Fundamental of Web Programming

MDN Curriculum

	MDN Curriculum
	Module-01: Getting Started
	Soft Skills
01	Constant Learning Mindset
02	Open to Embracing Failure
03	Effective Research
04	Collaboration and Teamwork
05	Succeeding in Job Interviews
06	Workflows and Processes
07	Relevant Contextual Information
	Environment Setup
08	Computer Basics
09	File Systems
10	Browsing the Web
11	Command Line Basics
12	Code Editors
	MDN Curriculum
	Module-02: Core
	Web Standards
01	How the Web Works
02	The HTML, CSS, and JavaScript Triangle
03	The Web Standards Model
04	How Browsers Load Webpages
	Semantic HTML
05	Basic HTML Syntax
06	Good Document Structure
07	Lists
08	Advanced Text Techniques
09	Links
10	Media
11	Other Interactive Elements
12	HTML Tables
13	Debugging HTML
	CSS Fundamentals
14	Basic CSS Syntax
15	Selectors
16	The Box Model
17	Handling Conflicts in CSS
18	Values and Units
19	Sizing
20	Backgrounds and Borders
21	Overflow
22	Styling Form Elements
23	Debugging CSS
	CSS Text Styling
24	Text and Font Styling

25	Styling Lists and Links
26	Web Fonts
	CSS Layout
27	CSS Layout Basics
28	Floats
29	Positioning
30	Modern Layout
31	Responsive Design
	JavaScript Fundamentals
32	Variables
33	Math
34	Text
35	Arrays
36	Conditionals
37	Loops
38	Functions
39	JavaScript Object Basics
40	DOM Scripting
41	Events
42	Async JavaScript Basics
43	Network Requests with (fetch())
44	Working with JSON
45	Libraries and Frameworks
46	Debugging JavaScript
	Accessibility
47	Accessibility Basics
48	Accessible Styling
49	Accessible JavaScript
50	Assistive Technology
51	WAI-ARIA
	Design for Developers
52	Basic Design Theory
53	User-Centered Design
54	Design Briefs
55	**Version Control**
	Module-03: Extensions
56	**Transform and Animate CSS**
57	**Custom JS Objects**
	Web APIs
58	Video and Audio APIs
59	Graphics / Animation APIs
60	Client-Side Storage
	Performance
61	Performance Basics
62	Improving Page Rendering
63	Measuring Performance
64	CSS and Performance
65	JavaScript and Performance
	Security and Privacy
66	Security and Privacy Basics
67	Data Protection Laws

	Testing
68	General Testing Fundamentals
69	Functional and Compact Testing
70	Usability Testing
71	**JavaScript Frameworks**
	CSS Tooing
72	CSS Frameworks
73	CSS Preprocessors
74	**Other Tooling Types**

MDN Getting Stared Modules

	Getting Started Modules
	Learn Web Development
01	The Essential Skillset for New Front-End Developers
02	About Learn Web Development
03	Don’t Know Where to Get Stated?
04	Getting Our Code Examples
05	Contact Us
06	See Also
	Getting Started Modules
07	Prerequisites
08	Modules
09	Environment Setup
10	Your First Website
11	Web Standards
12	Soft Skills
	Module-01: Environment Setup
	Installing Basic Software
13	Overview: Environment Setup
14	Installing a Code Editor
15	Installing Modern Web Browsers
16	Installing a Local Web Server
17	What Tools Do The Professionals Use?
	Browsing The Web
18	How the Web Works: The Basics
19	The Difference Between Web Page, Website, Web Server, and Search Engine
20	Searching for Information
	Code Editors
21	What Code Editors are Available?
22	Basic Code Editor Functionality
23	Enhancing Your Code Editor with Extensions
	Dealing with Files
24	Where Should Your Website Live on Your Computer?
25	An Aside on Casing and Spacing
26	What Structure Should a Website Have?
27	File Paths
	Command Line Crash Course
28	Welcome to The Terminal
29	Basic Built-in Terminal Commands
30	Terminal – Considered Harmful?
31	Connecting Commands Together with Pipes
32	A Slightly More Complex Example
33	Adding Powerups
34	Other Tools to Play with
	Module-02: Your First Website
	What will Your Website Look Like?
35	First Things First: Planning
36	Sketching Out Your Design
37	Choosing a Theme Color

38	Choosing an Image
39	Choosing a Font
	HTML: Creating the Content
40	So What is HTML?
41	Creating Your First HTML Document
42	Images
43	Marking up Text
44	Links
45	Conclusion
	CSS: Styling the Content
46	What is CSS?
47	Fonts and Text
48	CSS: All About Boxes
49	Conclusion
	JavaScript: Adding Interactivity
50	What is JavaScript?
51	A “Hello World!” Example
52	Language Basics Crash Course
53	Supercharging Our Example Website
54	Conclusion
	Publishing Your Website
55	What are the Options?
56	Publishing via GitHub
57	Further Reading
	Module-03: Web Standards
	How the Web Works
58	Clients and Servers
59	The Other Parts of the Toolbox
60	So What Happens, Exactly?
61	Other in Which Component Files are Parsed
62	DNS Explained
63	Packets Explained
64	See Also
	The Web Standards Model
65	Brief History of the Web
66	Web Standards
67	Standards Bodies
68	The Web Standards Lifecycle
69	Overview of Modern Web Technologies
70	Web Best Practices
71	See Also
	How Browsers Load Websites
72	The Different Types of File Returned in an HTTP Response
73	Static Versus Dynamic Files
74	How Files are Assembled to Render a Web Document in the Browser
75	The Browser: Hostile Versus Awesome Programming Environment
	Module-04: Soft Skills
	Research and Learning
76	Effective Research
77	Constant Learning Mindset
78	See Also

	Collaboration and Teamwork
79	Getting on with Others
80	Participate, Help People, Ask Questions
81	Learn to Embrace Failure
	Workflows and Processes
82	Typical Technology Combinations and Application Architectures
83	Typical Processes for a Technical Project
84	Typical Job Roles
85	Common Work Management
86	See Also
	Succeeding in Job Interviews
87	Effective Strategies for Job Searching
88	Developing Qualities for That Employers Look for
89	Finding Work Experience
90	Selling Yourself to Would-be Employers
91	Preparing Yourself for Job Interviews
92	See Also

Front-End Development

MDN Core Modules: HTML

	Core Modules
	Core Modules
01	Prerequisites
02	Modules
03	Structuring Content with HTML
04	CSS Styling Basics
05	CSS Text Styling
06	CSS Layout
07	Dynamic Scripting with JavaScript
08	JavaScript Frameworks and Libraries
09	Accessibility
10	Design for Developers
11	Version Control
	Core Modules
	Module-01: Structuring Content with HTML
	Basic HTML Syntax
01	What is HTML?
02	Anatomy of an HTML Element
03	Attributes
04	Anatomy of an HTML Document
05	Character References: Including Special Characters in HTLM
06	HTML Comments
07	Summary
08	See Also
	What's in the Head? Webpage Metadata
09	What is the HTML Head?
10	Adding a Title
11	Metadata: The <meta> Element
12	Adding Custom Icons to Your Site
13	Applying CSS and JavaScript to HTML
14	Setting the Primary Language of the Document
15	Summary
	Headings and Paragraphs in HTML
16	Headings and Paragraphs
17	Implementing Structural Hierarchy
18	Why do We Need Structure?
19	Active Learning: Giving Our Content Structure
20	Why Do We Need Semantics?
21	Summary
	Emphasis and Importance
22	What are Emphasis and Importance?
23	Active Learning: Let's Be Important
24	Italic, Bold, Underline …
25	Summary
	Lists
26	Unordered Lists
27	Ordered

28	Active Learning: Marking up Our Recipe Page
29	Nesting Lists
30	Description Lists
31	Test Your Skills
32	Summary
	Structuring Documents
33	Basic Sections of a Document
34	HTML for Structuring Content
35	HTML Layout Elements in More Detail
36	Planning a Simple Website
37	Summary
	Advanced Text Features
38	Quotations
39	Abbreviations
40	Marking up Contact Details
41	Superscript and Subscript
42	Representing Computer Code
43	Marking up Times and Dates
44	Test Your Skills
45	Summary
	Creating Links
46	What is a Hyperlink?
47	Anatomy of a Link
48	A Quick Primer on URLs and Paths
49	Link Best Practices
50	Active Learning: Creating a Navigation Menu
51	Email Links
52	Test Your Skills
53	Summary
	Challenge: Marking up a Letter
54	Starting Point
55	Project Brief
56	Hints and Tips
57	Example
	Challenge: Structuring a Page of Content
58	Starting Point
59	Project Brief
60	Hints and Tips
	HTML Images
61	How Do We Put an Image on a Webpage?
62	Media Assets and Licensing
63	Annotating Images with Figures and Figure Captions
64	CSS Background Images
65	Test Your Skills
66	Summary
	HTML Video and Audio
67	Video and Audio on the Web
68	The <Video> Element
69	Using Multiple Source Formats to Improve Compatibility
70	Other <video> Features
71	The <audio> Element

72	Displaying Video Text Tracks
73	Active Learning: Embedding Your Own Audio and Video
74	Test Your Skills
75	Summary
	Challenge: Mozilla Splash Page
76	Starting Point
77	Project Brief
78	Hints and Tips
79	Example
	HTML Table Basics
80	What is a Table?
81	Active Learning: Creating Your First Table
82	Adding Headers with <th> Elements
83	Allowing Cells to Span Multiple Rows and Columns
84	Summary
	HTML Table Accessibility
85	Recap: Tables for Visually Impaired Users
86	Adding a Caption to Your Table with <caption>
87	Adding Structure with <thead>, <tbody> and <tfoot>
88	The (Scope) Attribute
89	The (Id) and (headers) Attributes
90	Active Learning: Playing with (scope and headers)
91	Summary
	Challenge: Structuring a Planet Data Table
92	Starting Point
93	Project Brief
94	Hints and Tips
95	Example
	Forms and Buttons in HTML
96	Buttons
97	Common Input Types
98	Accessible Forms
99	Other Control Types
100	Client-Side Form Validation
101	The <form> Element
102	Test Your Skills
103	Summary
	Debugging HTML
104	Debugging Isn’t Scary
105	HTML and Debugging
106	Permissive Code
107	HTML Validation
108	Using a DOM Inspector
109	Summary

MDN Core Modules: CSS

	Core Modules
	Module-02: CSS Styling Basics
	What is CSS?
01	Browser Default Styles
02	What is CSS for?
03	CSS Syntax Basics
04	How is CSS Applied to HTML?
05	Summary
	Getting Started with CSS
06	Starting with Some HTML
07	Adding CSS to Our Document
08	Using Common Selectors
09	Other CSS Syntax Features
10	Summary
	Challenge: Styling a Biography Page
11	Project Brief
12	Hints and Tips
13	Example
	Basic CSS Selectors
14	What is a Selector?
15	Type Selectors
16	Class Selectors
17	ID Selectors
18	Selector Lists
19	The Universal Selector
20	Summary
	Attribute Selectors
21	Presence and Value Selectors
22	Substring Matching Selectors
23	Summary
	Pseudo-Classes and Pseudo-Element
24	What is a Pseudo-Class?
25	What is a Pseudo-Element?
26	Combining Pseudo-Classes and Pseudo-Elements
27	Generating Content with ::before and ::after
28	Summary
29	See Also
	Combinators
30	Descendant Combinator
31	Child Combinator
32	Next-Sibling Combinator
33	Subsequent-Sibling Combinator
34	Creating Complex Selectors with Nesting
35	Combining Combinators with Selectors
36	Test Your Skills
37	Summary
	The Box Model
38	Block and Inline Boxes

39	Inner and Outer Display Types
40	Examples of Different Display Types
41	What is the CSS Box Model?
42	Playing with Box Models
43	Margins, Padding, and Borders
44	The Box Model and Inline Boxes
45	Using Display: Inline-Block
46	Test Your Skills
47	Summary
	Handling Conflicts
48	Conflicting Rules
49	Understanding Inheritance
50	Understanding the Cascade
51	The Effect of CSS Location
52	Test Your Skills
53	Summary
	CSS Values and Units
54	What is a CSS Value?
55	Numbers, Lengths, and Percentages
56	Color
57	Images
58	Position
59	Strings and Identifiers
60	Functions
61	Test Your Skills
62	Summary
	Sizing Items in CSS
63	The Natural or Intrinsic Size of Things
64	Setting a Specific Size
65	min- and max- sizes
66	Viewport units
67	Test Your Skills
68	Summary
	Backgrounds and Borders
69	Styling Backgrounds in CSS
70	Background Colors
71	Background Images
72	Gradient Backgrounds
73	Multiple Background Images
74	Background Attachment
75	Using the Background Shorthand Property
76	Accessibility Considerations with Backgrounds
77	Borders
78	Rounded Corners
79	Test Your Skills
80	Summary
	Overflowing Content
81	What is Overflow?
82	CSS Tries to Avoid “Data Loss”
83	The Overflow Property
84	Unwanted Overflow in Web Design

85	Test Your Skills
86	Summary
	Images, Media, and Form Elements
87	Replaced Elements
88	Sizing Images
89	Replaced Elements in Layout
90	Form Elements
91	Styling Text Input Elements
92	Normalizing Form Behavior
93	Test Your Skills
94	Summary
	Styling Tables
95	A Typical HTML Table
96	Getting Started with Styling Our Table
97	Spacing and Layout
98	Some Simple Typography
99	Graphics and Colors
100	Styling the Caption
101	Table Styling Quick Tips
102	Test Your Skills
103	Summary
	Debugging CSS
104	How to Access Browser DevTools
105	The DOM Versus View Source
106	Inspecting the Applied CSS
107	Editing Values
108	Adding a New Property
109	Understanding the Box Model
110	Solving Specificity Issues
111	Debugging Problems in CSS
112	Summary
113	See Also
	Challenge: Fundamental CSS Comprehension
114	Starting Point
115	Project Brief
116	Hints and Tips
117	Example
	Challenge: Creating Fancy Letter-Headed Paper
118	Starting Point
119	Project Brief
120	Hints and Tips
121	Example
	Challenge: A Cool-Looking Box
122	Starting Point
123	Project Brief
124	Hints and Tips
125	Example
	Module-03: CSS Text Styling
	Fundamental Text and Font Styling
126	What is Involved in Styling Text in CSS?
127	Fonts

128	Text Layout
129	Font Shorthand
130	Active Learning: Playing with Styling Text
131	Summary
132	See Also
	Styling Lists
133	A Simple List Example
134	Handling List Spacing
135	List-Specific Styles
136	Controlling List Counting
137	Active Learning: Styling a Nested List
138	Summary
	Styling Links
139	Link States
140	Default Styles
141	Styling Links
142	Active Learning: Style Your Own links
143	Including Icons on Links
144	Styling Links As Buttons
145	Summary
	Web Fonts
146	Font Families Recap
147	Web Fonts
148	Active Learning: A Web Font Example
149	Using an Online Font Service
150	@font-face in More Detail
151	Summary
152	See Also
	Challenge: Typesetting a Community School Homepage
153	Starting Point
154	Project Brief
155	Hints and Tips
156	Example
	Module-04: CSS Layout
	Introduction to CSS Layout
157	Normal Layout Flow
158	How are Elements Laid Out by Default?
159	Overriding Normal Flow
160	Summary
	Floats
161	The Background of Floats
162	A (float) Example
163	Clearing (floats)
164	Clearing Boxes Wrapped Around a (float)
165	Test Your Skills
166	Summary
	Positioning
167	Introducing Positioning
168	Static Positioning
169	Relative Positioning
170	Absolute Positioning

171	Fixed Positioning
172	Sticky Positioning
173	Test Your Skills
174	Summary
	Flexbox
175	Why Flexbox?
176	Introducing a Simple Example
177	Specifying What Elements to Lay Out As Flexible Boxes
178	The Flex Model
179	Columns or Rows?
180	Wrapping
181	(Flex-flow) Shorthand
182	Flexible Sizing of (flex) Items
183	Flex: Shorthand Versus Longhand
184	Horizontal and Vertical Alignment
185	Ordering (flex) Items
186	Nested (flex) Boxes
187	Test Your Skills
188	Summary
	CSS Grid Layout
189	What is Grid Layout?
190	Creating Your Grid in CSS
191	Line-Based Placement
192	Positioning with grid-template-areas
193	Nesting grids and subgrid
194	Grid Systems
195	Test Your Skills
196	Summary
197	See Also
	Responsive Design
198	Precursor to Responsive Design: Mobile Web Design
199	Introducing Responsive Web Design
200	Media Queries
201	Responsive Layout Technology
202	Responsive Images/Media
203	Responsive Typography
204	The (viewport) Meta Tag
205	Summary
206	See Also
	Media Query Fundamentals
207	Media Query Basics
208	More Complex Media Queries
209	How to Choose Breakpoints
210	Active Learning: Mobile First Responsive Design
211	The (viewport) Meta Tab
212	Do You Really Need a Media Query?
213	Test Your Skills
214	Summary
215	Challenge: Fundamental Layout Comprehension
216	Starting Point
217	Project Brief | Hints and Tips | Examples

MDN Core Modules: JavaScript

	Core Modules
	Module-05: Dynamic Scripting with JavaScript
	What is JavaScript
01	A High-Level Definition
02	So What Can It Really Do?
03	What is JavaScript Doing On Your Page?
04	How Do You Add JavaScript to Your Page?
05	Comments
06	Summary
	A First Splash Into JavaScript
07	Thinking Like a Programmer
08	Example- Guess The Number Game
09	Summary
	What Went Wrong? Troubleshooting JavaScript
10	Types of Error
11	An Erroneous Example
12	Fixing Syntax Errors
13	A logic Error
14	Other Common Errors
15	See Also
	Storing The Information You Need – Variables
16	Tools You Need
17	What is a Variable?
18	Declaring a Variable
19	Initializing a Variable
20	A Note About (var)
21	Updating a Variable
22	Variable Types
23	Dynamic Typing
24	Constants in JavaScript
25	When to Use (const) and When to Use (let)
26	Test Your Skills
27	Summary
	Basic Math in JavaScript – Numbers and Operators
28	Everybody Loves Math
29	Arithmetic Operators
30	Increment and Decrement Operators
31	Assignment Operators
32	Active Learning: Sizing a Canvas Box
33	Comparison Operators
34	Test Your Skills
35	Summary
	Handling Text – Strings in JavaScript
36	The Poser of Words
37	Declaring Strings
38	Embedding JavaScript
39	Multiline Strings
40	Including Quotes in Strings

41	Numbers vs. Strings
42	Summary
	Useful String Methods
43	Strings as Objects
44	Finding the Length of a String
45	Retrieving a Specific String Character
46	Testing if a String Contains a Substring
47	Finding the Position of a Substring in a String
48	Extracting a Substring from a String
49	Changing Case
50	Updating Parts of a String
51	Active Learning Examples
52	Test Your Skills
53	Conclusion
	Arrays
54	What is an Array?
55	Creating Arrays
56	Finding the Length of an Array
57	Accessing and Modifying Array Items
58	Finding the Index of Items in an Array
59	Adding Items
60	Removing Items
61	Accessing Every Item
62	Converting Between Strings and Arrays
63	Active Learning: Printing Those Products
64	Active Learning: Top 5 Searches
65	Test Your Skills
66	Conclusion
	Challenge: Silly Story Generator
67	Starting Point
68	Project Brief
69	Steps to Complete
70	Hints and Tips
	Making Decisions in Your Code – Conditionals
71	You Can Have It On One Condition
72	If…else Statements
73	Switch Statements
74	Ternary Operator
75	Active Learning: A Simple Calendar
76	Active Learning: More Color Choices
77	Test Your Skills
78	Summary
79	See Also
	Looping Code
80	Why are Loops Useful?
81	Looping Through a Collection
82	The Standard (for) Loop
83	Exiting Loops with (break)
84	Skipping Iterations with Continue
85	(while) and (do…while)
86	Active Learning: Launch Countdown

87	Active Learning: Filling in a Guest List
88	Which Loop Type Should You Use?
89	Test Your Skills
90	Summary
91	See Also
	Functions – Reusable Blocks of Code
92	Where Do I Find Functions?
93	Built-in Browser Functions
94	Functions Versus Methods
95	Invoking Functions
96	Function Parameters
97	Anonymous Functions and Arrow Functions
98	Function Scope and Conflicts
99	Test Your Skills
100	Summary
101	See Also
	Build Your Own Function
102	Active Learning: Let's Build a Function
103	The Basic Function
104	Calling the Function
105	Improving the Function with Parameters
106	Test Your Skills
107	Summary
	Function Return Values
108	What are Return Values?
109	Using Return Values in Your Own Functions
110	Active Learning: A Return Value Function
111	Now It's Your Turn
112	Test Your Skills
113	Conclusion
114	See Also
	Introduction to Events
115	What is an Event?
116	Using addEventListener()
117	Other Event Listener Mechanisms
118	Event Objects
119	Preventing Default Behavior
120	It's Not Just Web Pages
121	Summary
	Event Bubbling
122	Introducing Event Bubbling
123	Event Capture
124	Event Delegation
125	(target) and (currrentTarget)
126	Test Your Skills
127	Summary
128	See Also
	Challenge: Image Gallery
129	Starting Point
130	Project Brief
131	Steps to Complete

132	Declare an Array of Image (filenames)
133	Hints and Tips
	JavaScript Object Basics
134	Object Basics
135	Dot Notation
136	Bracket Notation
137	Setting Object Members
138	What is “this”?
139	Introducing Constructors
140	You’ve Been Using Objects All Along
141	Test Your Skills
142	Summary
	DOM Scripting Introduction
143	The Important Parts of a Web Browser
144	The Document Object Model
145	Active Learning: Basic DOM Manipulation
146	Active Learning: A Dynamic Shopping List
147	Summary
148	See Also
	Making Network Requests with JavaScript
149	What is the Problem Here?
150	The Fetch API
151	The XMLHttpRequest API
152	Summary
153	See Also
	Working with JSON
154	No, Really, What is JSON?
155	Active Learning: working Through a JSON Example
156	Converting Between Object and Text
157	Test Your Skills
158	Summary
159	See Also
	Debugging JavaScript and Handling Errors
160	Recap on Types of JavaScript Error
161	Linting Your Code
162	Common JavaScript Problems
163	The Browser JavaScript Console
164	The Console API
165	Using the JavaScript Debugger
166	Handling JavaScript Error in Your Code
167	Finding Help
168	Summary
	Module-06: JavaScript Frameworks and Libraries
169	**Introduction to Client-Side Frameworks**
170	The Emergence of Libraries and Frameworks
171	What Frameworks are Out There?
172	Why Do Frameworks Exist?
173	The Verbosity of DOM Changes
174	Another Way to Build UIs
175	Other Things Frameworks Give Us
176	Things to Consider When Using Frameworks

177	Accessibility On a Framework-Driven Web
178	How to Choose a Framework
179	Alternatives to Client-Side Frameworks
180	Summary
	Framework Main Features
181	Domain-Specific Languages
182	Writing Components
183	Styling Components
184	Handling Dependencies
185	Rendering Elements
186	Routing
187	Testing
188	Summary
	Getting Started with React
189	Hello React
190	Use Cases
191	How Does React Use JavaScript?
192	Setting Up Your First React App
193	Exploring Our First React Component - <App />
194	Moving on to (main)
195	Starting (fresh)
196	Practice with (JSX)
197	Summary
198	See Also
	Beginning Our React To-do List
199	Our App's User Stories
200	Pre-Project Housekeeping
201	Project Starter Code
202	Summary
	Componentizing Our React App
203	Defining Our First Component
204	Make a <Todo />
205	Make a Unique <Todo />
206	So far, So Good?
207	Tasks as Data
208	Rendering with Iteration
209	Unique Keys
210	Componentizing the Rest of the App
211	Importing All Our Components
212	Summary
	React Interactivity: Events and State
213	Handling Events
214	Callback Props
215	Persisting and Changing Data with State
216	Putting It All Together: Adding a Task
217	Detour: Counting Tasks
218	Completing a Task
219	Deleting a Task
220	Deleting Tasks From State and UI
221	Summary
	React Interactivity: Editing, Filtering, Conditional Rendering

222	Editing the Name of a Task
223	A UI for Editing
224	Conditional Rendering
225	Toggling the <Todo /> templates
226	Editing from the UI
227	Back to the Filter Buttons
228	Summary
	Accessibility in React
229	Including Keyboard Users
230	Exploring the Keyboard Usability Problem
231	Focusing Between Templates
232	More Robust Focus Management
233	Focusing When the User Deletes a Task
234	Finished
	React Resources
235	Component-Level Styles
236	React DevTools
237	The (useReducer()) Hook
238	The Context API
239	Class components
240	Testing
241	Routing

MDN Core Modules: Design

	Core Modules
	Module-07: Design for Developers
01	Prerequisites
02	Basic Design Theory
03	User-Centered Design
04	Design Briefs
05	See Also

Full-Stack Development

MDN Extension Modules: Advance JavaScript

	Extension Modules
01	Prerequisites
02	Modules
03	- Advanced JavaScript Objects
04	- Asynchronous JavaScript
05	- Web Forms
06	- Server-Side Website Programming
07	- Client-Side Web APIs
08	- Understanding Client-Side Web Development Tools
09	- Web Performance
10	- Testing
11	- Transform and Animation CSS
12	- Security and Privacy
	Extension Modules
	Module-01: Advanced JavaScript Objects
	Object Prototypes
01	The Prototype Chain
02	Shadowing Properties
03	Setting a Prototype
04	Prototypes and Inheritance
05	Summary
	Object-Oriented Programming
06	Classes and Instances
07	Inheritance
08	Encapsulation
09	OOP and JavaScript
10	Summary
	Classes in JavaScript
11	Classes and Constructors
12	Inheritance
13	Encapsulation
14	Test Your Skills
15	Summary
	Object Building Practice
16	Let’s Bounce Some Balls
17	Getting Stared
18	Modeling a Ball in Our Program
19	Animation the Ball
20	Adding Collision Detection
21	Summary
22	See Also
	Challenge: Adding Features to Our Bouncing Balls Demo
23	Starting Point
24	Hints and Tips
25	Project Brief
26	Steps to Complete
	Module-02: Asynchronous JavaScript

	Introducing Asynchronous JavaScript
27	Synchronous Programming
28	A Long-Running Synchronous Function
29	The Trouble with Log-Running Synchronous Functions
30	Event Handlers
31	Callbacks
	Video and Audio APIs (Above)
	How to Use Promises
32	Using the (fetch()) API
33	Chaining Promises
34	Catching Errors
35	Promise Terminology
36	Combining Multiple Promises
37	(async) and (await)
38	Summary
39	See Also
	How to Implement a Promise-based API
40	Implementing an (alarm()) API
41	Using the (alarm()) API
42	Using (async) and (await) with the (alarm()) API
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MDN Reference

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	Developer Tools Documentation
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	- Developer Guides
	- Tutorials
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	- HTML
	- CSS: Cascading Style Sheets
	- JavaScript
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	- MathML
	- Event Reference
	- SVG
	- XML: Extensible Markup Language
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	- XSLT: Extensible Stylesheet Language Transformations
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	- Web Performance
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Database Design

- Beginning Database Design Solution, Rod Stephens

	Beginning Database Design Solution
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Software Architecture and Design

- Fundamentals of Software Architecture: An Engineering Approach, Mark Richards & Neal Ford
- Software Architecture Handbook: Become a Successful Software Architecture by Implementing Effictive Architecture Concepts, Joseph Ingeno
- Software Design Methodology: Rom Principles to Architectural Styles, Hong Zhu
- Learning JavaScript Design Patterns, Addy Osmani

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Statistics

- Statistics (A-Level), Sophie Goldie

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