

Sitecore XP API Development

Items, search, services and integration in Sitecore Experience Platform

FA-0693 · 2 days

Software Development · Mainframe & Enterprise Systems

Introduction

This two-day course introduces API-based customisation of Sitecore Experience Platform for developers who already know its basic components. Participants work with item operations, search queries and service integration in a prepared XP development environment.

The course distinguishes server-side APIs from REST services and reviews security, debugging and maintainability. It is scoped to Sitecore XP rather than assuming interchangeable APIs across Sitecore cloud products.

Learning outcomes

- Explain the XP components relevant to content, experience data and integration.
- Use a prepared development environment to inspect and debug selected API calls.
- Perform selected item and field operations using the appropriate Sitecore API.
- Query an index through ContentSearch and explain indexing and caching considerations.
- Consume or extend a selected service with authentication and authorisation controls.
- Describe integration, pipeline and event-handler patterns and their operational limitations.

Prerequisites

- Basic knowledge of Sitecore XP and its components.
- Proficiency in C# and .NET framework.
- Familiarity with web development concepts, including HTML, CSS, JavaScript, and RESTful APIs.
- Experience with Visual Studio or similar development environments.

- Basic understanding of SQL Server and database management.

An authorised, licensed XP lab matching the chosen product version and dependencies is required.

Training outline

1. Day 1 – XP architecture and development setup

- Overview of Sitecore Experience Platform (XP)
- Key features and benefits of Sitecore XP

Understanding the Sitecore Architecture

- Content Management Layer
- Experience Database (xDB)
- Marketing Automation and Personalization
- Integration with Third-Party Systems

Prepared development environment

- Inspect a prepared Sitecore XP installation and its version-specific prerequisites
- Sitecore Installation Framework where applicable to the chosen XP deployment

Configuring Sitecore for Development

- Visual Studio Setup
- Sitecore Development Tools and Extensions
- Debugging and Testing in Sitecore XP

2. Day 1 – API choices and item operations

Introduction to Sitecore APIs

- Item API
- ContentSearch API
- Sitecore.Services.Client, including ItemService and EntityService roles
- Understanding the Role of APIs in Sitecore Development
- Use Cases for Sitecore APIs in Custom Development

Item operations

Introduction to the Item API

- Retrieving and Manipulating Sitecore Items

- Understanding the Sitecore Data Structure
- Creating, Updating, and Deleting Items Programmatically
- Working with Templates, Fields, and Layouts via API

Advanced Item API Operations

- Sitecore query syntax and appropriate item-retrieval methods
- Handling Media Items Programmatically

3. Day 2 — ContentSearch and indexing

Introduction to the ContentSearch API

- Overview of Sitecore Search Architecture
- Configuring Indexes and Search Providers

Querying the Sitecore Index

- LINQ Queries with ContentSearch API
- Full-Text Search and Faceted Search

Optimizing Search Performance

- Indexing Strategies
- Caching and Scaling Search Operations

4. Day 2 — Services, security and integration

Sitecore.Services.Client and selected REST service use cases

- RESTful Services in Sitecore
- Use Cases for Sitecore Service API

Creating and Consuming RESTful Services in Sitecore

- Authentication, authorisation and HTTPS; requests operate within configured policies and user context
- Handling API Requests and Responses

Extending Sitecore Functionality with Custom Services

- Creating Custom Endpoints
- Integrating External Services

External systems and extension points

Connecting Sitecore with Third-Party Systems

- External Data Integration via API
- Synchronizing Content and Data

Extending Sitecore with Custom Pipelines and Events

- Understanding Sitecore Pipelines
- Creating and Hooking into Custom Pipelines
- Managing Events and Event Handlers

Validate selected calls and failure responses in the lab; review permissions, logging and supported APIs before production use.