

# ServiceNow Certified Application Developer (CAD)

This ServiceNow Developer training course teaches you to build custom, unique applications within the ServiceNow platform. In this course, you'll learn how to test and deploy custom apps that solve real business problems. You'll explore how ServiceNow application development works end to end, from designing data models and user interfaces to automating workflows and securing access. Along the way, you'll develop practical JavaScript skills for the ServiceNow platform, and learn to integrate OpenAI models into your ServiceNow scripts. This course will help you earn the ServiceNow Certified Application Developer (CAD) certification, and qualify for ServiceNow developer jobs.

[CBT Nuggets course material](#) →



## WEEK 1

### Writing and Running Code

Where Is JavaScript Used In ServiceNow?  
The ServiceNow JavaScript Environment  
Challenge & Solution

### Basics of JavaScript Syntax

Creating and Using Variables  
Working with Different Data Types  
Handling Different Situations Differently With If-Statements  
Challenge & Solution

### JavaScript Control Structures in ServiceNow

The Basics of Looping  
Looping with GlideRecords  
Switch Case Statements  
Challenge & Solution

### Working with Functions

What Is A Function?  
Using Functions with ServiceNow Types  
Function Return Values  
Different Function Syntaxes  
Challenge & Solution

### The ServiceNow GlideRecord API

GlideRecord Basics  
Adding Queries to a GlideRecord  
Reading GlideRecord Fields

Dot-Walking And The Finer Points of JavaScript Equality Checking  
Challenge & Solution

## **Working With Arrays In ServiceNow**

What Are Arrays?  
Looping Through Arrays  
Useful Array Methods  
Challenge & Solution

## **Modifying Data With GlideRecords**

Creating New Records  
Updating Individual Records  
Performing Mass Updates  
Deleting Records  
Challenge & Solution

## **Working with ServiceNow Data Types in JavaScript**

GlideElements vs. JavaScript Values  
Setting Currency Values  
The "Weak Reference" Problem  
Working with ServiceNow Date Types  
Challenge & Solution

## **Working with JavaScript Objects**

What Are Objects?  
Accessing Object Values  
Working with Nested Objects  
Looping Through Objects  
Challenge & Solution

## **JavaScript Strings and String Manipulation**

The Many Different Ways To Define a String  
Changing String Case & Comparing Strings  
A Few More Useful String Methods  
Challenge & Solution

## **Using The GlideQuery API**

Your First GlideQuery Script  
The Main Components Of A GlideQuery  
Filtering Data with GlideQuery  
Selection and Dot-Walking  
Challenge & Solution

## **GlideQuery Data Wrangling Basics**

Transforming Data With Map  
More Map Examples  
Aggregating Data With Reduce  
Challenge & Solution

## **Advanced GlideQuery Topics**

Pre- vs. Post-Query Filtering  
Grouping Queries  
Sorting And Limiting GlideQuery Results  
Combining GlideQuery with GlideRecord  
Challenge & Solution

## **JavaScript Object-Oriented Programming Basics**

What Are Classes, Instances, and Methods?  
A More In-Depth Example

ServiceNow's Special Class Syntax  
Using Classes to Reduce Repetition  
Challenge & Solution

### **ServiceNow Business Rules**

A Quick Business Rule Demo  
Simple Business Rule Configuration  
Advanced Business Rule Configuration  
Challenge & Solution

### **ServiceNow Business Rules Cookbook**

Providing Default Field Values  
Preventing Operations  
Filling Fields with Derived Values  
Challenge & Solution

### **ServiceNow Business Rules Cookbook - Intermediate**

Loading Related Record Data  
A Better Way To Test Business Rules  
Creating Records in Other Tables  
Challenge & Solution

### **ServiceNow Business Rules Cookbook - Advanced**

State-Based Update Locking  
Using Audit Tables  
Auditing Related Records  
Challenge & Solution

### **UI Policies For Application Developers**

A Quick UI Policy Demo  
UI Policies vs. Business Rules - What's The Difference?  
What Else Can UI Policies Do?  
UI Policy Scripting  
Challenge & Solution

### **UI Policy Scripting Patterns**

Different Policies for Different States  
Displaying Dynamic User Feedback  
Modifying Choice Lists  
Challenge & Solution

### **Scheduled Jobs For Application Developers**

A Quick Demo  
Available Scheduling Options  
A Simple Template for Scheduled Jobs  
Loading GlideRecords in Scheduled Jobs  
Challenge & Solution

### **Common Scheduled Job Patterns**

Using Time Windows To Control Execution  
Using Business Calendars  
Using Date/Time Columns  
Challenge & Solution

### **Advanced Scheduled Job Patterns**

Idempotency In Scheduled Jobs  
Strategies For Making Scheduled Jobs Idempotent  
Using Watermarking in Scheduled Jobs

Challenge & Solution

## **Client Scripts For Application Developers**

A Quick Client Script Demo

Client Scripts and the Form Lifecycle

Replacing UI Policies With A Single Client Script

Challenge & Solution

## **Client Scripts And Form Validation**

Basic Field Validation

A Better Validation Strategy

Reusing Client-Side Code With UI Scripts

Challenge & Solution

## **Reusing Front-End Code With UI Scripts**

Defining Utility Objects in UI Scripts

Using Classes to Share Data

Using Methods to Hide Complexity

Challenge & Solution

## **Form Validation Cookbook**

Content And Pattern Validation

Field Comparison Validation

Conditional Validation

Challenge & Solution

## **GlideAjax Basics**

A Quick Demo

GlideAjax On The Back-End

GlideAjax On The Front-End

Challenge & Solution

## **ServiceNow Data Imports For App Developers**

Importing Data With The "Import Wizard"

The Basic Data Import Components

Creating Your Own Data Sources

Challenge & Solution

## **Data Import Cookbook - Basics**

Scheduled Imports

Coalescing Imports

Single-Source, Multi-Table Imports

Challenge & Solution

## **Basics Of Transform Map Scripting**

Scripted Field Maps

Adding Scripts to Transform Maps

The Many Different Types of Transform Scripts

Challenge & Solution

## **Transform Map Scripting In-Depth**

Using onStart Scripts

Using onBefore Scripts

Using onAfter Scripts

Challenge & Solution

## **Basics of Data Source Scripting**

Loading Custom File Formats Line-By-Line

Loading Custom File Formats In Chunks

Multi-File Merging

Challenge & Solution

### **Making Network Requests in ServiceNow**

Making Your First Request

Working with Endpoints

Using API Keys

Challenge & Solution

### **Basics of REST API Data Imports**

Importing Data From APIs

Creating Configurable REST Messages

Parsing Real-World API Data

Challenge & Solution

### **Generative AI API Integration Basics**

Making Your First OpenAI API Request

Creating a Reusable Generative AI Script Include

Using Generative AI To Write Descriptions

Challenge & Solution

### **ServiceNow Flows For Application Developers**

Creating a Simple Flow

Flows vs. Business Rules vs. Scheduled Jobs vs... - What's The Difference?

The Main Flow Components

Challenge & Solution

### **ServiceNow Flow Triggers In-Depth**

Record-Based Triggers

Time-Based Triggers

Service Catalog Triggers

Creating Your Own Triggers

Challenge & Solution

### **Regular Expressions for Application Developers**

Defining and Testing Regex

Character Sets, Beginnings, and Endings

Character Classes and Quantifiers

Challenge & Solution

### **ServiceNow Flow Logic In-Depth**

If, Else, and Else-If

Accessing Other Records Besides The Trigger

Looping In Flows

Working with Flow Variables

Challenge & Solution

### **ServiceNow Flow Actions In-Depth**

Record-Related Actions

Adding Approval Actions

Working With Notification Actions

Challenge & Solution

## **WEEK 2**

## **Applying Regular Expressions in ServiceNow**

Using The "match" Method With Regular Expressions

Capturing Groups

A Real-World Example

Challenge & Solution

## **Google Cloud Integration For App Developers**

Setting Up Google Cloud

Validating And Fixing Addresses

Making API Integrations Reusable

Challenge & Solution

## **Working With Subflows**

A Simple Subflow Demo

Subflow Inputs and Outputs

Specifying Inputs and Using Outputs in Flows

Challenge & Solution

## **Creating And Using Custom Flow Actions**

Creating Your First Custom Action

Creating Custom REST Actions

Parsing JSON And Setting Action Outputs

Challenge & Solution

## **Simplifying Flow Logic With Decision Tables**

Create and Use Your First Decision Table

Providing Default Decision Values

Working with Multiple Result Values

Challenge & Solution

## **Using Generative AI In ServiceNow Flows**

Flow Decision-Making With Generative AI

Creating a Custom Action

Parsing and Using A Decision

Challenge & Solution

## **Automated Testing Basics**

Create Your First Test

Running Automated Tests

Organizing Tests Into Suites

Challenge & Solution

## **Automated Test Steps In-Depth**

Form-Related Test Steps

Server-Related Test Steps

Other Types of Test Steps

Challenge & Solution

## **Automated Test Reusability**

Parameterized Tests

Running Parameterized Tests With Different Values

Defining Reusable Tests

Challenge & Solution

## **Automated Testing Reusability Deep-Dive**

Testing Form ACLs

What Can't We Parameterize?

Making Record Insertion Reusable

Challenge & Solution

## **Basics of Application Scope**

Creating A Scoped Application

What Does Scope Actually Do?

Working With Scoped Tables

Challenge & Solution

## **Creating, Designing, And Customizing Forms**

The Basic Form Tools

Form Factors That Influence What Users See

Using The Form Builder

Challenge & Solution

## **Access Control Basics for Application Developers**

What Are ACLs?

ACLs and Module Visibility

Fine-Tuning User Permissions

Using Groups To Control Permissions

Challenge & Solution

## **Access Management Strategies**

Understanding How ACLs Combine

Demonstrating ACL Combinations

Fixing Unusual "Create" Behavior

Challenge & Solution

## **ServiceNow Studio Basics**

Creating A New Application

Adding Files To An Application

The Main Application File Types

Challenge & Solution

## **App Development Walkthrough: Data Model Definition**

Designing The App And Creating Tables

Adding Access Control Rules

Testing and Troubleshooting the Application

Challenge & Solution

## **App Development Walkthrough: Data Integrity**

Defining A Data Integrity Strategy

Setting Field Properties

Making Fields Unique

Ensuring Start and End Time Integrity

Challenge & Solution

## **App Development Walkthrough: Automation**

Creating A Junction Table

Using Scheduled Scripts for Automation

Sending Reminders To Attendees

Challenge & Solution