workflows doesn't meet their requirements.
- → All applications for the entire enterprise are supported by a single datamodel and database.

Applications / Workflows Overview:

→ These Applications are categorized in to 4 categories IT, Employee, Creator, Customer.

IT Workflows	Employee Workflows	Customer Workflows	Creator Workflows
IT Service Management (24)	HR Service Delivery (16)	Customer Service Management (29)	App Engine (15)
IT Operations Management (13)	Workplace Service Delivery (10)	Field Service Management (11)	IntegrationHub (8)
IT Business Management (10)	Legal Service Delivery (10)	Connected Operations (4)	
IT Asset Management (4)	Procurement Service Management (6)	Financial Service Operations (25)	
DevOps (4)	Safe Workplace Suite (1)	Telecommunications Service Management	
Security Operations (8)		(24)	
Governance, Risk, and Compliance (13)			
Telecommunications Network Performance Management (3)			

→ These categories are sub-divided and has sub workflows

Now Platform Architecture:

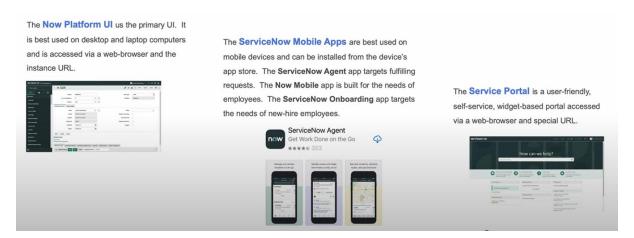
- → Servicenow is built on a multi-instance architecture, which makes it unique from other cloud platforms, if considered any other cloud platform most of them are built on a multi-tenant architecture where your data can be mixed with other companies, but servicenow provides complete different platform and database.
- → All servicenow datacenters are paired with another datacenter to provide redundancy and failover.
- → Servicenow provides 4 weekly full data backups and 6 days of daily differential backups. The entire platform is secured using multiple technologies.

→ Servicenow platform provides domains where it can separate all the data processes and administrative tasks .

Ex: Staff domain: only staff people can see the data

Marketing domain: only marketing people can see the marketing data

Now Platform User Interface:



- → There are 3 primary UI's, but the most used is Now Platform UI which is basically a web-browser used on desktops and laptops.
- → Second is Servicenow Mobile Apps which are used on mobile devices and there are 3 different apps to serve different functionalities. Servicenow agent app targets fulfilling requests, Now mobile app is for the needs of employees and Servicenow Onboarding is for the need of new-hire employees.

Role Based Access:

- → Not everyone in the organization needs access to all the information all the time, they only need some specific information. servicenow uses role-based access which gives users only the information that's needed.
- → A User is an individual that has access to an instance. Users can be assigned to 1 or more groups or multiple roles. A user with no roles is called self-service user.
- → A Group is a set of users who share same data and can be assigned multiple roles to a single group.

→ A Role in servicenow is a collection of permissions. A role can be assigned to an individual user, a group of users or another role. Multiple roles can be assigned to a single role.

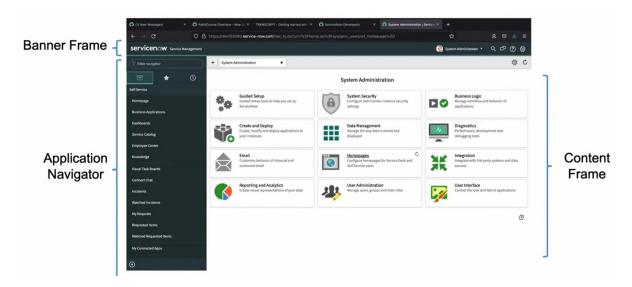
User Authentication:

When a user attempts to login to an instance, ServiceNow validates their identity and enables access to functions and data based upon their related groups and roles. The platform can support several methods of user authentication including:

Local database authentication	• OAuth 2.0
External Single Sign-on (SSO)	Digest Token
• LDAP	Multi-factor Authentication

- → When user tries to login to an instance, Servicenow identifies and enables access to functions and data based on their groups and roles.
- → A user can login using any of these authentications, Servicenow supports all these authentications.

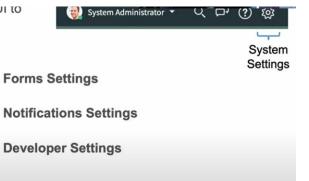
ServiceNow User Interface Overview:



→ In the banner frame all we have is logo, user menu, searching tool, chat, help and settings, each of them are used to do a particular task,

- → When clicked on servicenow logo it'll take you back to the homepage.
- → User menu provides profile, Impersonate user, elevate roles, logout options. Profile where we can edit our name, phone, email. Impersonate user where we can access to other roles, and it is only available to admin or user with impersonate role. Elevate roles to only available to admin it's a safety mechanism for high-impact actions.

system settings allows the user to customize the UI to their preference. Settings are grouped as follows:



Accessibility Settings

General Settings

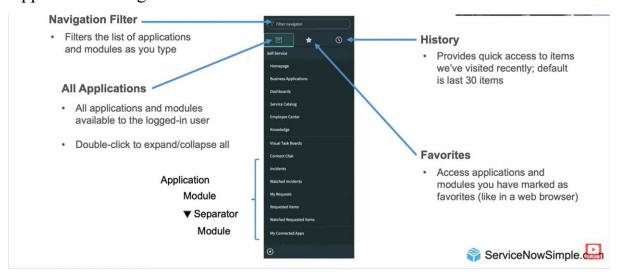
Theme Settings

- List Settings
- → Each of the settings are used to serve different purposes.
- → General Settings: Enable/Disable Compact UI and Keyboard shortcuts, set home link, homepage or dashboards and set time zone.
- → Theme Settings: Choosing a colour for UI.
- → Accessibility Settings: For setting accessibility access.
- → List Settings: Enable/Disable wrapping of long text in list columns.
- → Form Settings: Enable/Disable tabbed forms.
- → Notification Settings: Enable/Disable notifications and set notification types.

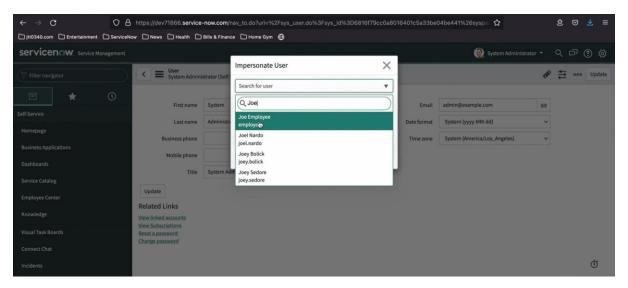
Developer Settings:

- → Select Application and Update set.
- → Enable/Disable Application Picker and Update set picker.
- → Enable/Disable Java script log viewer.
- → Enable/Disable Automated test framework page inspector.

Application Navigator:

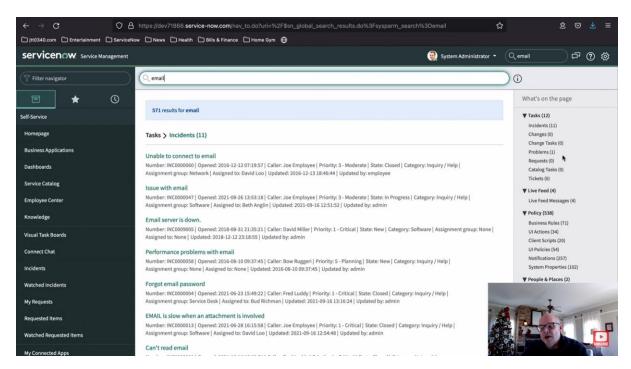


- → Application Navigator is the sidebar which is in the left and we use it to get any where into servicenow.
- → There is a navigation filter which is very useful, by entering keywords we can access it, instead of searching it and wasting time.
- → All Applications is where we have everything and also each application has one or more modules.
- → If frequently visiting those applications we can add it as favourites and quickly navigate to it, and history shows us what all we have done.

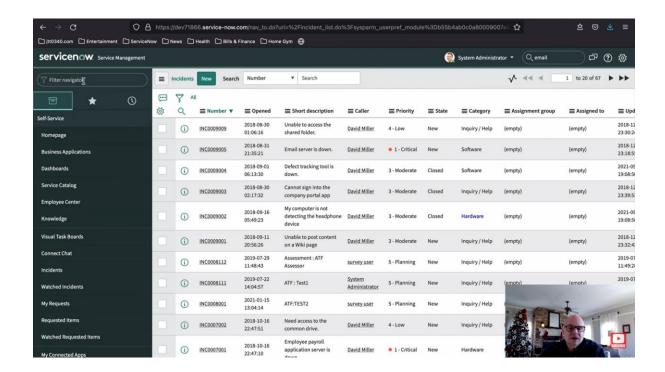


→ This is how we use impersonate user, we can access other persons view, just by searching their name.

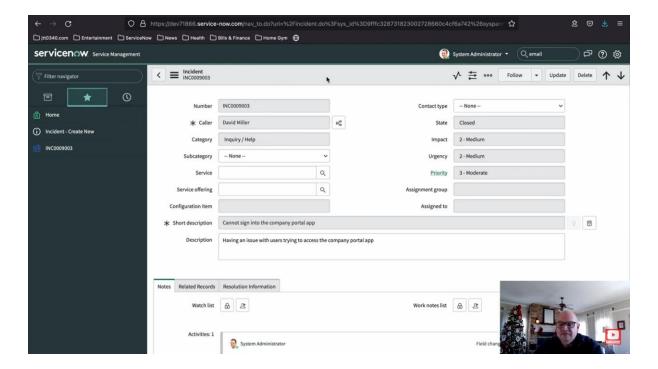
→ Can chat with any of them by just typing their name and sending it.



- → By searching we can find everything related to that, and it also categorizes them as tasks, live feed, and also makes it easier to understand it.
- → There are many applications and services, so filter navigator makes it easier just by entering a key word it displays required application.



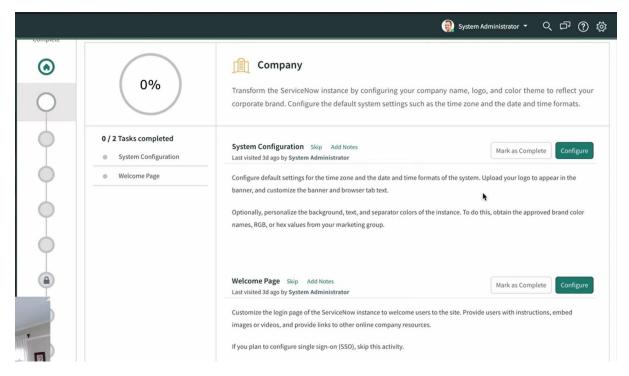
- → This is an example if incidents, an incident in servicenow is a record created to document and manage disruptions. It is a key component of the Incident Management process, which is designed to restore normal service operations as quickly as possible and minimize the impact on the business.
- → The information displayed shows everything, which includes when it was created, a short description, priority, state, category, group.
- → By dragging it by clicking on the incident number we can add it as favourite.



- → This is how an incident looks, where we can edit the information and it also shows records related to it.
- → Incident Workflow: The incident workflow typically starts when an issue is reported by a user. The incident is logged in the system, categorized, and prioritized based on the urgency and impact. It is then assigned to an appropriate team or individual for resolution.

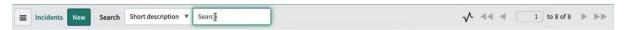
ServiceNow Branding Overview:

- → Branding in ServiceNow refers to the customization of the platform's user interface (UI) to reflect an organization's brand identity.
- → This involves modifying the look and the ServiceNow instance to align with the company's colours, logos, fonts, and other visual elements.
- → Branding enhances user experience by providing a familiar and consistent visual environment across the platform.
- Guided Setup provides a System Administrator step-by-step instructions to configure various Applications and Modules within your instance to suit the needs of the users.
- To access Guided Setup, locate the Guided Setup application in the Application Navigator and select the ITSM Guided Setup or ITOM Guided Setup module.
- ITSM Guided Setup includes the following categories: Company, Connectivity, Foundation Data, CMDB, Incident Management, Major Incident Management, Problem Management, Change Management, Service Catalog, Knowledge Management, Continual Improvement Management, Project Communication, Go Live
- ITOM Guided Setup includes the following categories: MID Server, Discovery, Event Management, Operational Intelligence, Cloud Provisioning and Governance
 - → For enhancing UI we need to navigate to guided setup and select ITSM(Information Technology System Management) which includes many categories where we can enhance user experience. Below image is represents ITSM.



ServiceNow Lists and Filters:

- → Lists and Filters in ServiceNow are fundamental components that help users view, manage, and interact with data efficiently.
- → Lists display records from a table in a tabular format, allowing users to view multiple records at once. Each row in a list corresponds to a record, and each column represents a field in that record.
- → Lists are customizable, such as the ones where a user has to choose which columns to display, their order, and sorting criteria. Any such customization could later be reused.
- → Using .lis command we can navigate to the table we need, task.lis gives us task table and can go through other tables as well by entering keywords.

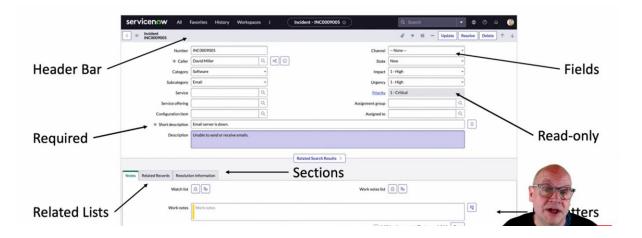


- → In the list controls we have view, filters, group by, show, refresh and create favourite tools.
- → By using them we can access data with as many as filters we can, and also apply multiple filters at a time.

- → Users can personalize their lists by adding or removing columns, creating filters, and saving these views as personal or global.
- → When a filter is applied, it appears as a breadcrumb trail above the list, allowing users to see which filters are active and remove them easily.
- → Users can combine multiple conditions to create complex filters using logical operators like AND, OR.
- → Filters also has a option for visual representation, pie and bar chart are available, just right click on the header and select any of the visualization and you'll be able to see visual representation of that column in detail.
- → Checkboxes allow multiple records to be selected at a time, at the bottom there are some group of activities which we can perform using these selected data.

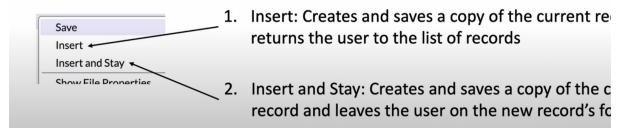
Forms in ServiceNow:

- → Forms in ServiceNow are the primary way users interact with data. They provide a structured interface for entering and managing records within tables.
- → There are many different forms in servicenow, but these forms have similarities such as header, fields, sections, lists. Below image shows that in detail.



→ There are 4 types of form fields, they are string field, Boolean field, choice field, reference field.

- → Some fields are dependent on other fields. If State = onhold then Onhold reason is mandatory and when the state is different then this Onhold field is hidden.
- → Saving the changes in servicenow is mandatory, changes are not automatically saved here unlike other cloud operators. User must update or save the changes he made.



→ Forms in servicenow provide another feature of copying the current record, there are 2 options Insert, Insert and Stay. Insert creates a copy and returns to the list of records where as Insert and Stay creates a copy and leaves user on the new records form.



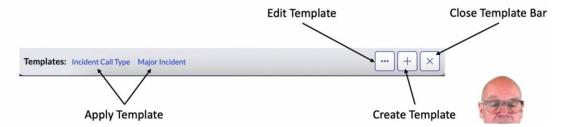
→ Form Related Lists is a special form element that displays a list of records from another table that is related to the current record.



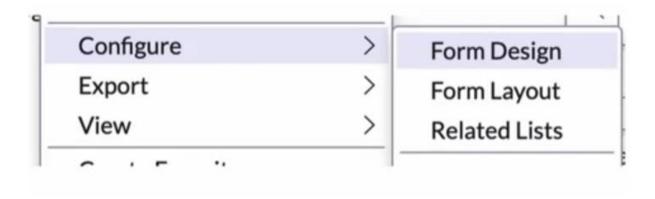
- → Form View is one more interesting feature in forms, user can change the views according to his requirements and can also personalise them.
- This is personalise symbol, when clicked on this it displays all the available fields and when selecting on them user can customize according to his view and can also reset by clicking on reset button.
- → The symbol left to the personalize is attachments, by clicking on that user can attach files to that particular records and after attaching multiple files there a checkbox where user can select and remove.

Form Templates

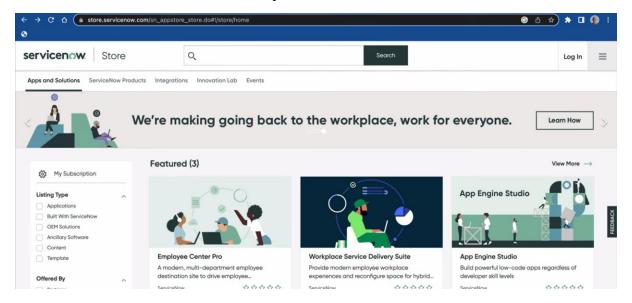
The template bar provides shortcuts to apply, edit, and create templates for the current form.



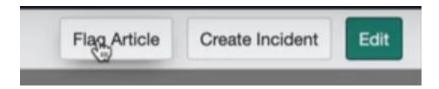
- → Form Templates in ServiceNow are sets of data that can be quickly filled into certain fields of a form through the predefined structures given by ServiceNow.
- → These tools allow users to save time by letting them automatically fill out form fields with default values of their choice, hence, employing consistency and error-free operations.
- → Besides being useful when you fill out the form automatically, they are great when you want your workflow to be repetitively because it is incomparable with other techniques to do the same.
- → Creating and editing form views, the tools exist for creating and managing form views, both are available from the context menu.
- → The Form design tool provides a drag and drop GUI method of creating views and laying out sections and fields.
- → The Form Layout tool provides a simpler method of creating views and adding and also removing fields.



→ If user needs an application and he doesn't find it in all applications field, so as we know that we can create one and also there's **ServiceNow Store** which is kinda similar to Appstore and playstore where it has numerous IT applications within that user can choose one based on requirements.

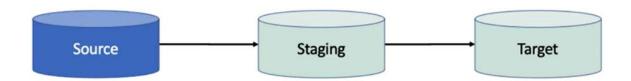


- → A List displays multiple records from a database table and From is a display of a single record.
- → Knowledge Management in ServiceNow is a module that enables organizations to create, share, and manage knowledge articles within the platform.
- → It provides a centralized repository for knowledge articles, making it easier for employees, customers, and stakeholders to access information, solve problems, and make informed decisions.
- → We can also flag the article, if there's any inappropriate information provided, and can also make an incident and assign it to someone.



- → Users can provide feedback on articles by rating them and leaving comments. This feedback helps identify the usefulness of content and areas for improvement.
- → Access to knowledge bases and articles is controlled through user roles, groups, and permissions.

Importing Data in ServiceNow:

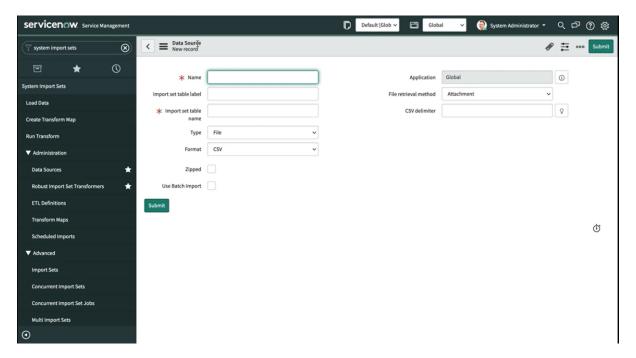


Three data entities involved in a ServiceNow import

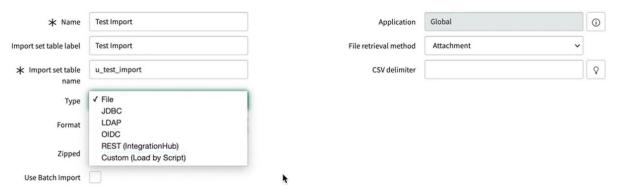
- → There are three data entities involved in ServiceNow import. They are Source, Staging and Target.
- → In ServiceNow, the import process introduces an intermediary data entity between those two steps called as Staging but servicenow calls it as import set table. ServiceNow creates it automatically.

Creating a Data Source in ServiceNow:

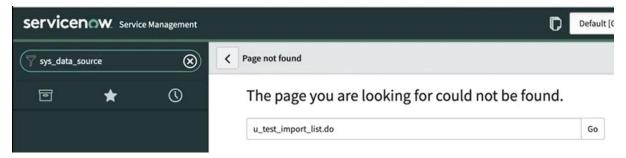
→ To create a data source in ServiceNow firstly we need to navigate to data sources manually or we can type sys_data_source.list in application navigator and it shows data sources.



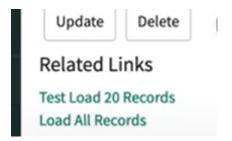
→ We can create one by clicking on new and this appears, we can select all these according to requirements and by save them.



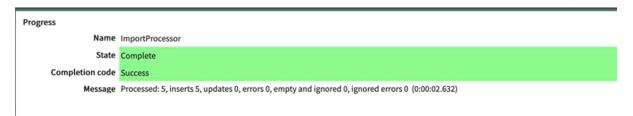
- → These are all the types that we can select.
- → After creating data source we can attach files, we can only attach when we choose file types and can upload CSV, XML, JSON, and Excel(.xsl)
- → After attaching the file and when we try to open that table by typing u_test_import.list ServiceNow says that there's no match, this is because we haven't yet imported it.



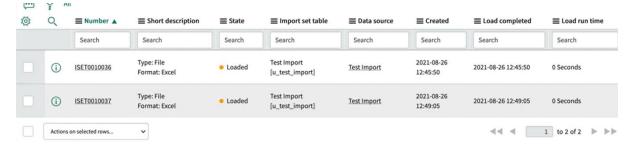
→ We must import and load the data, in the data source we can load by clicking on load all records.



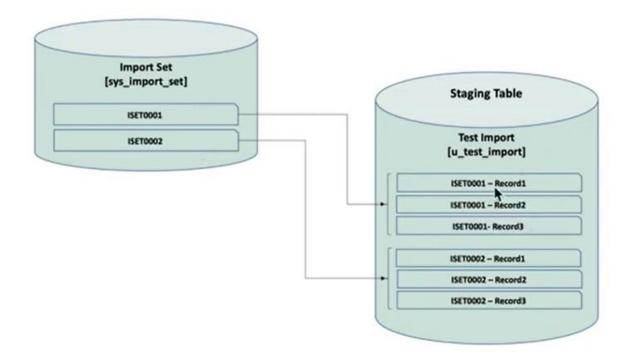
→ Once clicked on Load All Records, ServiceNow display message, it shows successful.



- → Now when you open the record it displays the data.
- → If the data is loaded twice then it will display the data 2 times, we can also check how many times did we loaded the dataset and also displays type, format, data source and time.
- → Typing sys_import_set.list displays import sets

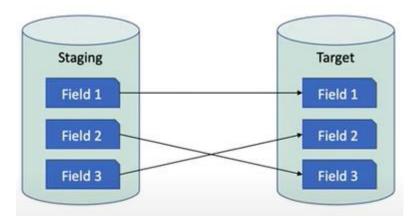


→ Below is the image which shows how the import set work in import set tables. Stagging table refers to import set tables in ServiceNow.



ServiceNow Transform Maps & Field Maps:

→ In ServiceNow, **Transform Maps** and **Field Maps** are related to the data import process, specifically in the context of transforming and mapping data from external sources into ServiceNow tables.



- → Above image is shows how field maps work.
- → For navigating to field records the command is sys_transform_entry.list, this command displays the field records.
- → For Transform Maps Table the command is sys transform map.list.
- → The target table is the ServiceNow table where data will reside after transformation, such as the Incident, Change Request, or CMDB tables.
- → Field Maps are individual mappings between fields in the import set (source) and the target table. They define how each source field's data is transformed and inserted into the target table's field.
- → There are two main types of field mappings: **Direct Mapping**, where source and target fields match directly, and **Scripted Mapping**, where custom scripts are used for more complex data transformations.
- → Transform Maps support various scripts, such as **onBefore**, **onAfter**, **onStart**, and **onComplete** scripts, to manipulate data during different stages of the transformation process.

- → The data transformation process starts with loading data into an import set table, followed by using Transform Maps to move data to the target table, applying any necessary data conversions or validation rules.
- → Scripted field mapping involves writing JavaScript code to apply custom logic during the field mapping process. This is useful for concatenating fields, changing data formats, or implementing conditional logic.
- → Always test Transform Maps in a sub-production instance to avoid data corruption. Ensure that scripts are well-documented and that error handling is in place for custom scripts.
- → ServiceNow provides options for debugging Transform Maps, such as the "Transform History" module, which shows logs and errors encountered during the data transformation process.
- → Transform Maps can be scheduled to run periodically, allowing for regular data synchronization between external data sources and ServiceNow.