

Overview ServiceNow Platform

ServiceNow Platform is an Application Platform-as-a-Service. That's to mean the platform lives in the cloud. Companies no longer have to buy and manage the equipment necessary to host these applications.

The basic offering for its customers is that ServiceNow uses an advanced, multi-instance, single tenant architecture, meaning that an instance hosts an individually isolated database containing data, applications, and customizations.

ServiceNow delivers services to its users from a configurable web-based user interface, built on top of a flexible database schema.

- The Platform and the applications that run on it utilizes one system of record to consolidate an organization's business processes.
- The Platform integrates with other enterprise systems and supports a wide variety of plug-and-play applications.
- ServiceNow Provides a platform upon which you can build custom applications.
- All ServiceNow Data Centers are paired with another datacenter to provide redundancy.

Redundancy is built into every Layer including devices and network resources

- Backups & Security - Servicenow provides 4 weekly full data backups and 6 days of daily differential backups. The whole platform is secured using third party security organization

Authentication in ServiceNow

When a user logs in to an instance, Servicenow validates their identity and enables access to applications and modules based on their roles and groups. It uses

1. local database authentication
2. External single sign-on(SSO)
3. Multi factor authentication
4. Digest Token
5. OAuth 2.0



Types of Instances

Production Instances are living, used for the actual running of business processes, contain real-time data, and as such are business-critical to daily functions.

Non-Production Instances comprise all other uses, which include:

Development: This is where one builds and codes new features or applications.

Testing: Testing of new configurations and updates before they will be deployed to production.

Quality Assurance: To ensure that changes meet quality requirements.

2. Personal Developer Instance (PDI)

A Personal Developer Instance (PDI) is a free instance offered to developers for:

Learning: Practicing on the ServiceNow platform

Experimentation: Trying out new ideas or customizations

Application Development: Developing and refining applications

3. Hosting and Availability

Load-Balanced Instances: Most instances are hosted in one of ServiceNow's global data centers, which have load-balancing for reliability and performance.

Onsite Instances: This can only be for an insignificant portion of customers in their premises.

4. Instance URL

Each ServiceNow instance has a unique URL following the format:

`https://<instance name>.service-now.com`

User, Group and Role in ServiceNow

1. User in ServiceNow

A "User" in ServiceNow is any user who interacts with the platform. Employees, customers, partners, or any stakeholders that could potentially require ServiceNow's functionalities are users. Users are stored in the `sys_user` table .

2. Role in ServiceNow

A "Role" in ServiceNow is a collection of permissions and access rights that define what a user may or may not do in a given platform. Roles are typically assigned based on a user's job or responsibility. They are kept in the sys_user_role table. There are a few roles in ServiceNow, including ITIL user, ITIL admin, and many more; it also allows the administrator to create custom roles suited to the specific needs of the organization. Roles control access to applications, modules, records, and other system features.

3. Groups in ServiceNow

Groups in ServiceNow are collections of users who share common characteristics or belong to the same organizational unit. They also simplify user management since roles, permissions, and other settings can be assigned to multiple users at the same time. Groups are useful for role assignments, access controls, notifying, and collaboration. They are stored in the sys_user_group table.

ServiceNow User Interface Overview

There are three parts

1. Banner Frame
2. Application Navigator
3. Content Frame

Content Frame: The Content Frame is the main area in the ServiceNow interface where the content related to the selected application or module is displayed. This is where users interact with forms, lists, dashboards, reports, and other data.

Banner Frame Contains: Company Logo , Navigation Menu, Global Search Bar, Discussions sidebar(chat tool) , Show Help, Notifications and User Menu

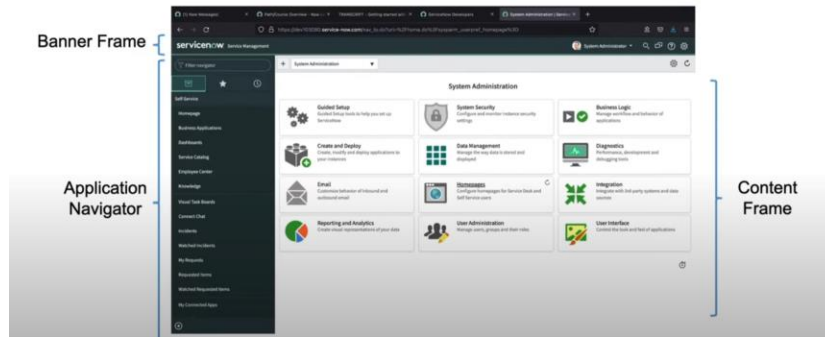
Important Things in User Menu

1. Profile - shows the profile of current user
2. Impersonate User - used to login and assume the identity of another user
3. Elevate Roles - Available to only base admin to elevate his role to security_admin

System Settings - allows you to access and personalize some settings for your user experience in ServiceNow like themes, Display options, Time zone.

Global Search : Search the entire instance for records matching keywords

Help : Displays contextual help as available; a badge on the icon indicates embedded help is available, provides access to User Guide and documentation Search tool Discussions Sidebar (Connect Chat) - Chat tool for real-time messaging



Application Navigator

The Application Navigator in ServiceNow is a component located on the left side of the interface that provides a way for users to quickly access different applications, modules, and functionalities within the platform.

Applications are the Collection of files and data , they serve as the building blocks for delivering services such as IT, HR resource management , Service Desk etc .

Modules are the individual functionalities or operations available under each Application. We can Pin the Applications and modules to favorites for quick access

We can use the Favourites to mark the application that we frequently use and have quick access to it. We also have a History option to look at our recent actions. Default is last 30 items we have accessed

Branding In ServiceNow

Customization like changing logo, company name can be done using the system properties

ALL - System Properties - System Configuration - Set timezone,date, color

ALL - System Properties - My Company - UI Banner - logo - Banner Text

All the properties are a table in servicenow so these properties come under sys_properties table

To locate all the system properties

All -> sys_properties.list glide.polaris.next experience - it is used to enable or disable next experience unified navigation in platform

Tables and columns in ServiceNow

Sys_db_object - table used to store information about all the tables in servicenow

Sys_dictionary - table used to store information about all the fields of all the tables in servicenow

Sys_documentation - tables used to store all the field labels in servicenow

The System Dictionary in ServiceNow is a core component that defines and manages the structure of the database tables and their associated fields. It acts as a central repository where information about the

database schema is stored, including the definitions of tables, fields, data types, and relationships between tables.

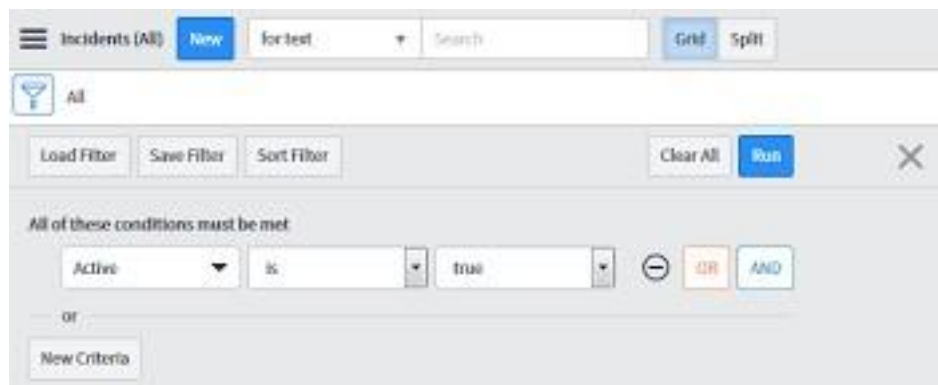
The System Dictionary contains the definition for every field from all tables in the ServiceNow instance. All > System Definition > Dictionary to access the system dictionary to modify table and field attributes. All > System Definitions > Tables or All > System Definitions > Tables & Columns to review or create new tables

Lists In serviceNow

Lists in serviceNow are a type of interface that displays a set of records from a table in a grid or tabular format. Lists provide a way to view, filter, sort and interact with multiple records at once.

Table_name.list is used to display the list view of a table. Table_name.LIST opens list in new table . The List Header contain many useful things to perform action on list

1. List Controls
2. Filter Lists
3. Table Search bar
4. Personalize Icon



List Views in ServiceNow

1. What are Views?

Views in ServiceNow offers users to view the same list or form in several formats. System administrators can create as well as configure different views both for lists as well as forms based on specific needs.

2. Creating a New View:

To create a new view:

Browse to List Layout Configuration:

Open the Control Options Menu.

Select Configure → List Layout.

Define the View:

Click Select the fields to include in the List Collector Scroll down and click a view you wish to modify or select a view to create new One. Click New Add a name for the view. Click Save Accessing the New View: Go to the List Control Menu Click Views to open the menu listing all available views. 3. Creating a Classic List View Access the Table Configuration:

Go to All → System Definition → Tables → Incident.

Add a New Column:

Click the Incident table.

Go to Columns and click New to add a new column.

Add a New View

Click the column header.

Go to Column Options → Configure → List Layout.

Use the List Collector to add, remove, and order columns you want in your view

Change your view from Default to your new view.

Name the view and save it.

Looking at the New List:

Go to List Controls → Views

Click the name of your new view

4. List Collector

Available Items: Tables that have a green plus sign display related tables

Dot-Walking: Accessing related table fields through dot-walking

Select the list collector When the column you want can't be found in the current table but is known to exist in a related table, select a table in the list collector.

Select dot-walking or "Expand Table Reference Fields" to see and add the column you need End.

Filters in Lists

1.Filters in ServiceNow allow you to create conditions that can be added to a table list, effectively filtering down the data to a specific subset. Filters comprise of three key components:

Field: This is a choice list based on the table and user access rights. Fields from related tables are also taken in through dot-walking.

Operator: This is a dropdown list that depends on the field type. In the incident table, the greater than operator will apply to the field of Priority but will not apply to the field Active.

Value: The value can be a text entry field or a choice list; it depends on the type of the field being filtered.

2. Saving filters to Favorites

To add a filter to Favorites so that you can access it in the future:

Access Filters:

Open the list view

Click the List Controls icon.

Create a Favorite:

Click Create Favorite

Saving the Filter:

Open the classic list, click Run to see the filter result.

Click Save to save the filter

A new field will appear where you can name the filter.

After naming, you need to choose who can see this filter; for example, only you or someone else.

Click the Save button next to the name and visibility options.

The filter will then be available from the Filters option on the list context menu.

3. Breadcrumbs

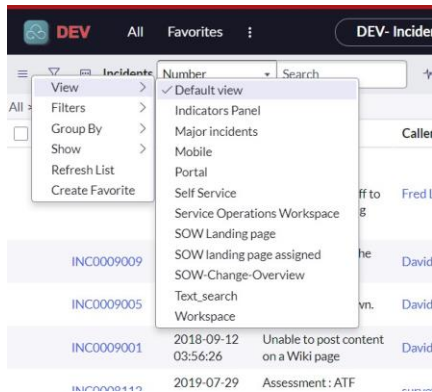
This functionality of Breadcrumbs: Breadcrumbs are offered as blue text along the top of the list. They summarize all the conditions in that filter. It is a quick summary of the criteria used within the filter. And you can modify these conditions.

Changing Conditions:

To change conditions, click the greater than sign preceding a condition which you want to remove that individual filter condition.

Upon clicking any breadcrumb, all the subsequent conditions that have been applied are cleared, and the management and fine-tuning of data view become easy and prompt.

The proper use of filters and breadcrumbs will help you fine-tune your list's data display in ServiceNow in order to fit your needs to streamline work.



Context Menus in Lists

In ServiceNow, lists give users immediate access to a range of actions that can be taken on list items (records), or on the list itself. Three categories of context menu are distinguished.

Functionality: Provides options for showing and searching the entire list. This menu gives the user control over how the list should be presented and what actions can be taken against the list.

2. Column Options Menu

Availability: Hover over the column title to view the button on which three dots appear. Click on the button.

Functionality: Displays column-specific actions, which include:

Quick Reports Creating : Create reports based on the data contained in the column.

Configure List: Change how the list looks or is set up.

Export Data: Export that column of data in different formats

3. List Field (Right Click) Menu

Accessibility: Access this menu by right clicking inside a list row cell

Functionality: It provides actions regarding the values in that particular cell, like:

Filtering : Filter, depending on the value of that cell

Assigning Tags : Add tag or label to the record of that cell.

Other Activities: Perform other activities depending on the application context of the cell data.

Other Comments:

Layout Settings for List Layout: Also accessed from Column Options menu. This allows system administrators to establish list layout, which is automatically applied to all users. Configuration may include addition of columns or deletion of columns, altering the position of columns, and so forth.

List Control Configuration: It is used to control the UI of the list, which includes how the user views a list and their corresponding interactions with it.

These context menus improve the user experience because they allow access to all basic actions and configurations directly from the list view.

Forms in ServiceNow

A form in ServiceNow is a method of displaying and editing fields on a form of one record. The specific detail that you can view in the form depends on what type of record you are viewing. There are three primary context menus on forms:

Form Control Menu / Additional Actions

Access: Click the Additional Actions menu, which is usually represented by a gear icon, located in the top-left corner of the form.

Functionality: This menu allows to customize the layout of the form, get form specific actions, and more.

2. Field Context Menu

Available by right clicking on the any field of the form

Functionality: This allows all related activities for the particular field such as edit field properties, add or remove data and more field-specific options

3. Related List Menu

Accessible through: Found in the related lists section at the bottom of the form.

Functionality: Lists functions that you can apply to work with associated records, such as to add associated records or to view associated records.

Forms Setup

1. Adding New Fields to a Form

You can add new fields to a form in three general ways:

a. Adding new fields using Dictionary Fields

Go to: All → System Definition → Tables.

Select the table that you want.

Scroll down, click Columns, and click New.

Fill out the dictionary form and save the new field as a new column.

b. Adding new fields using Form Layout

Navigate to the table list : All → table_name.list

Choose any record in that table.

Go to the Additional Actions menu (at the top-left side).

Choose Configure → Form Layout

Scroll down to the section Create new field and add the new field here

c. Using Form Design

Note: Dot-walking can not be used here.

Adding Fields Available fields from a table can be added; new fields can't be added directly via the Form Design.

Drag-and-Drop: Fields can be reordered by dragging and dropping fields in the form. Fields can be dragged from the Fields tab or the Field Types tab.

Form Design Considerations

Access to Configuration: When accessing Configure → Form Design, the Form Designer opens in a new tab.

Scope Problems: When trying to make changes and the form goes red, it means you are not in the correct application scope.

By utilizing these methods, the administrators are able to customize and configure forms based on specific needs for enhancing the user experience within ServiceNow.

ServiceNow Notifications

ServiceNow uses a notification to provide alert a user of any particular activity or event happening in the system, for instance, updates of a new incident or change request. There is no need for scripting knowledge, and notifications happen according to events. There are a plethora of ways through which a notification may take place via an email, SMS, and even meeting invitations.

Notification Methods

Email

SMS

Meeting Invitation

Email Notifications

Objective: Email notifications are sent for some system activities, such as an update in an incident or a change request.

Accessing notification records,

Go to: All → System Notification → Email → Notifications.

Viewing notifications,

Go to: All → System Mailboxes → Outbound → Outbox.

Right click on the date and click on preview email to view the content of a sent notification. Email Notifications Creation,

Go to: All → System Notifications → Email → Notifications → New.

fields to fill in

When to Send: Clearly indicates when the alert ought to be sent. There are few options:

Record inserted or updated

Event is fired

Triggered

Who to Send: Specifies who to send the notification

What It Will Contain: States what will be in the alert.

Recipient Limits:

The default message is sent to up to 100 recipients. If the number of recipients exceeds 100, then it will send multiple messages (for example, to 1000 recipients it will send 10 different messages).

You can change the recipient limit by changing the system property `glide.email.smtp.max_recipients`.

These notification methods and the settings would make communication with your users relevant and at the right time according to their needs and actions of your system.

ServiceNow Email Layouts

Email layouts are the HTML contents contained in the body of one or more email templates. You can use the system provided sample layouts, or you can create your own by entering an inline HTML editor or directly inputting the HTML code.

How to access and create Email Layouts

Navigation: Email Layouts

Go to: All → System Policy → Email → Layouts.

The email layouts are stored in the `sys_email_layout` table.

Creating or Modifying Email Layouts:

To create a new email layout or to modify one, you use the inline HTML editor or insert the HTML code directly.

Applying Email Layouts to Templates

Step 1: Accessing Email Templates:

First go here: System Notification → Email → Templates

Here you will have all the created so far email templates.

Choose an Email Template:

You can choose any email template that you would like to change.

Apply the Email Layout:

In the Email Layout field: Select the layout you want to use to format the body of your email.

Update Template:

Click Update to apply the selected email layout to the email template. Configuring email layouts allows administrators control over the presentation and format of emails generated by ServiceNow. Communications are then nicely formatted and follow the guidelines that govern your organization's communications end.

Knowledge Management

KM involves creation, sharing, viewing or knowledge articles that are used to provide information to self users and process users for their day to day works.

Knowledge Base contains Categories , Categories Contain Knowledge Articles

To view knowledge articles

ALL - self-service - knowledge

ALL - Knowledge - Homepage - opens workspace containing all the Knowledge bases

ALL - Knowledge - All - open table containing all the Knowledge Articles

We have to have a role of Knowledge , Knowledge_admin, Knowledge_manager to access KA

Creation of New Knowledge articles the cycle is

1. Draft a article
2. Sent for approval Manager
3. Publish the article
4. Get feedback and rating
5. Retire the article
6. Sent for Approval
7. Article is retired

The Knowledge homepage displays knowledge articles organized by Knowledge Base and Category. An article can only be associated with one knowledge base.

From the homepage, users with the correct permissions can import a Word document to a Knowledge Base using the Import Articles button and create a new article by clicking Create an Article. Administrators can create multiple Knowledge Bases and assign them to individual managers responsible for controlling the behavior and organizational schema of each Knowledge Base

Knowledge management Guided setup is used to develop Knowledge Base for the organization

Service Catalog

In ServiceNow, the Service Catalog provides a centralized site that users can use to request services, products, or information from any other entity within the organization. Items in the catalog can range from IT services—such as requesting a new laptop or installation of software—to HR services, such as requesting time off or updating personal information. Service items can be customized with associated workflows, ensuring that each request is properly approved, validated, and fulfilled before completion. The Service Catalog allows grouping of items- for example, onboarding a new employee can incorporate a laptop, software, and access requests into one to make it easier for the end user. Catalog item-related forms and fields can be customized to capture the required information, such as justification or attachments. Catalog requests can be tracked in real time, enabling users to observe and receive notifications of their request status. Also, administrators are able to categorize and organize the catalog for easier perusal, and thus simplify the process for users looking for the services they need.

Tables and Fields

In ServiceNow, tables are the basic entities that store data, while fields define the structure of that data. Each table is designed to process a certain record type-specific incidents, changes, and/or users. There is a set of predefined tables within the system-the so-called base tables, such as incident, problem, or user tables-but administrators may create custom tables to cope with specific business requirements. The fields are the data elements within these tables. Each is of a specific type, such as string, integer, and date. Examples of fields on an incident table include "Incident Number", "Short Description", "Priority", and "Assigned To." ServiceNow has a large variety of field types. Some examples include reference fields, which link to other tables; choice fields, which appear as dropdowns; and calculated fields, whose values derive from other fields. Associations like one-to-many and many-to-many relationships, which may exist among tables, allow for thorough data modelling and provide greater functionality of the platform. For example, one user can be associated with multiple incidents, while one incident can be assigned to multiple tasks.

Access Control Lists (ACLs)

Access Control Lists (ACLs) serve as security mechanisms that stipulate the permissions of users regarding the viewing, creation, modification, or deletion of records within ServiceNow. Individual records or fields may be governed by distinct ACL regulations, thereby guaranteeing that confidential information is accessible exclusively to users with proper authorization. The concept of roles is integral to ACLs, as each user is allocated specific roles that determine their capabilities and limitations on the platform. For instance, Records can only be deleted by users of administrative role type, while ITIL users can update records on incidents but are not allowed to make any changes in the core configurations.

ACLs can be condition-based according to a user's role, department, or group membership. Scripted ACLs allow for finer-grained control by the developer and can restrict access.

Data Import in ServiceNow

Data import in ServiceNow imports data from external systems into the platform. You can use the data import feature for many use cases, including migrating, synchronizing, or refreshing existing records.

Core Data Import Concepts

Data Sources:

CSV and Excel Files: These are common file types for importing structured data.

External Databases: You can import data from any database you can access with JDBC.

Transformation Maps:

Purpose: Change Maps are to map the data from source files into the appropriate tables and fields within ServiceNow. This means placing data in the right place or updating it correctly in the platform.

Functionality: It allows you to define how a field in the source file is related to the field in ServiceNow as well as to apply transformations when necessary.

Scheduled Imports:

Feature: Scheduling imports: Administrators can set up imports to run at fixed, regular intervals. This ensures that data inflow from external systems is constantly refreshed.

Use Case: Useful for keeping ServiceNow data in sync with other external systems.

Error Logging and Data Preview:

Error Logging

The system provides ways to log errors that occur while an import is running. This then allows for diagnoses and possibly troubleshooting of issues.

Data Preview: Administrators can preview the data before importing so that accuracy can be validated. This helps in reducing the chances of importing wrong data.

With all these features, administrators can process data imports efficiently into the ServiceNow application, ensuring accurate, up-to-date, and minimally erroneous data.



CMDB Integration in ServiceNow

In ServiceNow, the CMDB is a central repository that contains detailed information relating to an organization's IT assets, including hardware, software, and networks together with their respective interrelationships.

Benefits of CMDB Integration

Synchronize Data on IT Infrastructure:

Purpose: CMDB integration enables an organization to integrate the data of ServiceNow with external systems. This is ensured such that all systems can have up-to-date, consistent information about IT assets and configuration items.

IT Environment View in Detail

Function: The integration of the CMDB provides an organization with real-time, holistic views of all IT infrastructure components involving hardware, software, networks, and their interactions.

Automatic Discovery and Updates:

Discovery Tools: ServiceNow has discovery tools that could scan networks and assets automatically, and any asset information identified could be updated in the CMDB. This decreases manual input and keeps the CMDB current.

Change and Incident Management Support:

Impact Assessment: The CMDB is a key information input that supports analyzing possible impacts on configuration items caused by changes or incidents.

Decision-making: Corrected data in the CMDB help in making informed decisions and effective management of changes for better resolution of incidents.

Enhanced Decision-making:

Data Integrity: CMDB helps organize data correctly, giving timely and accurate data, which is used when managing IT infrastructure and settling matters.

Because integrated discovery tools from ServiceNow join other related systems, organizations can maintain an accurate and holistic view of their IT environment. Decision-making becomes, therefore, improved and enhancement of the management of IT in general.

Events In ServiceNow

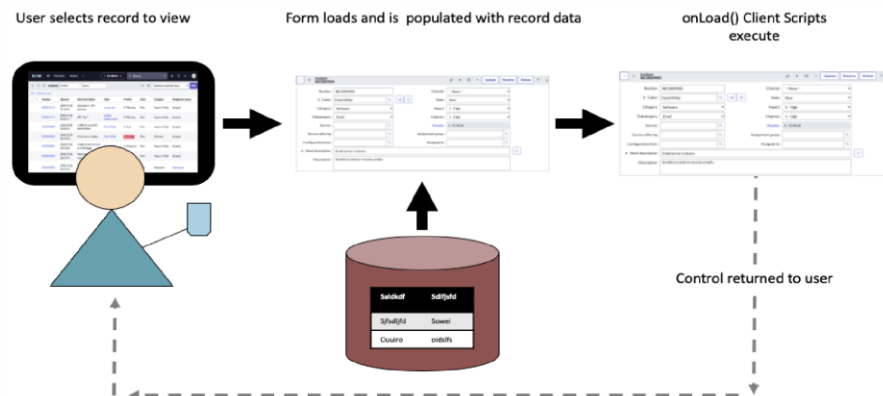
events represent automated notifications generated by the system that indicate a notable occurrence or alteration in the state within the platform, for instance, the creation, modification, or deletion of a record. Such events are activated by user interactions, workflows, or predetermined processes. The creation of events can be facilitated through Business Rules or Scripts, enabling administrators to establish particular triggers based on defined conditions. Events are further actions that may send email notifications, update records, or launch workflows, among other things. For example, an event might be created when a high-priority incident is created, sending an alert to the on-call team. In this way, event management becomes an important part of business process automation, and users receive notification or even undertake certain steps in response to key system changes.

Update Sets

Update sets in ServiceNow are the mechanisms for organizing changes across instances, such as moving from development and testing into production environments. Changes can include configurations like workflows, business rules, UI customizations, or new tables and fields. Update sets enable the administrator to collate these changes into a coherent, exportable unit that streamlines and systematizes the process of customization migration. When an update set is created, it can then be deployed to the target instance, ensuring that all related changes go live at the same time. Versioning of update sets is tracked within ServiceNow, allowing administrators to revert changes of an update set when necessary. However, especially with large implementations, any dependencies between multiple update sets should be managed properly in order to avoid issues while applying updates.

Scripting in ServiceNow

In ServiceNow, scripting is a powerful tool to customize and automate almost anything. The most important programming language used in the platform is JavaScript, first and foremost in client-side browser and server-side backend environments. By utilizing scripting, business rules, client scripts, and UI actions can be developed by the users, hence introducing complicated functionality or enforcing the business logics throughout the platform. For example, business rules can be scripted such that when the value of one field changes, another auto-populates, or an approval process triggers to complete. The Glide APIs allow users to leverage various functions to simplify scripting by providing easy access to the systems records, user data, and systems functionality. Scripting allows flexibility in moulding the platform to specific business needs, thus making it more adaptable for varied use scenarios.



CI Class Manager

The CI Class Manager in ServiceNow is a feature that allows administrators to manage the Configuration Item (CI) classes in the CMDB.

The CI Class Manager displays the entire CMDB class hierarchy in a tree-view format.

A CI Class represents a type of Configuration Item, essentially a table that collects specific data

A CI Class in ServiceNow is a category or a type of Configuration Item (CI) that shares common attributes and properties in the Configuration Management Database (CMDB). Each CI class represents a specific

kind of asset, component, or entity that an organization wants to track and manage within its IT infrastructure.

You can also select a specific class to view. For each class, you can directly access CMDB Health settings, identification and reconciliation rules, CI list, Relationship rules.

Basic Info: Displays details for the selected class, such as the display and table name, description, and class icon.

Role required: itil for reading, and itil_admin and personalize_dictionary for writing.

Attributes: Displays table attributes (columns).

You can edit those attributes and add new ones. It has All, Derived and Added types

Role required: itil for reading and itil_admin and personaloze_dictionary for writing

Detailed Overview

The ServiceNow Administration course provides a deep overview of the platform: from basic features and configurations to advanced level customization and automation techniques. The participants will master the very structure of ServiceNow-architecture, user interfaces, and task management processes- along with hands-on experience with data import, integration with CMDB, and scripting. Additionally, the course delves into practical aspects such as notification, knowledge management, and creation of custom applications. Ultimately, students will be prepared for the ServiceNow Admin exam and be proficient in solving real-life scenarios, hence being prepared for the certification and thus be fully capable of administering and enhancing ServiceNow environments

