**Java**

The release of Java 11 in September introduced major new features, such as nest-based access controls, which eliminate the need for compilers to insert bridge methods; dynamic class-file constraints; the new HttpClient, which removes the need for an external dependency when writing applications to communicate with web services; and the adoption of the Unicode 10 standard for localization. As Ben Evans, coauthor of [*Optimizing Java*](http://link.oreilly.com/dr0Wsb8Qil0Sn00MuL000F0) and [*Java in a Nutshell*](http://link.oreilly.com/Llu0SM00b09i0FMns0W0r0Q), explains*,*“Java has adapted well to new frontiers such as cloud and microservices. Java 8 had problems with microservice startup times, but Java 11 solves that problem. It’s a much better environment for developing new microservice applications from scratch.”

Looking ahead to future versions of Java, Evans says that bringing value types to Java is a major current project. Value types are intended to be a third form of data type (to complement the existing primitive types and object references), which Evans sees as one way to future-proof the JVM, calling it one of the major changes to the language that “will change the character of Java development in fundamental ways.”

**Go**

The Go team is working on a prototype command called vgo. Currently, when you install third-party libraries with the go get tool, the latest available version of a package is retrieved, even if it includes incompatibilities that can break your code. The vgo tool will “help you manage the versions of the various packages your app requires, without introducing conflicts,” explains Jay McGavren, author of the forthcoming [*Head First Go*](http://link.oreilly.com/z0ln0rW000uMQaibFsN0S00).

The late 2018 release of Go 1.11 provided experimental support for compiling Go to WebAssembly, a binary format for code that can run in a web browser. “This promises to be faster and more efficient than JavaScript,” McGavren says. “And it’s supported by all the major browsers. The ability to make apps using Go that can run inside the browser offers new possibilities that I’m excited to explore.”