

DWA_02.8 Knowledge Check_DWA2

1. What do ES5, ES6 and ES2015 mean - and what are the differences between them?

ES is an abbreviation of ECMAScript. ECMAScript or ES is a trademarked ECMA International scripting language standard. ECMA Script is used primarily for the World Wide Web (WWW) client-side scripting. ES5 and ES2015 or ES6 are the fifth and sixth versions of the ECMA Script respectively. ES5 stands for ECMAScript 5. It is also called ECMAScript 2009 whereas ES6 stands for ECMAScript 6. It is also called ECMAScript 2015.

ES5 is also known as ECMAScript 2009 as it was released in 2009. It is a function contractors focus on how the objects are instantiated. For ES5 you have to write a function keyword and return, to be used to define the function, like normal general JavaScript language.

ES2015 is a significant update to the language, and the first major update to the language since ES5 was standardized in 2009. ES6 is a fantastic step forward for the JavaScript language. It brings new features for patterns that require significant boilerplate in ES5. This includes classes, arrow functions and modules.

ES5 was introduced in 2009, ES6 was introduced in 2015.

ES5 supports primitive data types that are string, number, boolean, null, and undefined. In ES6, there are some additions to JavaScript data types. It introduced a new primitive data type 'symbol' for supporting unique values.

In ES5 there is only one way to define the variables by using the var keyword.

In ES6 there are two new ways to define variables that are let and const.

2. What are JScript, ActionScript and ECMAScript - and how do they relate to JavaScript?

JScript is Microsoft's dialect of the ECMAScript standard that is used in Microsoft's Internet Explorer 11 and older.

ActionScript is an object-oriented programming language originally developed by Macromedia Inc. (later acquired by Adobe). It is used primarily for the development of websites and software targeting the Adobe Flash platform, originally finding use on web pages in the form of embedded SWF files.

ECMAScript is a standard for scripting languages, including JavaScript, JScript, and ActionScript. It is best known as a JavaScript standard intended to ensure the interoperability of web pages across different web browsers.

JavaScript, JScript, and ActionScript are all implementations of the ECMAScript standard. This means that they share a common set of core features defined by the ECMAScript standard, but each implementation may also have additional features that are not part of the standard. JavaScript was the original implementation developed by Netscape, while JScript is Microsoft's implementation and ActionScript is used for Flash.

3. What is an example of a JavaScript specification - and where can you find it?

The ECMAScript Language Specification is an example of a JavaScript specification. It defines the standard for the ECMAScript scripting language, which includes JavaScript. The specification is developed and maintained by Ecma International, and the latest version can be found on their website at www.ecma-international.org/publications-and-standards/standards/ecma-262/.

4. What are v8, SpiderMonkey, Chakra and Tamarin? Do they run JavaScript differently?

V8 is a JavaScript engine developed by Google. It is used in Google Chrome and other Chromium-based browsers, as well as in the Node.js runtime system. V8 is an open-source engine that compiles JavaScript code to native machine code for improved performance.

SpiderMonkey is the JavaScript engine developed by Mozilla. It is used in the Firefox web browser and other Mozilla projects. Like other JavaScript engines, SpiderMonkey compiles JavaScript code to native machine code for improved performance.

Chakra is the JavaScript engine developed by Microsoft. It was originally used in the Internet Explorer browser and was later forked by Microsoft for the original Edge browser. However, Edge was later rebuilt as a Chromium-based browser and now uses the V8 engine.

Tamarin was an open-source virtual machine for executing JavaScript developed by Adobe Systems. It was used in the Adobe Flash Player to execute ActionScript 3.0 code, which is based on the ECMAScript standard. Tamarin included features such as just-in-time compilation and garbage collection to improve the performance of JavaScript code. Development of Tamarin was discontinued in 2011.

All these engines, V8, SpiderMonkey, Chakra, and Tamarin, execute JavaScript code, they have different performance characteristics and support different versions of the ECMAScript standard. This means that the same JavaScript code may run slightly differently on different engines. However, all these engines aim to be compliant with the ECMAScript standard, so any differences in behavior should be minimal.

5. Show a practical example using caniuse.com and the MDN compatibility table.
