**Module 3 – ServiceNow Development Modules**

**What is ServiceNow?**

ServiceNow is a cloud-based platform that provides IT service management (ITSM) and automates enterprise workflows to streamline service delivery across departments. It helps businesses manage digital workflows for various departments, including IT, HR, security, customer service, and more. Its solutions enable automation of routine tasks, enhance service delivery, and provide better transparency across operations.

**Key Features:**

* Automation of workflows for repetitive tasks
* Integration capabilities with third-party systems
* Custom application development using the Now Platform
* Incident, problem, and change management to address IT infrastructure issues
* AI and machine learning-powered insights and virtual agents
* Real-time reporting and dashboards

**Services of ServiceNow:**

**1. IT Service Management (ITSM):**

Automates and manages IT service delivery. Key features include incident management, problem management, change management, and service request management.

**2. IT Operations Management (ITOM):**

Provides tools to proactively monitor and manage the IT infrastructure. It includes operational intelligence, event management, and service mapping.

**3. IT Business Management (ITBM):**

Helps align IT with business priorities by providing project and portfolio management, financial management, and demand management capabilities.

**4. Customer Service Management (CSM):**

Focuses on managing customer service workflows, improving customer experience, and providing self-service capabilities for customers.

**5. Human Resources Service Delivery (HRSD):**

Streamlines HR workflows and automates HR processes like onboarding, case management, and employee requests.

**6. Security Operations (SecOps):**

Integrates with security tools to help manage incident response, vulnerabilities, and threats, enabling faster remediation of security incidents.

**7. Governance, Risk, and Compliance (GRC):**

Helps automate the risk and compliance processes to ensure regulatory compliance and manage risks effectively.

**How to Get Free ServiceNow Instances:**

You can get free ServiceNow Personal Developer Instances (PDI) through the ServiceNow Developer Program, which provides access to a sandbox environment to explore the platform and develop custom applications.

**Steps to Get a Free Instance:**

**1. Sign Up:**

* Go to the ServiceNow Developer Portal.
* Create a free account or sign in if you already have one.

**2. Request an Instance:**

* After logging in, navigate to the “Manage Instance” section.
* Click on “Request Instance” to get a free personal instance.

**3. Use Your Instance:**

* Your personal instance comes pre-configured with essential features like ITSM, workflows, and development tools.
* We can practice, build applications, and test different ServiceNow functionalities.

**How to Become a ServiceNow Developer:**

**1. Learn ServiceNow Fundamentals:**

Start with online tutorials, courses, and the official documentation to understand ServiceNow architecture and ITSM concepts.

**2. Join the ServiceNow Developer Program:**

Signing up for a PDI is the first step to gain hands-on experience. It also gives you access to developer resources and community forums.

**3. ServiceNow Certifications:**

* Certified System Administrator (CSA): Entry-level certification for understanding the platform's core functionality.
* Certified Application Developer (CAD): For those looking to build custom applications on the ServiceNow platform.
* Certified Implementation Specialist (CIS): Specialized certification for implementing specific modules like ITSM, HRSD, or SecOps.

**4. Practice by Building Applications:**

Use the developer instance to build real-world applications and extend existing ServiceNow functionalities.

**5. Explore ServiceNow Community:**

Engage with the ServiceNow Developer Community to ask questions, participate in discussions, and stay updated on new features.

**ServiceNow Certification Training:**

**1. Certified System Administrator (CSA):**

Provides foundational knowledge to manage and configure the platform. It’s recommended for beginners.

**2. Certified Application Developer (CAD):**

Focuses on building, testing, and deploying applications using the platform’s tools, such as Flow Designer and UI Builder.

**3. Certified Implementation Specialist (CIS):**

Specializes in various areas like ITSM, ITOM, HRSD, CSM, or Security Operations.

**4. ServiceNow Architect:**

For professionals looking to design and architect solutions using the ServiceNow platform.

**ServiceNow Components:**

**1. Now Platform:**

The core platform that houses all ServiceNow applications and modules. It provides tools to create, automate, and integrate workflows across the organization.

**2. ServiceNow Database:**

A robust relational database stores all data such as incidents, service requests, assets, users, and more. The database also supports data integrity and security.

**3. User Interface (UI):**

The UI includes lists, forms, dashboards, and portals for interacting with the platform. It is customizable based on user roles and permissions.

**4. Workflows and Flow Designer:**

ServiceNow uses workflows and Flow Designer to automate business processes. These tools enable users to create complex workflows with minimal scripting.

**5. Integration Hub:**

Allows you to integrate ServiceNow with third-party systems via APIs, connectors, and custom integration flows.

**6. Reporting and Dashboards:**

Real-time reporting and analytics allow you to track key performance indicators (KPIs), service-level agreements (SLAs), and other critical metrics.

**ServiceNow Modules:**

ServiceNow offers a wide variety of modules designed to manage different business functions:

**1. Incident Management Module:**

* Tracks incidents from creation to resolution. Incidents are typically reported when a service is disrupted or has the potential to disrupt.
* Helps IT teams restore normal service operations while minimizing downtime.
* Supports automated ticketing, SLAs, and escalation procedures.

**2. Problem Management Module:**

* Focuses on identifying and managing the root causes of incidents.
* Includes processes for investigating recurring issues, preventing incidents from reoccurring.
* Supports workflows to perform root cause analysis (RCA) and manage problems through known error databases (KEDBs).

**3. Change Management Module:**

* Manages the lifecycle of changes in the IT infrastructure.
* Ensures that any changes are planned, authorized, and implemented with minimal disruption.
* Tracks all stages of a change request, including approval workflows, risk assessments, and post-implementation reviews.

**List of ServiceNow Modules:**

* Incident Management: Manage and resolve IT incidents quickly.
* Problem Management: Identify and address the root cause of incidents.
* Change Management: Plan, track, and manage changes.
* Asset and Configuration Management: Manage IT assets and configurations.
* Knowledge Management: Maintain a knowledge base to resolve issues quickly.
* Service Catalog: Provide a user-friendly portal for requesting services.
* Request Management: Handle requests for hardware, software, and services.
* Security Incident Response: Track and respond to security incidents.
* HR Service Delivery (HRSD): Manage HR workflows and employee services.
* Project Portfolio Management (PPM): Plan and track IT projects.

**Workflow and Process Automation in ServiceNow as per ITIL Principles**

ServiceNow adheres to ITIL (Information Technology Infrastructure Library) guidelines, which are widely accepted best practices for IT Service Management (ITSM). ITIL’s focus is on aligning IT services with business needs and automating workflows to improve efficiency, reduce costs, and enhance service delivery.

**Key Processes Automated as per ITIL:**

**1. Incident Management:**

* Automates incident tracking, resolution, and escalation to ensure fast recovery from IT service disruptions.
* ITIL recommends minimizing the impact of incidents by resolving them as quickly as possible.

**Problem Management:**

* ServiceNow automates problem detection, root cause analysis (RCA), and problem resolution.
* Helps in preventing incidents from recurring by addressing the root cause.

**3. Change Management:**

* ITIL-based change control processes ensure that changes to IT infrastructure are planned, tested, and approved.
* ServiceNow’s automation prevents unauthorized changes and reduces service interruptions by scheduling changes efficiently.

**4. Request Fulfillment:**

* Automates service requests from users, such as requests for hardware, software, or access to services.
* Provides a catalog of available services in the Service Catalog, automating approval workflows for faster fulfillment.

**5. Configuration Management:**

* Manages Configuration Items (CIs) in a Configuration Management Database (CMDB), allowing for the tracking and managing of IT assets.
* Automates the discovery of new assets, linking them to incidents or changes, in accordance with ITIL’s configuration management practices.

**6. Service Level Management (SLM):**

* Automates tracking and reporting of Service Level Agreements (SLAs) to ensure services meet agreed performance standards.
* Uses ITIL-defined metrics to monitor compliance.

**Benefits:**

* Faster Issue Resolution: Automated processes reduce the time to identify and resolve IT issues.
* Efficiency and Compliance: Workflows ensure compliance with ITIL guidelines while minimizing human error.
* Cost Savings: Automation reduces labor costs and operational inefficiencies.

**IT, Security, HR Service Delivery, Customer Service, and Business Applications in ServiceNow**

**1. IT Service Management (ITSM):**

* Automates the delivery of IT services like incident, problem, change management, and request fulfillment.
* Centralizes IT workflows to streamline processes, reduce downtime, and improve user experiences.

**2. Security Operations (SecOps):**

* Combines incident response with real-time monitoring of potential threats.
* Automates the identification, prioritization, and resolution of security threats by integrating with existing security tools.

**3. HR Service Delivery (HRSD):**

* Automates common HR processes such as employee onboarding, case management, and benefits administration.
* Provides a centralized HR portal for employees to submit service requests and access HR resources.

**4. Customer Service Management (CSM):**

* Focuses on improving customer support by automating case management, self-service portals, and omni-channel communication.
* Enhances customer experiences through seamless communication across channels like email, chat, and social media.

**5. Business Applications:**

* Organizations can build custom business applications on ServiceNow’s Now Platform to meet specific business needs.
* Automates workflows related to finance, legal, facilities, or any other business function.

**Admin and Developer Roles in ServiceNow**

**ServiceNow Administrator:**

**Responsibilities:**

* Configuring and managing the ServiceNow platform.
* Setting up users, groups, roles, and permissions.
* Managing instances, data imports, and integration with other systems.
* Ensuring platform upgrades and patches are applied.

**Key Skills:**

* Deep understanding of ServiceNow modules (ITSM, HRSD, etc.).
* Knowledge of ServiceNow administration tools like lists, forms, and dashboards.
* Proficiency in Flow Designer and Workflow Editor for automating processes.

**ServiceNow Developer:**

**Responsibilities:**

* Designing and developing custom applications on the Now Platform.
* Writing business logic using JavaScript, Scripted APIs, REST/SOAP APIs, and UI components.
* Integrating ServiceNow with third-party applications and building custom reports.

**Key Skills:**

* Expertise in JavaScript and ServiceNow scripting.
* Strong grasp of UI design, customizations, and client/server-side scripting.
* Experience using ServiceNow Studio for developing and managing apps.

**Major Customers Using ServiceNow**

ServiceNow is trusted by many Fortune 500 companies across various industries. Some major ServiceNow customers include:

* Coca-Cola: Uses ServiceNow to enhance its IT operations and improve service delivery globally.
* Deloitte: Uses ServiceNow for service automation and client delivery operations.
* AT&T: Leverages ServiceNow for improving customer service and automating IT processes.
* General Electric (GE): Uses ServiceNow for ITSM and asset management, optimizing its internal service operations.
* Unilever: Implements ServiceNow to manage HR and IT service delivery globally.

**ServiceNow Growth**

ServiceNow has experienced significant growth due to its strategic positioning as a leader in Enterprise Service Management (ESM) and its ability to automate workflows across industries.

**Key growth drivers:**

* Expanded Offerings: ServiceNow has expanded beyond ITSM into areas like HR, Security, Finance, and Customer Service.
* Cloud-Based Platform: As organizations embrace cloud-first strategies, ServiceNow’s scalable platform has become a preferred solution for digital transformation.
* Acquisitions: ServiceNow has acquired companies such as Element AI and Sweagle to strengthen its AI and machine learning capabilities.

**Growth Statistics:**

* Over 6,900 enterprise customers globally.
* Recognized as a leader in the Gartner Magic Quadrant for ITSM for several consecutive years.
* Revenue growth consistently exceeds 30% year-over-year.

**ServiceNow Architecture**

ServiceNow’s architecture consists of several key components:

**1. Now Platform:**

The core of ServiceNow, offering a cloud-based platform-as-a-service (PaaS) architecture. It provides the foundation for all applications, workflows, and integrations.

**2. Database Layer:**

ServiceNow uses a multi-instance architecture with an underlying relational database to store data. Each customer has their own isolated instance, ensuring data security and privacy.

**3. Application Layer:**

Contains built-in applications like ITSM, HRSD, CSM, and custom applications developed by users or third parties. The application layer sits on top of the Now Platform.

**4. Integration Layer:**

Enables seamless integration with third-party systems using REST APIs, SOAP APIs, Webhooks, and more. ServiceNow’s Integration Hub facilitates easy connections to other tools.

**5. User Interface Layer:**

The UI layer includes lists, forms, service portals, and dashboards that users interact with. It’s customizable and can be tailored to specific roles and workflows.

**Who Uses ServiceNow?**

ServiceNow is used across various industries and by organizations of all sizes. The platform is particularly popular among:

* Large Enterprises (e.g., Coca-Cola, Deloitte, GE).
* Healthcare Organizations for managing patient records and operational workflows.
* Financial Services firms using it for regulatory compliance and IT service management.
* Public Sector agencies for modernizing service delivery to citizens.
* Telecommunications Companies using it to manage customer services and IT infrastructure.

**What is Service Catalog?**

The Service Catalog is a centralized repository in ServiceNow that contains all available IT services and products that users can request. It enables users to:

* Browse available services and products (e.g., software, hardware, access requests).
* Submit requests for services or products, such as laptop procurement, password resets, or new software installation.
* Automate the fulfillment of requests with built-in workflows that track approvals and tasks.
* The Service Catalog simplifies service requests, offering a self-service portal where users can get what they need without involving IT staff.

**How to Create a Dashboard in ServiceNow**

Dashboards in ServiceNow provide a real-time, visual representation of data, KPIs, and service metrics.

**Steps to Create a Dashboard:**

**1. Navigate to Dashboards:**

* Go to Self-Service > Dashboards or type "Dashboards" in the search bar.

**2. Create a New Dashboard:**

* Click on the Create New button to define a new dashboard.
* Provide a name for your dashboard, select the layout (e.g., single column, two-column), and assign a role to view the dashboard.

**3.Add Widgets:**

* Use the Add Widgets button to insert reports, gauges, lists, or other UI components.
* Select data sources (e.g., Incident Management, SLAs, Tasks) for your widgets.

**4. Configure Filters:**

* You can configure filters to show data based on parameters like date range, specific teams, or service type.

**5. Save and Share:**

* Save the dashboard, and share it with other users by assigning them viewing permissions.