**Module 1 - ServiceNow Platform and Development Fundamentals**

**What is ServiceNow?**

* Who: ServiceNow is a software company with over 17,000 employees globally. It's led by CEO Bill McDermott and was founded by Fred Luddy.
* When: Founded in 2003 as GlideSoft, it was rebranded to ServiceNow in 2006 and went public in 2012.
* Why: Fred Luddy created ServiceNow to simplify and improve the way IT services are delivered, enabling businesspeople to solve problems without heavy reliance on traditional IT departments.
* How: ServiceNow provides a cloud-based platform (NOW Platform) that supports IT workflows, employee workflows, customer workflows, and custom applications, all integrated into a single data model.
* Where: The company is headquartered in Santa Clara, California, with offices and data centers worldwide.
* Definition: ServiceNow is a software company that offers a cloud-based platform to help enterprises solve business problems by simplifying IT service delivery.

**ServiceNow Platform Overview and its UI:**

**1. Now Platform Architecture**

* Founder: Fred Luddy started ServiceNow in 2004, aiming to create a user-friendly platform that enables business users to solve their own problems without heavy reliance on IT staff.
* Platform Type: Application Platform as a Service (aPaaS) – ServiceNow offers a comprehensive cloud-based solution that combines infrastructure, platform services, and applications.
* Architecture: Uses a multi-instance model, meaning each customer has a separate instance of the platform. This ensures data isolation and customization specific to each organization.
* Backups: ServiceNow performs four full backups per week to protect data, ensuring that it can be restored if needed.

**2. Applications and Workflows**

* Workflows: ServiceNow organizes its applications into four main workflow categories:
* IT Workflows: Includes applications related to IT service management, operations, asset management, etc.
* Employee Workflows: Applications focused on HR and other employee-related processes.
* Customer Workflows: Applications designed to handle customer service and support.
* Creator Workflows: Tools for developing and managing custom applications and solutions.
* Applications: Each workflow category contains various applications tailored to specific business functions.

**3. User Interface Types**

* Now Platform UI: The primary web-based interface accessed through a browser, where most users interact with the platform.
* Mobile Apps: ServiceNow offers several mobile applications:
* ServiceNow Agent App: For fulfilling requests and managing tasks.
* Now Mobile App: Provides access to general employee functionalities.
* Onboarding App: Focuses on new employee onboarding processes.
* Service Portal: A customizable interface that allows organizations to build a user-friendly experience with widgets and personalized views.

**4. Role-Based Access and Authentication**

* Roles: Define what actions a user can perform within the platform. Roles are essentially collections of permissions.
* Groups: Users are often organized into groups based on their roles and responsibilities. Groups are assigned roles to streamline permission management.

**5. Setting Up a Personal ServiceNow Instance**

* Purpose: Having a personal instance allows you to practice and follow along with tutorials and exercises, helping you gain hands-on experience with the platform.

**Overview of the ServiceNow UI:**

**Banner Frame:** Runs across the top and includes:

* Logo: Click to return to the home page.
* User Menu: Access profile settings, impersonate users, elevate roles, and log out.

**Tools:**

* Global Search: Search the entire instance for records.
* Connect Chat: Internal chat tool for real-time communication with other users.
* Help: Provides contextual help and access to user guides and documentation.
* System Settings (Gear Icon): Customize user interface settings, including:
* General Settings: Compact UI, keyboard shortcuts, home page settings, date/time format, and time zone.
* Theme Settings: Adjust color themes.
* Accessibility Settings: Configure accessibility options.
* List Settings: Customize how lists display.
* Form Settings: Configure form display and performance.
* Notification Settings: Manage notification preferences.
* Developer Settings: Set preferences for development tools and frameworks.
* Application Navigator: The primary tool for navigation on the left side, featuring:
* Navigation Filter: Search for applications and modules.

**Tabs:**

* All Applications: Shows all applications and modules.
* Favorites: Quick access to frequently used applications or records.
* History: List of recently accessed items.

**Key Functions in the UI:**

**User Menu:**

* Profile: Modify personal information and settings.
* Impersonate User: View the instance as another user to troubleshoot issues.
* Elevate Roles: Secure high-impact actions by temporarily increasing role privileges.
* Log Out: Exit the instance.

**Tools:**

* Search Tool: Find records across the instance, with results categorized by type.
* Connect Chat: Communicate with users within ServiceNow.
* Help: Access contextual help and documentation.
* System Settings: Personalize your UI experience, including color themes, list and form settings, and notifications.

**Application Navigator:**

* Filter: Narrow down the list of applications and modules.
* Applications and Modules: Navigate through the top-level applications and their respective modules.

**Branding Overview**

**What is Branding in ServiceNow?**

Definition: Branding involves customizing the user interface to align with your company's corporate identity. This includes adjusting colors, fonts, logos, and other elements so that the interface reflects your organization's look and feel.

* **Purpose:**
* Create a Shared Identity: Make the ServiceNow interface feel like a part of your company's ecosystem.
* Enhance User Comfort: Users feel more at ease when the interface resembles other familiar company applications.
* Speed Adoption: A familiar look can help users adopt the tool more quickly and comfortably.

**Guided Setup for Branding**

* Guided Setup: ServiceNow provides wizard-like tools to assist in setting up and configuring various aspects of the platform.

**Types of Guided Setup:**

* ITSM Guided Setup: Includes wizards for configuring IT service management-related features, including branding.
* ITOM Guided Setup: Focuses on operational management aspects like mid servers, discovery, and event management.

**Steps to Implement Branding**

**System Configuration:**

* Page Header Caption: Modify the text that appears in the header of the ServiceNow instance (e.g., change "Service Management" to something more personal).
* Browser Tab Title: Update the title that appears on the browser tab.
* Logo and Banner: Upload your company’s logo and customize the banner image to reflect your branding.
* Date/Time Formats: Set how dates and times are displayed across the instance.
* Colors and Themes: Adjust the colors and themes to match your company’s branding guidelines.

**Welcome Page:**

* Purpose: The welcome page is the screen where users enter their login credentials. It is a simple interface that can be customized to include additional messages.

**Customization:**

* Add Messages: You can add welcome messages or notifications about upcoming events or changes.
* Manage Display Order: Arrange messages by specifying their display order (e.g., a lower number means higher placement on the page).

**ServiceNow Lists and Filters Overview**

**Accessing Lists**

* Application Navigator: Navigate to different lists (e.g., Incident list) via the application navigator.
* Dot List Command: Use table\_name.list (e.g., incident.list) to access a list view for a specific table.
* Tables Table: Use sys\_db\_object.list to view a list of all tables.

**List View Interface**

* Title Bar: Contains the list title and options like the list control menu.
* List Control Menu: Allows actions like changing views, applying filters, grouping data, and setting the number of records per page.
* Search Tool: Lets you search within specific columns or the entire table. Wildcards (%, \*, =) help refine searches.

**Key Features**

* Activity Stream Icon: Shows a log of activities related to the records in the list.
* Paging Controls: Navigate through the list in batches. Adjust batch size via the "Show" menu.
* Personalized List Tool: Customize the columns displayed and their order. Changes affect only your view.

**Filters and Sorting**

* Filter Icon: Opens the condition builder for creating complex filters with multiple conditions.
* Column Search: Apply quick filters directly on column values.
* Breadcrumbs: Display applied filters and allow you to clear or modify them.
* Column and Field Context Menus
* Column Context Menu: Options for grouping data, visualizing data, and exporting or updating records.
* Field Context Menu: Provides actions like filtering, copying URLs or sys IDs, and assigning tags.

**Multi-Record Actions**

* Checkboxes: Select multiple records for batch actions.

**Form overview:**

**What is a Form?**

* Forms in ServiceNow are interfaces for viewing, creating, or editing records.
* Forms can be accessed from lists or global search.

**Standard Layout**

* Forms have a standardized layout:
* Header bar with tools.
* Main section with fields and labels.
* Required fields marked with an asterisk.
* Read-only fields with a gray background.
* Sections for grouping fields and displaying related lists or formatters.

**Form Field Types**

* String fields: Simple input.
* Boolean fields: Checkboxes.
* Choice fields: Drop-down lists.
* Reference fields: Display values from other tables.
* List fields: Allow multiple values from a reference table.
* Journal fields: For comments, with visibility control.

**Saving Changes**

* Changes are not saved automatically; use:
* Submit/Update: Save changes and close the form.
* Save: Save changes and keep the form open.
* Users are warned about unsaved changes if attempting to leave the form.
* Insert/Insert & Stay: Create new records with values copied from an existing record, with options to close or keep the form open.

**Form Sections**

* Forms are organized into sections for grouping data.
* Users can choose between tabbed or expandable/collapsible sections through their preferences.

**Related Lists & Formatters**

* Related lists: Display related records from other tables.
* Formatters: Special elements displaying information related to the record, like activity history.

**Form Views**

* Different views can be created for different user needs.
* Views are accessible via the form's context menu and can be customized to show different formats.

**Form Personalization**

* Users with appropriate permissions can create or modify form views.
* Form Personalization Tool: Allows users to customize field visibility without affecting others.

**Adding Attachments**

* Attach documents to records using the manage attachments button.
* Attachments can be added or removed from a pop-up interface.

**Form Templates**

* Templates automatically populate fields for new records.
* Templates can be created and selected to streamline repetitive data entry.

**Creating & Editing Views**

Admin roles can create and edit form views using:

* Form Design Tool: Drag and drop interface.
* Form Layout Tool: Traditional method for adding/removing fields.

**Servicenow as a tool:**

**Introduction**

* ServiceNow is a cloud-based platform providing IT services
* It includes a suite of applications for common IT services

**Logging In and Navigation**

* Access ServiceNow through a URL and login with a user account
* Understand the Navigation Bar, including the User menu, Notifications, Contextual Help, Application Scope Picker, Global Search, and Contextual App Pill

**ServiceNow Applications**

* ServiceNow provides 79 IT applications, 43 Employee applications, 93 Customer applications, and 23 Creator applications
* Applications are divided into four primary workflows: IT, Employee, Customer, and Creator

**Application Navigator**

* The All menu provides access to all applications
* Applications are grouped by workflow and can be expanded to show specific modules

**Working with Lists and Forms**

* Lists display multiple records from a database table
* Forms display a single record from a database table
* Understand list controls, including View, Filter, Group By, and Refresh
* Use the Condition Builder to apply filters to lists
* Personalize lists for individual users
* Take bulk actions on selected rows

**Incident Application**

* Use the Incident application to demonstrate working with lists and forms
* Understand the list view, including breadcrumbs and filters
* Use the New button to create a new incident record

**Navigation and UI Overview**

* ServiceNow has a user-friendly interface with a navigation bar, application scope picker, and global search.
* The platform provides various applications for IT services, employee services, customer services, and creator services.

**Knowledge Management**

* Knowledge Management allows users to create and publish articles for knowledge bases.
* Articles can be categorized, searched, and rated.
* Users can collaborate by commenting on articles.

**ServiceNow Database and CMDB**

* The ServiceNow database contains nearly 5,000 tables.
* The CMDB (Configuration Management Database) is a set of tables and processes for managing infrastructure and services.
* Users can create new tables and customize existing ones with the necessary permissions.

**Introduction to ServiceNow Data Import Process:**

* Source Data Entity: The external data to be imported.
* Target Data Entity: The final destination within ServiceNow.
* Staging Table (Import Set Table): An intermediary table automatically created by ServiceNow during the import process.

Import Process:

* Source Data → 2. Staging Table → 3. Target Data Store

**Creating a Data Source:**

**Import process:**

* The data import process involves a Source Entity, a Target Entity, and a Staging Table (Import Set Table).

**Data Source Creation**:

* A Data Source in ServiceNow is a record that stores the parameters needed to connect to and retrieve data from a source.
* Key parameters include the type of source, connection details, and the name/label of the staging table.

**Table Information**:

* Data Sources are stored in the sys\_data\_source table in ServiceNow.
* You can view existing data sources by navigating to the Data Source table or using the filter navigator.

**Data Source Setup:**

* When setting up a data source, specify the name, label for the staging table, and details about the data source (e.g., file type, database type).

**Importing Data into ServiceNow: Staging Tables Overview**

* Review Data Source: Go to the sys\_data\_source table to check the data source and staging table details.
* Check Staging Table: Attempt to list the staging table (U\_test\_import.list). If it doesn’t exist, it means the import hasn’t been run yet.
* Run Import: Use the "Load All Records" option to test the data source. This will create the staging table if it doesn’t already exist and load the data into it.
* Verify Data: After the import, list the contents of the staging table to confirm data is loaded. You can also check the table structure to ensure the columns are correctly set up.
* Manage Import Sets: Each import run is tracked in the Import Set table (sys\_import\_set). Records in the staging table are linked to their respective import set, allowing you to manage data based on the specific import run.

**Importing Data into ServiceNow**

**Field Maps:**

* Definition: Define how each field in the staging table maps to the target table.
* Storage: Records are stored in the CIS\_transform\_entry table (label: Field Map).

**Transform Maps:**

* Definition: Group field maps into a unit that represents the complete import process.
* Storage: Records are stored in the CIS\_transform\_map table (label: Transform Map).

**Creating a Transform Map:**

* Navigate to sys\_transform\_map.list.

Create a new record with:

* Name: Identifier for the transform map.
* Source Table: Staging table where data is initially imported.
* Target Table: Final table where data will be imported.

**Creating Field Maps:**

* Use the transform map to set up field mappings.
* Map fields from the staging table to corresponding fields in the target table.

**Coalescing:**

* Definition: Field used to match records and prevent duplicates.
* Setup: Mark a field as coalesce to enable matching on that field during import.

**Testing:**

* Verify data transfer from the staging table to the target table to ensure correctness.

**ServiceNow Task Management**

**1. Introduction**

* ServiceNow’s core function is to manage tasks efficiently.
* The task table in ServiceNow is central to task management.

**2. Task Definition**

* A task is a record in the database representing work needing to be done (e.g., fixing a printer).
* Common attributes include description, status, due date, and assigned user.

**3. Task Table Structure**

* Task Table: Stores common attributes for all tasks.
* Extended Tables: Include Incident, Problem, and Change Request tables, which inherit from the task table and add specific attributes.
* Tasks are never directly created in the task table; instead, records are created in extended tables.

**4. Task Management Features**

* Assignment Rules: Automatically assign tasks based on predefined conditions.
* Assignment Rule Table: sys\_rule\_assignment
* Execution Order: Determines the order in which rules are applied.
* Assignment Lookup Rules: Simplified method of assigning tasks, limited to incident tasks.

**5. Task Assignment**

* Assignment Fields: assigned\_to (user) and assignment\_group (group).
* User and Group Tables: Store records for users and groups, used for task assignment.

**6. Accessing Tasks**

**Service Desk Application:**

* My Work: Displays tasks assigned to the individual user.
* My Group’s Work: Displays tasks assigned to the group or groups the user is a part of.

**7. Task Collaboration Tools**

* User Presence: Shows other users viewing the same record.
* Real-Time Editing: Displays updates made by others in real-time.
* Activity Stream: Shows changes and notes related to the record.

**8. Visual Task Boards**

* Components: Cards (tasks) and Lanes (buckets or categories).

**Types:**

* Guided Boards: Created from lists with predefined attribute values.
* Flexible Boards: Created from lists with non-predefined attribute values; lanes can be customized.
* Freeform Boards: Personalized boards with no direct link to task records.
* Creating Boards: Navigate to a list, select an attribute for lanes, and choose "Show Visual Task Board."

**Servicenow Reporting**

**Data-Driven Approach:**

* Emphasizes learning ServiceNow by examining its underlying data model, where almost everything in the UI corresponds to records in the database.

**Reporting Overview:**

* Focus on creating and managing reports within ServiceNow.
* Essential for CSA certification and effective data presentation.

**Reporting Data Model:**

* sys\_report Table: Main table storing report records.
* report\_source Table: Stores reusable saved queries for reports.
* sys\_auto\_report Table: Manages scheduled emails for reports.
* sys\_report\_users\_groups Table: Manages sharing of reports with users or groups.
* Dashboard Table: Reports can be added to dashboards for consolidated views.

**Key Fields in sys\_report Table:**

* sys\_id: Unique identifier for each report.
* title: Name of the report.
* source\_type: Indicates whether the data source is a table or a saved query.
* report\_source: Specifies the saved query if source\_type is "data source".
* table: Primary database table for report data.
* field\_name: Field used for grouping report data.
* filter: Conditions to narrow down data.
* type: Type of report or visualization (e.g., list, pie chart, bar chart).

**Creating Reports:**

* Method 1: Use the "Reports" application’s "Create New" module.
* Method 2: Use ServiceNow Studio for application-scoped reports.
* Method 3: Create reports directly from list views by using context menus.

**Scheduling Reports:**

* Use the sys\_auto\_report table to set up automatic execution and emailing of reports.

Key fields include:

* report: Reference to the report.
* users: List of user IDs to receive the report.
* groups: List of group IDs to receive the report.
* email addresses: Manually entered email addresses.
* run: Recurrence rate (e.g., daily, weekly).
* time: Scheduled execution time.
* subject: Email subject.
* introductory message: Email body.
* condition: Optional script for execution conditions.
* type: Attachment type (e.g., PDF, Excel).

**Sharing Reports:**

* Use the sys\_report\_users\_groups table to share reports with users or groups, allowing them to view or execute reports on demand.

**Adding Reports to Dashboards:**

* Reports can be added to dashboards from either the dashboard or report view.
* Select the dashboard and tab where you want the report to appear.

**Low Code No Code Software Development:**

**Overview**

* Concept: Low code/no code development simplifies the creation of applications by minimizing the need for traditional coding. It enables users to build software through visual interfaces and pre-built components.
* Objective: Empower business users to create and manage applications without deep technical expertise, bridging the gap between business needs and IT solutions.

**Characters:**

**Savvy Business Person:**

* Deep understanding of business processes and goals.
* Seeks to improve productivity and reduce costs.
* Often struggles with traditional development's complexity.

**IT Superstar:**

* Highly skilled in various technical domains and programming languages.
* Supports business needs by translating requirements into technical solutions.
* Handles complex integrations and coding.

**The Wall:**

* Represents barriers in traditional development, such as lengthy development cycles and communication gaps between business and IT.

**Traditional Software Development**

**Process:**

* Business person creates requirements → IT develops system → Iterative feedback and revisions → Final solution.
* Challenges include lengthy development cycles and frequent miscommunications.

**Low Code No Code Approach**

**Benefits:**

* Agility: Faster development and deployment.
* Cost Efficiency: Lower development costs.
* Automation: Simplified process automation and task management.

**Tools:**

* ServiceNow App Engine Studio: Guided application development with optional deeper access for customization.
* Now Experience UI Builder: Drag-and-drop interface for creating user interfaces.
* Flow Designer: Automates workflows and notifications using natural language.
* CMDB: Provides configuration data for building applications.
* Other Platforms: Microsoft PowerApps, Zoho, Appian, Salesforce, etc.

**Drawbacks:**

* Limited Flexibility: Generalized functionality with fewer customization options.
* Code Dependency: Still relies on underlying code created by others.