

**Cognizant Digital Nurture 3.0**  
**ServiceNow Week 4 Summary**

## **ServiceNow Scripting and Integration Training**

### **1. Client-Side and Server-Side Scripting:**

- **Client-Side Scripting** involves changes that occur on the browser, such as form customizations that the end user sees. Examples include manipulating forms, validating inputs, and hiding fields based on conditions. It uses technologies like JavaScript and is mainly for front-end development.
- **Server-Side Scripting** is for actions that happen in the background or database. This is used when querying or modifying data that isn't directly visible to the user. Examples include fetching data from tables and processing information. In ServiceNow, server-side includes scripts like ACL, Script Includes, Business Rules, GlideAjax, and more.
- The instructor explained that choosing between client-side and server-side scripting depends on the requirement: If it's a cosmetic change, it's client-side; if it involves data processing, it's server-side.

### **2. Modules and Topics for Scripting in ServiceNow:**

- The course primarily focuses on client-side and server-side scripting, including:
  - **Client-Side:** Client scripts, UI policies, and data policies for form modifications.
  - **Server-Side:** Business rules, script includes, background scripts, fixed scripts, and GlideAjax.
  - **Additional Modules:** Email scripts, UI buttons, ACL scripting, GlideRecord, and GlideDateTime.
- Participants were particularly interested in learning about **fixed scripts**, which are similar to background scripts but can be captured in an update set for deployment across instances.
- The instructor mentioned including **integration scripting** (inbound and outbound) using REST and SOAP APIs, including the use of Base64 encoding for attachments.

### **3. Integration Details:**

- Integration involves a significant amount of scripting and typically covers:
  - **Authentication Mechanisms:** Including OAuth, JWT (although the instructor noted limitations on personal instances for JWT).
  - **Handling Attachments:** Base64 and Multipart formats.
  - **REST/SOAP Integration:** Calling and responding to external systems using REST APIs, including table API usage, postman, and third-party integrations like Jira.
  - The participants expressed the need to cover these topics in the training, emphasizing the importance of integrating attachments and understanding authentication mechanisms.

### **4. Advanced Scripting Topics:**

- The participants were interested in **customizing widgets** in the service portal, focusing on data transfer between the server-side and client-side in a widget.

- They also discussed **email scripting**, where scripts are used to format and control email notifications within ServiceNow.

## 5. Additional Tools and Concepts:

- **Fixed Scripts:** Used for running server-side scripts at a specific point and capturing them in an update set for migration between instances.
- **GlideRecord and GlideDateTime:** Important concepts for querying and manipulating records in ServiceNow.
- **Data Policies:** The instructor noted that data policies involve scripts similar to client-side techniques.
- **Flow Designer:** The instructor clarified that Flow Designer is designed to minimize scripting, but certain scenarios may require scripts.

## 6. Limitations and Constraints:

- **Mid Server:** The instructor noted that configuring a mid server on a personal instance may not be feasible. However, they would provide guidance on how to set it up in an organization where support teams usually handle mid-server configuration.
- **JWT and Token-Based Authentication:** The instructor can explain JWT in theory, but personal instances do not support certain configurations, limiting hands-on demonstration.

## Customized Course Planning:

- Since the participants already have some basic knowledge of scripting, the instructor suggested customizing the training to focus on more advanced topics, such as:
  - Fixed scripts.
  - Script includes.
  - Integration from scratch.
  - ACL scripting.
  - GlideDateTime and advanced scripting concepts.
  - Email scripting and more.
- The final plan will be created based on these requirements and shared with the participants.

## ServiceNow Functions with System Administration

### 1. Development Overview

- The participants in the session have some experience working in ServiceNow, specifically with building catalog items and record producers. This means they are familiar with creating forms and workflows that allow users to request services or items within ServiceNow.
- They have a basic understanding of scripting on both the client-side (running in the user's browser) and the server-side (running on the server). However, they want to learn more about these scripting concepts to use them effectively.

### 2. Client-side vs. Server-side Scripting

- **Client-side Scripting:** This type of scripting is used to make changes on the form itself, such as showing or hiding fields based on user input. It enhances user interaction within the browser. For example, a field might become visible when a user selects a specific option.
- **Server-side Scripting:** This scripting works on the server and handles data-related tasks, such as retrieving information from the database or updating fields. An example is auto-filling a caller ID field by fetching data from the user table in ServiceNow.
- The distinction is crucial because client-side scripts affect the user interface and experience, while server-side scripts deal with data processing and business logic.

### 3. Scripting Modules to be Covered

- The participants will explore both client-side and server-side scripting in various forms:
  - **Client-side Scripting:**
    - *Client Scripts:* Scripts that run on forms in the browser.
    - *UI Policies:* Rules that dynamically change form elements like fields or sections.
    - *Data Policies:* Rules to enforce data integrity, applicable to both form fields and data inputs.
  - **Server-side Scripting:**
    - *Script Includes:* Reusable server-side scripts that can be called from other scripts.
    - *Business Rules:* Scripts that run when a record is inserted, updated, deleted, or queried.
    - *ACL Scripting:* Scripts that define access controls for records and fields.
    - *GlideAjax and Script Includes:* GlideAjax allows client-side scripts to make calls to server-side Script Includes, enabling complex interactions between the client and server.
  - **Fixed Scripts:** Scripts that are executed once, often used for mass data updates or specific tasks.

- **Data Policy Scripting:** Similar to client-side scripting, it applies rules to ensure data integrity.
- **Email Scripts:** Scripts used to manage email notifications based on certain conditions in ServiceNow.

#### 4. Integration Topics

- **Integrations:** Integrations in ServiceNow allow it to connect and exchange data with other systems. The participants expressed interest in covering the following:
  - *Attachment Handling:* Methods for handling file attachments, including converting files to base64 or using multipart/form-data formats.
  - *Authentication:* Using JSON Web Tokens (JWT) and other authentication methods for secure integrations.
  - *Inbound/Outbound Integrations:* Understanding how to set up and use both incoming (inbound) and outgoing (outbound) connections between ServiceNow and other systems, especially REST and SOAP integrations.
- **Integration Scripting:** Scripting is often needed in integrations to manipulate data, transform information, and make API calls effectively.

#### 5. Additional Requested Topics

- **GlideDateTime:** This is a ServiceNow class used for handling date and time values in scripts. The participants want to learn how to manipulate dates and times in ServiceNow using this class.
- **Flow Designer:** ServiceNow's low-code tool for process automation. While it primarily uses a graphical interface, some scripting is involved, which the participants want to understand.
- **Service Portal Widgets:** ServiceNow's Service Portal allows users to build custom widgets. Participants want to know how to use both client-side and server-side scripting to customize these widgets.

#### 6. Course Customization

- The course content will be tailored to the participants' knowledge level. Since they already know some basics, the course will cover more advanced scripting techniques and integration handling.
- A detailed schedule will be created, estimating the time required for each topic to ensure efficient learning.

#### 7. Other Considerations

- **Mid Server:** A ServiceNow component used for integrations with external systems within a company's network. Installing Mid Server is complex and not possible on personal ServiceNow instances, so it will only be discussed theoretically.
- **Number of Participants:** Approximately 10-11 participants are expected, which will help in planning the level of interaction and the depth of topics to be covered.