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Interview Questions



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Java versions and new features

What are **new java features in java** version 7 or 8? These are pretty much frequently asked questions in java interviews.

In this page, I listing down all JDK changes from JDK 1.x to Java SE 12, sequentially. Though I have tried to cover as much as information I can gather, though if you know something which I missed below, please let me know and I will add that information.

Java 12 Features

Java 12 (released on March 19, 2019) is latest version available for JDK. Let's see the new features and improvements, it brings for developers and architects.

- Collectors.teeing() in Stream API
- String API Changes
- Files.mismatch(Path, Path)
- Compact Number Formatting
- Support for Unicode 11

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• Switch Expressions (Preview)

Java 11 Features

Java 11 (released on September 2018) includes many important and useful updates. Let's see the new features and improvements, it brings for developers and architects.

- HTTP Client API
- Launch Single-File Programs Without Compilation
- String API Changes
- Collection.toArray(IntFunction)
- Files.readString() and Files.writeString()
- Optional.isEmpty()

Java 10 Features

After Java 9 release, Java 10 came very quickly. Unlike it's previous release, Java 10 does not have that many exciting features, still it has few important updates which will change the way you code, and other future Java versions.

- JEP 286: Local Variable Type Inference
- JEP 322: Time-Based Release Versioning
- JEP 304: Garbage-Collector Interface
- JEP 307: Parallel Full GC for G1
- JEP 316: Heap Allocation on Alternative Memory Devices
- JEP 296: Consolidate the JDK Forest into a Single Repository

- JEP 310: Application Class-Data Sharing
- JEP 314: Additional Unicode Language-Tag Extensions
- JEP 319: Root Certificates
- JEP 317: Experimental Java-Based JIT Compiler
- JEP 312: Thread-Local Handshakes
- JEP 313: Remove the Native-Header Generation Tool
- New Added APIs and Options
- Removed APIs and Options

Java 9 Features

Java 9 was made available on September, 2017. The biggest change is the modularization i.e. Java modules.

Some important features/changes in Java 9 are:

- Java platform module system
- Interface Private Methods
- HTTP 2 Client
- JShell REPL Tool
- Platform and JVM Logging
- Process API Updates
- Collection API Updates
- Improvements in Stream API
- Multi-Release JAR Files
- @Deprecated Tag Changes
- Stack Walking

- Java Docs Updates
- Miscellaneous Other Features

Please see the updated release info here.

Java 8 Features

Release Date: March 18, 2014

Code name culture is dropped. Included features were:

- Lambda expression support in APIs
- Stream API
- Functional interface and default methods
- Optionals
- Nashorn JavaScript runtime which allows developers to embed JavaScript code within applications
- Annotation on Java Types
- Unsigned Integer Arithmetic
- Repeating annotations
- New Date and Time API
- Statically-linked JNI libraries
- Launch JavaFX applications from jar files
- Remove the permanent generation from GC

Java SE 7 Features

Release Date: July 28, 2011

This release was called "Dolphin". Included features were:

- JVM support for dynamic languages
- Compressed 64-bit pointers
- Strings in switch
- Automatic resource management in trystatement
- The diamond operator
- Simplified varargs method declaration
- Binary integer literals
- Underscores in numeric literals
- Improved exception handling
- ForkJoin Framework
- NIO 2.0 having support for multiple file systems, file metadata and symbolic links
- WatchService
- Timsort is used to sort collections and arrays of objects instead of merge sort
- APIs for the graphics features
- Support for new network protocols, including SCTP and Sockets Direct Protocol

Java SE 6 Features

Release Date: December 11, 2006

This release was called "Mustang". Sun dropped the ".0" from the version number and version became Java SE 6. Included features were:

- Scripting Language Support
- Performance improvements
- JAX-WS

- JDBC 4.0
- Java Compiler API
- JAXB 2.0 and StAX parser
- Pluggable annotations
- New GC algorithms

J2SE 5.0 Features

Release Date: September 30, 2004

This release was called "Tiger". Most of the features, which are asked in java interviews, were added in this release.

Version was also called 5.0 rather than 1.5. Included features are listed down below:

- Generics
- Annotations
- Autoboxing/unboxing
- Enumerations
- Varargs
- Enhanced for each loop
- Static imports
- New concurrency utilities in java.util.concurrent
- Scanner class for parsing data from various input streams and buffers.

J2SE 1.4 Features

Release Date: February 6, 2002

This release was called "Merlin". Included features were:

- assert keyword
- Regular expressions
- Exception chaining
- Internet Protocol version 6 (IPv6) support
- New I/O; NIO
- Logging API
- Image I/O API
- Integrated XML parser and XSLT processor (JAXP)
- Integrated security and cryptography extensions (JCE, JSSE, JAAS)
- Java Web Start
- Preferences API (java.util.prefs)

J2SE 1.3 Features

Release Date: May 8, 2000

This release was called "Kestrel". Included features were:

- HotSpot JVM
- Java Naming and Directory Interface (JNDI)
- Java Platform Debugger Architecture (JPDA)
- JavaSound
- Synthetic proxy classes

J2SE 1.2 Features

Release Date: December 8, 1998

This release was called "Playground". This was a major release in terms of number of classes added (almost trippled the size). "J2SE" term was introduced to distinguish the code platform from J2EE and J2ME. Included features were:

- strictfp keyword
- Swing graphical API
- Sun's JVM was equipped with a JIT compiler for the first time
- Java plug-in
- Collections framework

JDK 1 Features

Release Date: January 23, 1996

This was the initial release and was originally called **Oak**. This had very unstable APIs and one java web browser named **WebRunner**.

The first stable version, JDK 1.0.2, was called Java 1.

On February 19, 1997, JDK 1.1 was released havind a list of big features such as:

- AWT event model
- Inner classes
- JavaBeans
- JDBC
- RMI

- Reflection which supported Introspection only, no modification at runtime was possible.
- JIT (Just In Time) compiler for Windows

Again, feel free to suggest any java feature in any java version which I missed in above lists.

Happy Learning!!

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Ivaylo



Stream API was introduced in Java 8.

https://www.google.com/search? q=java+stream+api+when+was+it+introduced& rlz=1C1CHBF_enBG856BG856&oq=java+stream+ api&aqs=chrome.0.69i59j69i57j0l4.3450j0j7&sour ceid=chrome&ie=UTF-8



