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

UNDERSTANDING DOCUMENT

**What is ServiceNow**

ServiceNow, founded by Fred Luddy in 2003, is a cloud-based platform designed to enhance IT service delivery for large enterprises. It enables business people to solve problems themselves.

* **Founded**: 2003, after the bankruptcy of Peregrine Systems, initially named Glide Soft.
* **Renamed**: In 2006, renamed from Glide soft to ServiceNow.
* **Public Company**: Became publicly traded in 2012 under the ticker NOW.
* **Recognition**: Named one of FORBES' most innovative companies in 2018.
* **Platform**: The NOW Platform is a cloud-based Application Platform as a Service (APaaS) that provides infrastructure, applications, and workflows.
* **Security**: Includes robust security measures, redundancy, and regular data backups.
* **Functionality**: Supports IT, Employee, Customer, and Creator Workflows with a wide range of pre-built applications.
* **Workflows** : There 4 types of workflows those are basically IT Workflows, Employee workflows , Customer Workflows and creator workflows.

**ServiceNow Platform Overview**

**The Now Platform**

ServiceNow is a cloud based Application Platform as a service(Apaas) platform in which you can custom your own solution.

**Applications and Workflows**

* **IT Workflows :** IT Service , operations , asset Managements , etc..
* **Employee Workflow :** HR Service, legal service, workplace service Deliveries ,etc..
* **Customer Workflows :** Customer, field , financial services management , etc..
* **Creator Workflows :** App engine , integration hub .

**Now Platform Architecture**

It will be having 4 weekly full data backups and 6 days of daily differential backups

It provides ability to separate data , processes , and administrative task called as Domain separation

**User Interfaces**

* **Now Platform UI:** Primary interface, best used on desktop or laptop.
* **Mobile Apps:**
  + **ServiceNow Agent App**: For fulfilling requests.
  + **Now Mobile App:** Employee-specific functionality**.**
  + **ServiceNow Onboarding App**: For new hires.
* **Service Portal:** Customizable web-based interface for specific user groups using widgets.

**Role – based Access**

* + **User:** Person with access to the instance**.**
  + **Group: A** Set of users with common functions and access needs.
  + **Role:** Collection of permissions, which can be assigned to users or groups**.**

**User Authentication**

**ServiceNow** validates the identity and gives access to functions there are several methods like local database authentication , multi-factor authentication etc.. for the user authentication.

**ServiceNow User Interface Overview**

The ServiceNow User Interface Overview covers the platform's layout, including the banner frame, application navigator, and content frame. It explains essential tools like global search, connect chat, and system settings.

**Banner Frame:**

It the top most section which consist of the logo , which is customizable and can be used as home button, user menu which provides options like Profile , impersonate user to switch the user , elevate role for high impact actions and logout option . banner frame also contain Tools like global search , chat , help desk and system settings which has theme , accessibility , list and form , notification and developer settings.

**Application Navigator:**

Application navigator contains a Navigation filter which filters list of applications , All Applications option where all applications can be accessed ,and a history tab for previous searches and a favorite tab which consist of the favorites we add .

**ServiceNow Branding Overview**

**Guided Setup Overview**

* **Guided Setup Wizards**: Step-by-step tools are provided by ServiceNow to assist with various setup tasks.
* Types:
  + **ITSM Guided Setup**: This Includes company branding, connectivity, foundational data, and other ITSM components.
  + **ITOM Guided Setup**: This setup Focuses on IT Operations Management tasks such as configuring MID servers and cloud provisioning.

**Branding Steps in Guided Setup**

**Accessing Guided Setup**:

* + Use the Application Navigator to search for “Guided Setup.”
  + Navigate to the ITSM Guided Setup module.

**System Configuration**:

* + - We can Configure default settings like time zones and date formats.
    - We can Upload our company logo.
    - We can Customize the banner frame, browser tab text, background colours, and text separator colours.

**Welcome Page Customization**:

* + Used for Modifying the login page with custom messages or alerts.
  + Process:
    - Add new items or messages to the welcome page.
    - Set display order and enter the message content.

**ServiceNow Lists and Filters**

In ServiceNow each and everything is in form of a list it might be the incidents, users , groups , etc..

We can access any application just by adding .list your search application and you will be getting list of applications you are searching for.

We can access list in service now through :

1**.Application Navigator** : We can access to each and every list like incidents, users, etc..

2**.(.list) Dot list** : In Application navigator filter we can search any list by adding .list like users.list , etc.

3.**Table of tables** : By searching sys\_db\_object.list it opens the list for all tables.

List View provides a consistent paradigm for all things .

In List View we have a title bar , header and the data which is represented in rows and columns

**Title bar** : It consist list control menu which consist of view , filter , Group by , show , refresh and favorites. It has name of the table and a search bar for searching specified content. A activity stream icon which tracks activity of the table and a navigator to jump from pages.

**Header** : It consists a personalize list , condition builder , breadcrumbs , sort indicator , and colum headings.

**Data** : Data is presented in tabular format which consist of rows and columns basically these rows are the records and the columns are the attributes.

**Linked Column**: First column usually links to the record's detail form.

**Reference Data**: Fields may link to details from other tables (e.g., Caller).

**Forms in ServiceNow**

**Forms** provide the elements you need to view change or add data to some record that stored in ServiceNow database. Every time you are viewing a record you are either viewing existing record or creating a new record. There is a form for each and every record approximately there are 4478 types of forms.

Examples : incident record form , user record form etc..

Every form consists of a header bar which Displays record type, data table, and record name.

Fields which is the Main section with various data types (string, Boolean, choice, reference).

Required which are mandatory to enter , Read-only in which we can only read and can not write , and Reference field for pulling values from other tables.

Field Dependency means a certain field which is being dependent on other fields , like changing of priority values and appearing and disappearing fields of the forms.

Saving in service we can do this thing by either save, submit button where SAVE button saves the data and stays on the currently working data and this submit button will save and exit the currently working data.

For copying a record we can click insert or insert and stay , where insert creates and save a copy of the current record and returns to list of records and stay means it will on the current working record.

Form Sections are made up of tabbed sections where it has notes , related records and resolution information in tabbed format and expandable sections consists same but it is a kind of expandable format. Form Related list displays list of related records .

Formatter is a form element used to display information that is not a field in record. There are different types like activity formatter , process flow formatter , etc..

Form views provide ability to display and organize fields , related lists and formatters in different ways . There are different types of views like default , business card , ITIL , and also we can customize by personalizing the form view according to ourselves.

We can also manage attachments like we can attach files to record like images.

**Form creation :**

**1.Form Design :** We can create forms and arrange by using drag and drop feature.

**2.Form Layout :** We can add or remove the fields in manual way.

**A Hands-on ServiceNow Tool Demo**

**Logging into ServiceNow**

**We** can Use any major browser (e.g., Google Chrome) and enter the URL for the ServiceNow instance to reach the login screen.

**Instance Details**:

ServiceNow is a cloud-based platform providing IT services. Companies get URLs for their ServiceNow instances (e.g., Production, Test, Development).Login requires a user account with assigned roles (e.g., admin).

**Navigating the User Interface**

Next Experience UI is the Main interface for interacting with ServiceNow .There are Other UIs like Mobile apps (Android/iOS), Service Portal, Employee Center.

**Navigation Bar Overview**

It consists of User Menu used for User settings and preferences. Show Notifications used for Viewing notifications related to platform events. Contextual Help for Access knowledge-base articles and help tools. Application Scope Picker which is used for Admin tool for managing application access.

Global Search used for Searching across the entire platform. Contextual App Pill which Shows current location within the platform. Favourites for Saving frequently accessed screens or applications.

Admin Menu used for Admin-specific tools. Workspaces which is used for using Single screens with multiple widgets for specific tasks. History to Track recent screens or actions.

All Menu is used for Accessing all applications, including custom ones.

**ServiceNow Application Offerings**

**Workflows**:

There are different workflows in servicenow those are IT Workflows there are 79 applications for internal IT functions. Employee Workflow there are 43 applications for employee needs and Customer Workflow there are 93 applications for customer-related functions and a Creator Workflows with 23 applications for creating and customizing applications.

Applications are the Extensive list available, including Self-Service, App Engine, Employee Center, Integration Hub, Predictive Intelligence, Process Automation, and more.

**Working with Lists and Forms**

Lists are which will Display multiple records from a database table , Views are Create multiple views tailored to different needs, Filters for Applying and saving filters to customize list views.

Condition Builder for Building sophisticated filters using AND/OR conditions and a Personalized List for Customizing the display of list fields for individual users, Actions on Selected Rows to Perform bulk actions (e.g., delete, archive) **,** New Button to Create new records directly from the list view .

Formsto Display and edit individual records from a database table.

**Certification and Training**

**Certifications are**  Available for various roles and applications.

**Training** is Offered to enhance career skills or company training needs.

**Column Heading Features**:

We can Search and filter records by specific columns (e.g., State, Category) , a Sort Button will be there so we can Click to sort the column ascending or descending.

**Column Context Menu**:

It has Sort button for Sorting records by the selected column , Show Visual Task Board for Visual representation of tasks , Group By is used to Group records by column values (e.g., State) ,

Ungroup to Return to a full list view , Show Pie Chart for Visualizing data in a pie chart.

Import/Export Datato Import/export records in XML format or to Excel.

**Field or Row Context Menu**:

There is a Show Matching function for Filter to show records matching a specific field value , Filter Out to Exclude records with a specific field value, Assign Tags for Adding tags to records , Copy SysID to Copy the unique identifier for the record.

**Pagination Tools**: Traverse through multiple pages of records.

**Forms Overview**:

There is Single Record View to Displays detailed information about one record and Sections and Related Lists to Show related information such as roles and groups.

Form Context Menu:

It has Save Record button to Save changes to the record , Insert New Record to Create a new record , Insert and Stay to Create a new record based on an existing one, Export Record to Export record data , Custom Views to Create and switch between different views for specific needs , Personalize Form to Adjust fields and layout for personal preferences , Attachments to Add files to the record , Update Record to Apply changes to the record.

**Field-Specific Tools**:

There is a True/False Field to Display as checkboxes , Reference Fields to Use magnifying glass to look up related records.

**Knowledge Application**:

Knowledge Bases are the Libraries of articles categorized by topic , Categories and Articles to Organize articles into categories (e.g., Devices) , Search Function to Find articles by keywords.

**Article Features**:

We have Flag for Report inappropriate or incorrect content , Create Incident to Create a task related to the article , Edit to Modify article content (if permissions allow) , Rate to Provide feedback on article usefulness , Comment to Start discussions or provide feedback on the article.

**ServiceNow Database**:

**Tables Overview** where we can View all tables in ServiceNow, with the ability to modify or create tables.

**CMDB** is the Core database for managing infrastructure and services.

**Introduction to Importing Data in ServiceNow**

**Source Data Entity**: The original data that needs to be imported.

**Target Entity**: The destination in ServiceNow where the data should be loaded.

**Intermediate Data Entity**:

For this we have Staging Table which is also known as an import set table in ServiceNow , Function for An intermediary table created by ServiceNow to temporarily hold data during the import process and Creation for Automatically generated by ServiceNow during the import; no manual creation required.

**Import Process Overview**:

There are Three Data Entities Source Data it is the original data to be imported , Staging Table which is a Temporary table created by ServiceNow , Target Data Store is the final destination within ServiceNow for the imported data.

**Creating a Data Source in ServiceNow**

**Data Source**: A record in ServiceNow that stores parameters for the import process **to** Define and configure the data source, specifying the source type, connection details, and how the staging table should be named.

**Steps to Create a Data Source**:

Navigate to Data Source Table keep Table Name as ‘sys\_data\_source’ , Access it through Application Navigator or filter navigator (‘sys\_data\_source.list’).

**Create a New Data Source**:

Click “New” to open the form for creating a data source , Provide a name for the data source (e.g., "test import"). Set the label for the staging table , table name is Automatically generated based on the label (e.g., u\_test\_import).

**Data Source Type**:

For importing data from files such as CSV or Excel , Choose file format (e.g., Excel, CSV), Use attachment for simplicity , JDBC for connecting to databases (e.g., Oracle, SQL Server) , Enter database details such as server name, port, username, and password.

**Data Source Configuration**:

**File Details**: Choose the format (e.g., Excel) , Specify if applicable , Ensure the header row is included for field mapping , Attach the file to the data source.

**Submit and Save**:

* **Action**: Click “Submit” to save the data source record.
* **Verification**: Confirm the data source appears in the list with the correct type and parameters.

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**Understanding Import Sets in ServiceNow**

Data Source Creation by Configuring a data source record in the ‘sys\_data\_source’ table , Parameters for creating the staging table were set (name and label).

**Testing the Data Source**:

Navigate to Data Source: Use ‘sys\_data\_source.list’ in the Application Navigator , Confirm data source record details (label, table name).Table Verification we can Check Table by staging table (‘u\_test\_import’) does not exist yet because no import has been run.

**Running an Import**:

Test the data source by running an import. Choose to load all records (5 in this case), ServiceNow creates the staging table if it doesn't exist, pulls data, and loads it into the staging table, Success message showing 5 records processed and inserted.

**Viewing the Staging Table**:

Use ‘u\_test\_import.list’ to view the staging table. The staging table now has 5 rows (corresponding to the 5 records from the spreadsheet) , Check columns to ensure they match the header row in the source file.

**Re-import and Management**:

Import data again to demonstrate record management , Two imports resulted in 10 records in the staging table (5 from each run).

**Import Set Table**:

Table Name is ‘sys\_import\_set’ which Manages import sets or groups. Each record in this table represents an import run. Example: iset10036 and iset10037.

**ServiceNow Transform Maps & Field Maps**

**Field Maps:**

This Defines how data moves from the staging table to the target table on a field-by-field basis.Each field mapping is stored as a record in the CIS\_transform\_entry table (labelled as "Field Map").

**Transform Maps:** Group field maps together to represent the entire import process and Stored in the CIS\_transform\_map table (labelled as "Transform Map").

**Setup Process:**

**Custom Table for Target:**

Custom table created for demonstration: Labe it as My Table the Actual name is u\_my\_table . Fields used are username, address, city, state, zip\_code.

**Creating Transform Map:**

Go to CIS\_transform\_map.list and create a new record , Provide a name (e.g., test\_transform\_map) , Set the source table (e.g., test\_import - the staging table) , Set the target table (e.g., u\_my\_table - the custom table).

**Adding Field Maps:**

Use the "Mapping Assistant" tool to automatically or manually map fields from the staging table to the target table.

Field maps created:

name -> username , address -> address , city -> city , state -> state , zip -> zip\_code

**Coalesce Field:**

Coalesce field used to prevent duplicate records , Coalesce means to come together or match.

Set coalesce field on the field map record to avoid duplicates. (e.g., using name as the coalesce field)

**ServiceNow Incident Management Tutorial and Task Administration**

It is Designed to make work as efficient as possible with task management as a primary function.

Task management in ServiceNow, including the task table and core components.

**Task Definition and Table**

Task in ServiceNow is a record in the database representing an item of work, stored in the "task" table, Common Fields for Description, status, due date, and responsible user , Viewing Tasks to Use task.list in the app navigator to see records in the task table.

**Hierarchical Database Design**

Extension of Task Tables like Change Request, Incident, and Problem extend the task table, inheriting common attributes and adding specific ones. Creation of Records in which You create records in these extended tables, which automatically generate task records.

**Business Value of Task Management**

**Process Efficiency:** Allows building repeatable processes for common tasks.

**Features:**

Assignment Rules used to Automatically assign tasks to users/groups , Approvals to Manage approval processes manually or automatically , Service Level Agreements (SLAs for Tracking completion timeframes , Inactivity Monitors to Notify when tasks are untouched , Workflows for Applying workflows to tasks based on conditions.

**Task Assignment**

Assignment Fields is used for assigned\_to and assignment\_group fields , User and Group Tables which Manages users and groups, allowing tasks to be assigned accordingly.

**Assignment Rules:**

Rules to automatically assign tasks based on conditions, which are Stored in sys\_rule\_assignment , to Determines the order in which rules are applied.

**Assignment Lookup Rules**

* **Limitations:** Only applicable to incidents and with a limited set of fields for conditions.
* **Comparison:** Less powerful than assignment rules.

**Visual Task Boards**

Visual Task Boards are used to Provide a graphical, drag-and-drop interface to manage tasks.

**Components:**

Cards to Represent tasks Lanes to Group tasks by attributes (e.g., category) , Quick Panel for filtering and user assignment.

* **Types of Boards:**

Guided Boards which are Created from lists with predefined attributes.

Flexible Boards which are Created from lists with non-predefined attributes.

Freeform Boards are created for Personalized boards not tied to existing records.

**ServiceNow Reporting Tutorial**

Everything in ServiceNow is a record in a database.

**Underlying Data Model**

**Main Tables**:

sys\_report which Stores records for each report.

sys\_report\_source which Stores reusable queries for reports.

sys\_auto\_report which Manages scheduling and emailing of reports.

sys\_report\_users\_groups which Manages sharing of reports with users or groups.

pa\_dashboard is a end table for dashboards that display reports.

**Report Table (sys\_report)**

**Fields**:

**sys\_id**: Unique ID of the report.

**title**: Title of the report.

**source\_type**: Indicates the data source (table or data source).

**source**: Specifies the data source record if source\_type is data source.

**table**: Primary table for report data.

**field\_name**: Field used for grouping data.

**filter**: Conditions to filter data for the report.

**type**: Type of report (e.g., list, bar chart, pie chart).

**Report Types**

There are various report types in ServiceNow like Lists, Box, Bar, Pivot, Trends, Line, Control, Spline, Area, Histogram, Heat Map, Map, Calendars, Bubble, Funnel, Pyramid, Donuts, Pie, Speedometer, Dial, Single Score.

**Creating a Report**

There are different methods for creating report :

Reports Application : Use the "Create New" module.

ServiceNow Studio: Use the Studio application to create a new report.

From List View: Create a report directly from an existing list view.

**Report Creation Process**

Set title and Choose source\_type (table or data source) and then Select table and set type (visualization now Configure group by field and additional styling and Save the report.

Scheduling Reports

We can Share Reports globally, by role, or with specific users/groups.

**Adding Reports to Dashboards**

Add reports to dashboards through the dashboard interface or directly from the report's sharing options.

**What is Low Code No Code Development?**

Low Code No Code development is all about eliminating the gap between the business, IT, and digital transformation. How traditional software development has failed and introduce the benefits and opportunities of a Low Code No Code software development approach , it made easy to use , intuitive IT-services that empower business people to solve their problems themselves .

Low code No code basically focuses on eliminating traditional software development by introducing drag and drop , workflows , UI Designer and DB Builder Some examples for No code Low code are like Service /now , MS power Apps , ZOHO , Salesforce , etc..

ADVANTAGES

* Empowers the people that know the business to solve business problems themselves
* Improves agility via tools for creating IT- services quickly
* Lower costs via more apps in less time with less dependence on IT
* Increased automation opportunities

DISADVANTAGES

* Requires generalization which limits flexibility
* Limits technical improvements (I can code this better)