KOENIG SOLUTIONS · COURSE OUTLINE

Dojo Toolkit: DOM, Ajax & Dijit Widgets

Learn to build interactive web pages with JavaScript fundamentals, Dojo DOM manipulation, Ajax and Dijit widgets.

COURSE OVERVIEW

This course begins with JavaScript fundamentals, covering variables, functions, arrays and DOM manipulation before introducing the Dojo toolkit and its installation and configuration. It then covers Dojo DOM basics, event handling, animations and drag-and-drop functionality. The course moves on to dynamic data with Ajax, including loading external data and submitting forms, followed by building forms and layouts with Dijit widgets and themes. It concludes with code optimisation, creating custom classes, and working with plug-ins, NodeLists and closures.

WHO THIS COURSE IS FOR

Web Developers | **Front-End Developers** | **JavaScript Developers** | **UI Developers**

LEARNING OBJECTIVES

- Explain how JavaScript integrates with HTML and the DOM
- Apply core JavaScript constructs such as variables, functions and arrays
- Manipulate DOM elements and handle events with plain JavaScript
- Install and configure the Dojo toolkit for a website
- Query, filter and create DOM elements using Dojo
- Implement event handling, animations and drag-and-drop with Dojo
- Develop dynamic pages using Ajax to load data and submit forms
- Build forms and layouts using Dijit widgets and themes

COURSE SYLLABUS

117 Topics

01

JavaScript Fundamentals

HOW DOES JAVASCRIPT FIT IN WITH HTML?

The DOM · The script tag · In the head · In the body · Inline in an element · Altering elements

HOW DO YOU CREATE VARIABLES AND STRINGS?

Declaring variables · String concatenation

How do you perform arithmetic? · How do you read a method signature?

HOW DO YOU WRITE A FUNCTION?

Declaring functions · Passing data to functions

How do you control the flow? · What is an array, and why is it so important?

HOW DO YOU CREATE AN ARRAY?

Adding elements to an array

How do you loop through array elements? · For loops

02

Digging Deeper

MANIPULATING THE DOM

- How do you get a reference to a node on the DOM?
- How do you change the style of a DOM element?
- How do you change the HTML content of an element?

EVENTS

- What is a JavaScript event?
- How do you attach an event listener?

03

Enhancing with Dojo

WHAT MAKES A GOOD JAVASCRIPT TOOLKIT?

What is a JavaScript toolkit? · What are some popular JavaScript toolkits? · What comprises a JavaScript toolkit?

WHAT IS DOJO?

Developing to a pattern · Keeping it simple · Why should I use Dojo over other libraries?

INSTALLING AND CONFIGURING DOJO

How do you install Dojo? · How do you configure Dojo for your website? · How do I write my first bit of Dojo?

GETTING HELP

How do you debug Dojo and JavaScript? · If I get stuck, where can you find help?

04

Dojo DOM Basics

HOW DO YOU GET AN ELEMENT BY ITS ID?

Getting reference to a node · Checking whether a node exists

HOW DO YOU GET AN ELEMENT USING A CSS SELECTOR?

CSS Selectors · NodeList · dojo query () · Chaining

HOW DO YOU LOOP THROUGH A NODELIST OR AN ARRAY?

dojo forEach

HOW DO YOU FILTER AN ARRAY OF ELEMENTS?

The importance of a data model · dojo filter ()

HOW DO YOU CREATE AN ELEMENT?

Positions · dojo create ()

How do you move elements around in the DOM? · How do you set the attributes of an element?

HOW DO YOU GET AND SET THE STYLE OF AN ELEMENT?

Computed style · Getting the style of an element · Setting the style of an element · Styling many elements

05

Managing User Interaction with Dojo

TOPICS

- How do you listen for an event with Dojo?
- Connecting to DOM events
- Listening for keyboard events
- Listening to page events
- Please stop listening to me!
- What is the Dojo event object?
- How do you listen for an event from multiple elements?
- Taking it one step further
- Topical Events
- dojo subscribe ()
- dojo publish ()
- dojo unsubscribe ()

06

TOPICS

- What is a Dojo animation?
- Using the dojo Animation class
- Built-in animations
- Fading in and out
- Sliding
- Wipes
- Adding Ease
- How do you animate certain properties of an element?
- How can I play more than one animation at a time?
- dojo fx combine ()
- How do I execute other functions during phases of an animation?
- dojo Animation callbacks
- How do you create simple drag-and-drop functionality?
- What can you do with drag-and-drop functionality?
- Setup
- The simplest form of drag and drop
- List reordering

07

Dynamic Data

WHAT IS AJAX ANYWAY?

Pros of Ajax · Cons of Ajax

HOW DO YOU LOAD EXTERNAL DATA?

Using dojo xhrGet () to load external data

HOW DO YOU SUBMIT A FORM USING AJAX?

Using dojo xhrPost () to submit a form · Making your code reusable

HOW DO YOU STAY SEARCH ENGINE FRIENDLY?

What is progressive enhancement? · What about search engines?

08

Widgets

HOW DOES DIJIT PROMOTE CODE REUSABILITY?

Accessibility · International support

HOW DO WIDGETS GET IMPLEMENTED?

Using HTML markup · Using JavaScript · Pros and cons

HOW DO YOU CREATE POWERFUL FORMS?

Standard Dijit form controls · dijit form Form · Form validation

WHAT ARE WIDGET THEMES?

Where do I find the theme assets? · Using themes · Creating your own theme

HOW DO YOU LAY OUT WIDGETS AND OTHER ELEMENTS?

Using dijit layout TabContainer · Using dijit layout BorderContainer

How Do I Optimize My JavaScript Code?

TOPICS

JavaScript minification · Minifying a JavaScript file with ShrinkSafe · Dojo build system

Creating Your Own Classes

TOPICS

Prototype-based programming · dojo delcare · Extending Dijit widgets

DojoX

10

Plug-ins

TOPICS

What is a plug-in?

WHAT IS A NODELIST?

NodeList as an array · Iterating with a NodeList · What else does NodeList provide?

A BRIEF HISTORY OF THIS

Using dojo hitch () · Preserving this · The secret of chaining

What is a prototype? · Starting simple

WHAT IS A CLOSURE?

How does this apply to plug-ins? · Functions as plug-ins?

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

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