

# Cognizant Digital Nurture 3.0

## Week 4

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**Overview:** This is a comprehensive course aimed at teaching learners how to script on the ServiceNow platform effectively. The session covers scripting fundamentals and provides a solid foundation for ServiceNow developers to enhance their scripting skills. By the end of the course, participants will have the knowledge and tools required to script on the ServiceNow platform confidently.

### **Learning Objectives:**

After completing this module, learners will be able to:

- Understand the fundamentals of scripting on the ServiceNow platform.
- Learn how to script effectively to customise and enhance ServiceNow functionalities.
- Gain experience in scripting through hands-on exercises and examples.
- Develop the skills necessary to create efficient and effective scripts for ServiceNow applications.
- Enhance problem-solving abilities by applying scripting techniques to real-world scenarios in ServiceNow.

## 1. Scripting in ServiceNow

There are several places where scripting can be done in ServiceNow:

### 1. Client-Side Scripting:

- **Client Scripts:** Run on the browser and handle UI interactions. They are used to validate fields, manage form behaviour, or dynamically update form data without refreshing the page.
  - Script types include *onLoad*, *onChange*, *onSubmit*, and *onCellEdit*.
- **UI Policies:** Used to dynamically show/hide fields, make fields mandatory/optional, or set field values based on conditions.

- Client Script
- UI Policy
- UI Action (Client)

### Client Side API

- **GlideForm API (Managing form and form fields)**

```
- GlideForm {Class}  
- g_form {Global Object}  
- g_form.addInfoMessage('Techwithpri'); {Method}
```

- **GlideUser API (Logged in user details and user roles)**

```
- GlideUser {Class}  
- g_user {Global Object}  
- g_user.username; {Propertey}
```

- 

### 2. Server-Side Scripting:

- **Business Rules:** These scripts execute on the server side when a record is inserted, updated, deleted, or queried in a database. They are used for data validation, automation, and interaction with the database.
  - Business rules can be *before*, *after*, or *async* (executed after transaction completion).
- **Script Includes:** Reusable server-side JavaScript code that can be called from other scripts (like Business Rules, Workflows, etc.).
- **Scheduled Jobs:** Scripts that run at scheduled intervals to automate processes.

## Server Side API

- Business Rules
- UI Action (Server)
- Script Include

- **GlideRecord API (Used for database operation)**

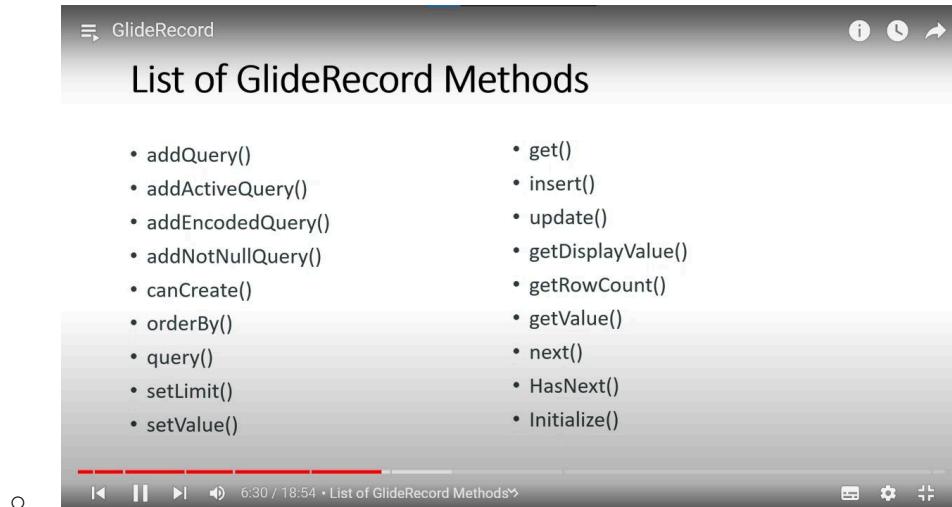
```
- GlideRecord {Class}  
- Initialize the object {var gr = new GlideRecord('Incident')}  
- gr.addQuery('priority',1); {Method}
```

- **GlideSystem API (Information about the system and current log in user)**

```
- GlideSystem {Class}  
- gs {Global Object}  
- gs.yesterday(); {Method}
```

3. **Glide API:** ServiceNow provides the Glide API, which is a collection of JavaScript classes that interact with the platform. For example:

- **GlideRecord:** Used to query and update records in the database.
- **GlideSystem (gs):** Provides methods for system logging, getting user information, and manipulating date/time.
- **GlideAggregate:** Used to perform database aggregation (sum, count, etc.).



## Using GlideRecord API

- Create a GlideRecord object based on your required table

```
var incidentRecord = new GlideRecord('incident');
```

- Build the query condition based on your requirements

```
incidentRecord.addQuery('category','software');
```

- Execute the Query

```
incidentRecord.query();
```



4. **UI Actions:**

- These are buttons or links on forms and lists that trigger server-side or client-side scripts. They are often used for creating custom actions or enhancing functionality with workflows.

#### **5. Workflow Scripts:**

- Scriptable flows and actions that enable automation within workflows.

#### **6. Email Notification Scripts:**

- Used to customise the content of email notifications with dynamic data pulled from ServiceNow records.

### **Accessing Server Data from Client**

We can access server data from client side in following ways:

- g\_scratchpad
- getReference('field\_name',callback function)
- GlideAjax

#### **1. g\_scracthpad**

- • It is an object that passes information from server to client.
- • You need to create g\_scratchpad properties to hold the information.
- • You can call the g \_ scratchpad property from client side scripting (ClientScript).
- • It only shows the information when the form is loaded.
- • It should only be used when you should not expect the data to be changed dynamically.

#### **2. getReference ie name**

- • It is one of the method of GlideForm API.
- • It helps to get the entire record of a reference field.
- • It works synchronously.
- • It causes processing halts while waiting for server response.
- • You should avoid using this method without callback function.

#### **3. GlideAjax**

- A client script (e.g., Client Script, UI Action, UI Policy) uses **GlideAjax** to send a request to the server.
- The server-side Script Include processes the request and sends a response back to the client.
- The client receives the response and handles it (e.g., updates a field, shows a message).

### **Script Include**

- • It stores reusable javaScript code that runs on the server.

- In a single Script Include record you can store multiple javascript functions,methods.
- Script include does not have a trigger condition like other type of scripts (Business Rule,Client Script, UI Policy etc).
- It is getting called from other scripting location.
- Only server side API can be used inside of script include.

## **Introduction to ServiceNow**

1. What is servicenow
2. services of servicenow
3. how to get free SNOW instances
4. how to become a SNOW developer
5. career and growth in servicenow
6. servicenow UI overview
7. servicenow components
8. modules
9. incident module
10. problem module
11. change module
12. List
13. Forms

### **1.1 What is servicenow**

ServiceNow is a cloud based platform, which was mainly developed for workflow and process automation as per the ITIL principles. However, it is highly customisable and also can be used for other purposes.

### **1.2 Services of ServiceNow**

- IT Service
- management
- GRC
- management
- IT Asset
- Integrations
- management
- Finance
- operation
- management

- IT business
- Management, etc.

### 1.3 How to get free SNOW instances

- **Step 1:** SignUp from <https://developer.servicenow.com/app.do#!/home>
- **Step 2:** Fill the Registration form
- **Step 3:** Verify your account
- **Step 4:** Now Login to your ServiceNow Developer Platform.
- **Step 5:** Request/create an instance.
- **Step 6:** Choose the ServiceNow Developer Instance Version
- **Step 7:** Instance Credentials Info
- **Step 8:** Login into your ServiceNow Developer instance

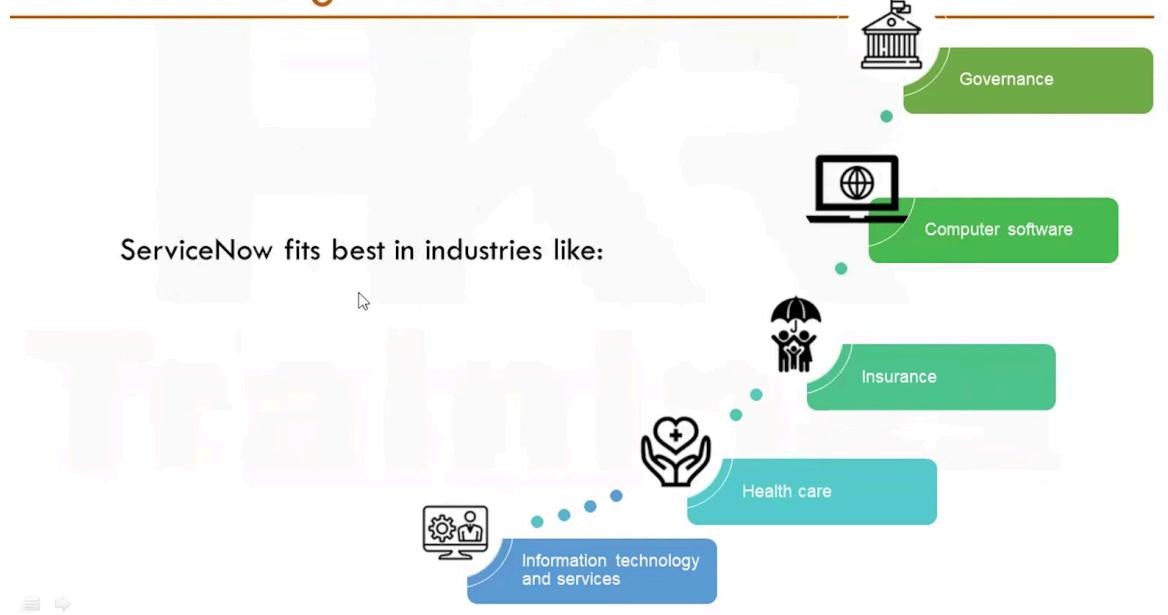
### 1.4 How to become a SNOW Developer

- Get a Bachelor's Degree in CSE or IT
- Learn JavaScript & ITIL basics
- Get ServiceNow Course

### 1.5 Career and growth in ServiceNow

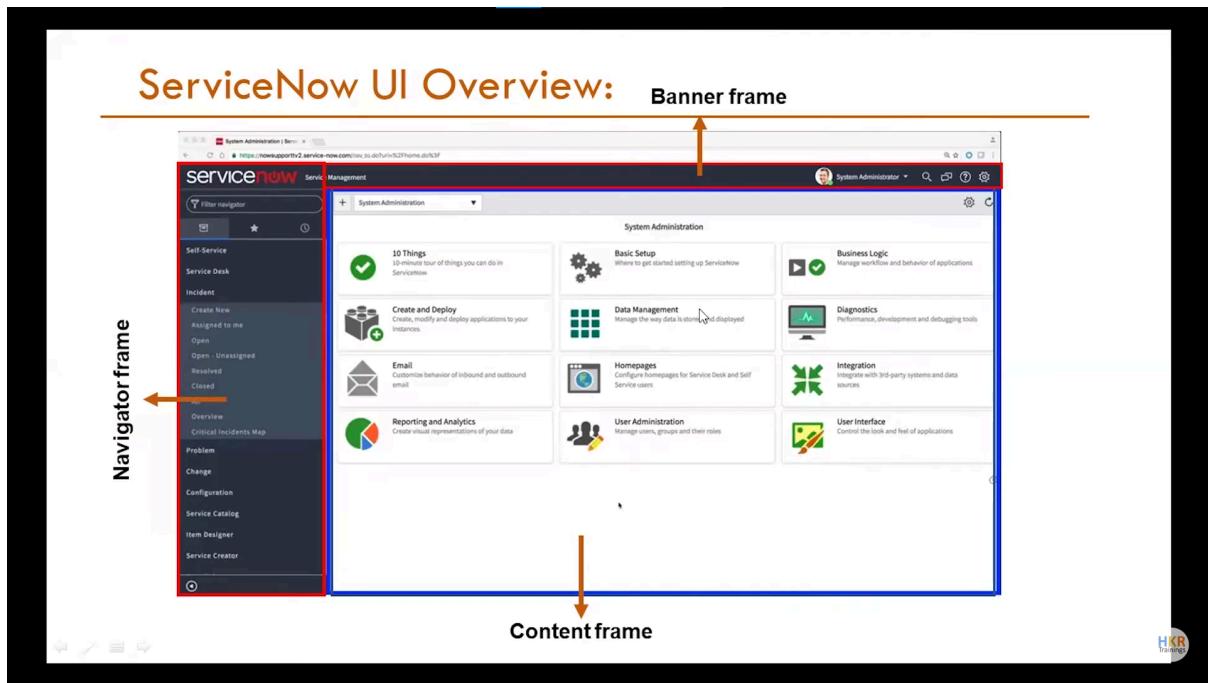
ServiceNow is expected to continue to grow even in future. Currently, Cloud Platform is the Very popular. An the cloud platform, ServiceNow is the best tool to use because of its simplicity and ease of use.

# Career and growth in ServiceNow



## 1.6 ServiceNow UI Overview:

- We interact with the application and modules of the ServiceNow platform through the user interface using a web browser.
- The version of the user interface that accompanies the Istanbul version of ServiceNow is called UI 16.



## 1.7 Servicenow components

- The Components are the basic elements of your page.
- Components range from the basic elements like labels, and buttons to more complex experience components like lists and forms.

- These components can be added to your page to create or personalise workspace or portal.

The screenshot shows the ServiceNow System Settings interface. On the left, there's a sidebar with a search bar and several icons representing different components: Action bar, Activity Stream, Activity Stream..., Agent assist, Agent chat, and Alert. The main area has two tabs: 'System Settings' and 'Accessibility'. Under 'System Settings', there's a 'Theme' section with a preview of various themes like system, Black and White, Cobalt, Cobalt Contrast UI, Contrast UI, Blues, DarkNOW, and Rose. Below this is an 'Accessibility' section with a 'General' tab and a 'Theme' tab selected. Under 'Theme', the 'Accessibility' option is highlighted. There are checkboxes for 'Data visualization patterns enabled' and 'Accessibility enabled'. A note says 'OPTIONAL FEATURES WHEN ACCESSIBILITY IS ENABLED' with checkboxes for 'Show tooltips on forms', 'Show Date & Time format in field label', and 'Show Record Preview tooltips on Slushbucket items when available.'

## 1.8 Modules

### Modules:

The screenshot shows the ServiceNow application navigator. On the left, there's a sidebar titled 'Filter Navigator' with a star icon and a 'Self Service' section containing links like Homepage, Business Applicable, Dashboards, Service Catalog, Knowledge, Help Desk, Work Requests, and Incident Log. To the right, there's a main content area with a 'Module' section. Red arrows point from the text labels to the corresponding parts of the interface: 'Filter Navigator' points to the sidebar, 'Application menu' points to the 'Self Service' section, and 'Module' points to the main content area.

**Modules are the elements that make up the ServiceNow application navigator.**

Some of the modules in ServiceNow are:

- Incident Management
- Problem Management

- Change and Release Management
- Request Management
- Asset and Cost Management
- Walk-Up Experience
- Agent Workspace
- Now Mobile, etc.

## 1.9 Incident Module

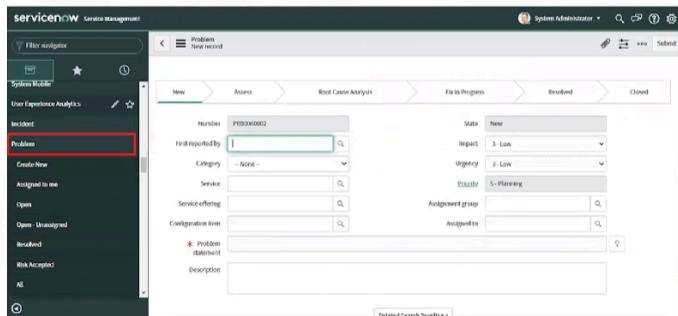
### Incident Module:

- An incident is a situation where normal service operations are interrupted, disrupted or degraded.
- In ServiceNow, an open incident indicates that the customer is strongly affected or it represents a business risk.
- The process of managing the incident lifecycle is called Incident management.

## 1.10 Problem Module

- A problem is a cause of one or more incidents.
- The process of managing the lifecycle of all the problems that arises or could arise in an IT service is called as Problem management

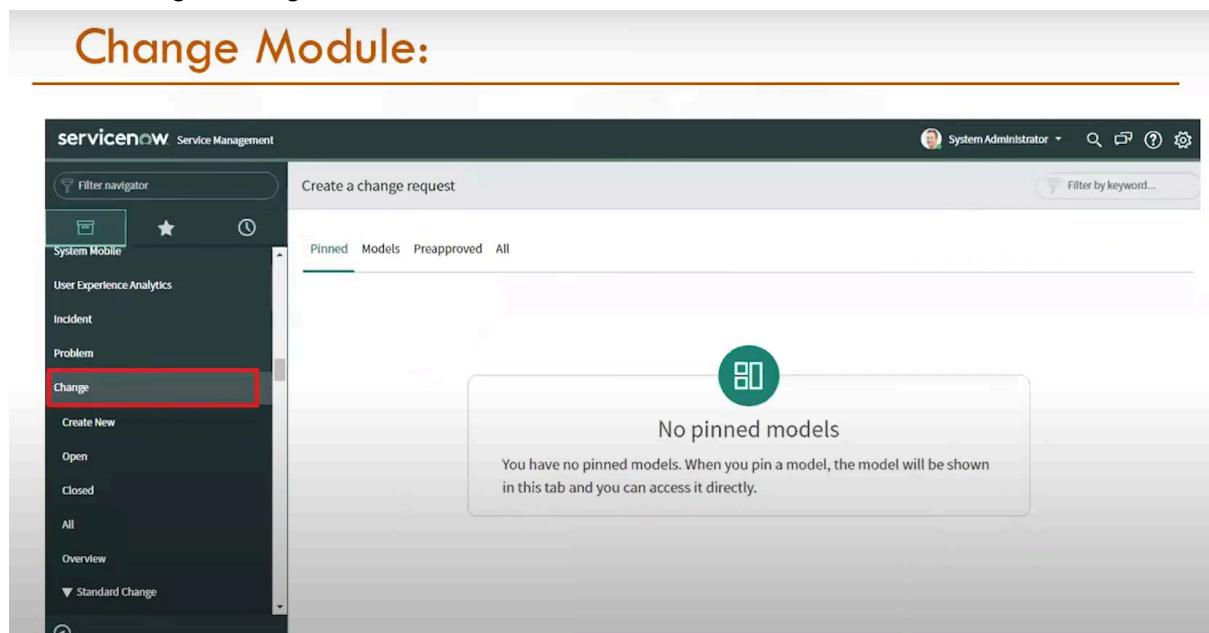
## Problem Module:



## 1.11 Change Module

- A change request contains detailed information regarding the change, like the reason for the change, the risk, the priority, the change type, and the change category.
- A systematic approach for controlling the life cycle of all changes, making it easier to make beneficial changes with less disruption to the IT services is called ServiceNow Change Management.

## Change Module:



## 1.12 List

- A list displays a set of records from a table.
- Users have the ability to search, sort, filter and edit data in lists.
- Users can search, sort, filter, and edit data in lists. Lists can be integrated into forms and can have sublists.
- The list interface includes a title bar, breadcrumbs and filters, columns of data, and a footer. Every column in a list represents a field in the table.

|                          | Number     | Active | Category       | State       | Caller            | Configuration item | Priority     | Short description          | Created             |                |
|--------------------------|------------|--------|----------------|-------------|-------------------|--------------------|--------------|----------------------------|---------------------|----------------|
| <input type="checkbox"/> | INC0011577 | false  | Network        | Closed      | Aileen Morten     | mobile PhoneTools  | 1 - Critical | My internet is not working | 2022-07-24 07:15:22 | Site fact rega |
| <input type="checkbox"/> | INC0011575 | true   | Inquiry / Help | New         | Paul Shuler       | (empty)            | 5 - Planning | Demo                       | 2022-07-22 02:51:22 | Test           |
| <input type="checkbox"/> | INC0011569 | true   | Inquiry / Help | New         | A.Snow            | (empty)            | 5 - Planning | DEmo                       | 2022-07-22 03:39:48 | Hi c che       |
| <input type="checkbox"/> | INC0011576 | true   | Network        | In Progress | Praakash Dhongade | (empty)            | 5 - Planning | Using Assignment Rule      | 2022-07-21 02:56:55 | nwe            |
| <input type="checkbox"/> | INC0011575 | true   | Software       | New         | Praakash Dhongade | (empty)            | 5 - Planning | Test                       | 2022-07-21 02:56:59 |                |
| <input type="checkbox"/> | INC0011582 | true   | Software       | In Progress | Praakash Dhongade | (empty)            | 5 - Planning | Demo                       | 2022-07-21 02:57:33 |                |

## List:

The screenshot shows a list view of problems. At the top is a title bar with 'Problems' and a 'New' button. Below it is a search bar with 'Number' and 'Search' fields. The main area contains a table with columns for Number, Short description, State, Assignment group, Assigned to, and Configuration item. A specific row is highlighted with a red box and labeled 'Router Down'. Annotations include 'Breadcrumbs' pointing to the search bar, 'Title bar' pointing to the top bar, 'Column headings' pointing to the column titles, and 'Fields' pointing to the individual data cells.

## 1.13 Forms

A form is a content page that displays the fields and values of a single record in a database table.

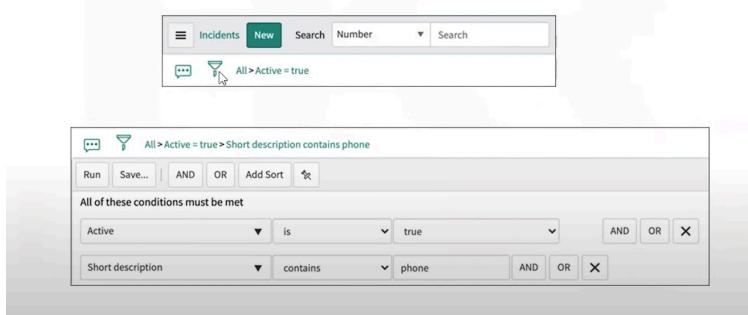
Forms have a 1-column layout, a 2-column layout, or a blend of both.

The screenshot shows an incident form for record INC0000041. The form is structured with a header containing buttons for Edit, Save, Follow, Update, Resolve, and Delete. Below the header are two columns: '2-Column Layout' on the left and '1-Column Layout' on the right. The '2-Column Layout' section contains fields for Number (INC0000041), Caller (Bow Ruggeri), Category (Hardware), Subcategory (None), Service, Service offering, Configuration item, Contact type (Phone), State (In Progress), Impact (1 - High), Urgency (3 - Low), Priority (3 - Moderate), Assignment group, and Assigned to (ITIL User). The '1-Column Layout' section contains fields for Short description (My desk phone does not work) and Description (Unable to dial out or receive calls. Phone is plugged in but there's no dial tone.).

## 1.14 Filters

- A filter limits the records that appear in a list by giving a set of conditions that every record must meet in order to be included in the list.
- The condition includes the field, operator, value and grouping.

## Filters:



The screenshot shows the ServiceNow search interface. At the top, there's a navigation bar with 'Incidents' selected. Below it is a search bar with 'Search Number' and a dropdown. A 'Filters' icon is highlighted with a cursor. The main area displays a search query: 'All > Active = true > Short description contains phone'. Below the query are buttons for 'Run', 'Save...', 'AND', 'OR', 'Add Sort', and 'X'. A note says 'All of these conditions must be met'. Underneath, two conditions are listed: 'Active is true' and 'Short description contains phone'. Each condition has dropdown menus for operators and values.

## 2. ServiceNow Administration & Developer Overview

1. Explore admin and developer
2. Major customers
3. Servicenow Growth
4. ServiceNow Architecture
5. Who use ServiceNow
6. What is catalog
7. Dashboard create

### 2.1 Explore Admin and Developer

A **ServiceNow Administrator** is responsible for maintaining the overall health, performance, and reliability of the platform. They focus more on configuration, monitoring, and managing the platform.

A **ServiceNow Developer** focuses on building and customising applications within the ServiceNow platform. They write code, create new modules, and develop workflows and processes.

### 2.2 Major Customers

## Major Customers



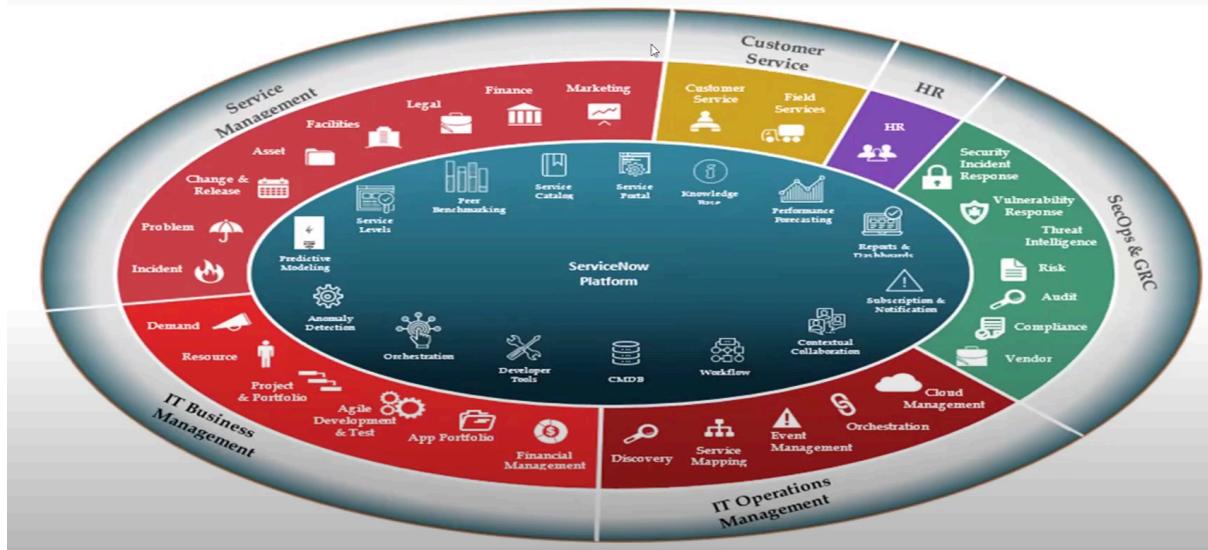
### 2.3 ServiceNow Growth

## ServiceNow Growth



### 2.4 ServiceNow Architecture

# ServiceNow Architecture



## 2.5 Who uses ServiceNow

Following stakeholders use Snow to achieve their business goals:

- Employees - Use it to request their related IT business services.
- IT support Team- Use it to manage service requests or incidents.
- Administrators ServiceNow helps administrators user access, roles & privilege management
- Implementers — Use it to deploy process applications and platform features which fulfils an organisation business needs.
- Developers — Create new functionality with scripts to extend standard configurations.

## 2.6 What is Catalog

Service Catalog is a centralised platform where users can browse and request services or products that an organisation offers. It is designed to streamline and automate service delivery for users, making it easy to request services, track requests, and get assistance.

Sony Alpha ILCE 6000Y 24.3

Sony Alpha ILCE 6000Y 24.3 MP Mirrorless Digital SLR Camera with 16-50 mm and 55-210 mm Zoom Lenses (APS-C Sensor, Fast Auto Focus, Eye AF) - Black



**Key Features**

- Sensor: APS-C CMOS sensor with 24.3 MP (high resolution for large prints and image cropping)
- Image Processor: Bionz X with 179 autofocus points (important for speed and accuracy of autofocus and burst photography)
- Video Resolution: Full HD with fully manual control and selectable frame rates (great for precision and high-quality video work)
- Connectivity: WiFi, NFC and Bluetooth built-in (useful for remotely controlling your camera and transferring pictures wirelessly as you shoot)

Quantity:

Price: \$500.00

Delivery Time: 1 Day

Required Information

Select Camera Color  
Additional Lens Needed?

Services

 Services Document production services. Create and produce high-quality, professional documents.

Hardware

 Hardware Order from a variety of hardware to meet your business needs, including phones, tablets and laptops.

Can We Help You?

 Can We Help You? Your IT gateway. Report issues and submit requests.

Software

 Software A range of software products available for installation on your corporate laptop or desktop computer.

Office

 Office Office services such as printing, supplies requisition and document shipping and delivery.

Desktops

 Desktops Desktop computers for your work area.

Peripherals

 Peripherals End user peripherals such as mobile phone cases, dongles, and cables

Mobiles

 Mobiles Cellphones to meet your business needs.

## 2.7 Dashboard Create

Creating a dashboard in ServiceNow allows users to visualise key data points and monitor important metrics in a centralised location. Dashboards can include various types of widgets such as reports, charts, performance analytics, and lists, providing a high-level overview of data and services.



