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Java 9 – a short overview about the changes

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Java version history

- long major release cycles
 - Java 6 – December 2006
 - Java 7 – July 2011
 - Java 8 – March 2014
 - Java 9 – September 2017

what makes Java 9 special

- for the first time deprecated APIs removed
- elimination of redundant features

<http://www.oracle.com/technetwork/java/javase/9-removed-features-3745614.html>

- unified logging for JVM components

<https://docs.oracle.com/javase/9/tools/java.htm>

- modular run-time images can be created

- deprecated features can be removed

<http://www.oracle.com/technetwork/java/javase/9-deprecated-features-3745636.html>

<https://docs.oracle.com/javase/9/docs/api/deprecated-list.html>

<https://docs.oracle.com/javase/9/core/enhanced-deprecation1.htm>

- last version of current release model

implication of new release model

- time based release model
- two releases per year, March + September
- JDK development becomes more agile
- features not targeted to a release
- new releases may include breaking changes
- more closed-source parts will be open-source in OpenJDK

Java 9 new

- the language shell – jshell

You use the jshell tool to interactively evaluate declarations, statements, and expressions of the Java programming language in a read-eval-print loop (REPL).

few Java 9 changes

- create immutable Lists, Sets and Maps

<https://docs.oracle.com/javase/9/core/creating-immutable-lists-sets-and-maps.htm>

- process API

more process information

- enhanced deprecation

`@Deprecated(since="9", forRemoval=true)`

- stack walking API

- streams API

`takeWhile()`, `dropWhile()`, `ifPresentOrElse()`, `iterate()`

Java 9 platform module system

- a JAR file provides no protection of implementation classes

any public class/member can be accessed by any other class

- a JAR file does not provide information about its dependencies

dependencies are maintained externally, e.g. Maven artifacts

- JAR + meta information = module

the JVM knows at load time if a module is missed, reduces `ClassNotFoundException`

- forces developers to think about the API design

the module exposes the API, which should not constantly change

appendix

- source repository for the talk

<https://github.com/SubOptimal/pti2018-java9>

- full list of all Java 9 changes

<http://openjdk.java.net/projects/jdk9/>