

Java Insights: Payara Updates, Oracle Patches, and GraalVM Developments

Description

This week's Java roundup for January 20th, 2025, highlights several significant developments: the promotion of JEP 502, Stable Values (Preview); Oracle's Critical Patch Update (CPU) for January 2025; the recent release of the Payara Platform; updates to GraalVM for JDK 23 Community (version 23.0.2); and BellSoft's CPU patches for Liberica JDK.

OpenJDK

JEP 502, [Stable Values \(Preview\)](#), has been [upgraded](#) from the initial draft to Candidate status. Previously known as *Computed Constants (Preview)*, this JEP presents *computed constants*—immutable value holders initialized at most once. This innovation brings the advantages of `final` fields while providing more flexibility regarding initialization timing.

Oracle, in its latest [Critical Patch Update](#), has released JDK versions 23.0.2, 21.0.6, 17.0.14, 11.0.26, and 8u441. For further details, you may refer to the release notes for [version 23.0.2](#) and others.

JDK Releases

Recently, [Build 33](#) of JDK 24 and [Build 7](#) of JDK 25 have been released, both addressing various pertinent [issues](#). Developers are invited to report bugs via the [Java Bug Database](#).

Jakarta EE

In his [Hashtag Jakarta EE](#) blog, [Ivar Grimstad](#) provided an [update](#) on Jakarta EE 11, noting exciting progress, particularly with the upcoming release of [Jakarta NoSQL](#) version 1.0 and the nearly finalized Jakarta EE Web Profile 11 TCK.

GraalVM

The new [release](#) of GraalVM for JDK 23 Community (23.0.2) includes critical fixes based on Oracle's CPU, enhancing performance and stability.

Payara

Payara recently [released](#) its January 2025 edition, introducing essential bug fixes and new command-line features for dynamic configuration.

Spring Framework and Hibernate



Meanwhile, the Spring Framework has also rolled out milestone releases across its ecosystem, and Hibernate has seen updates addressing various issues, enhancing overall functionality.

Vocabulary List:

1. **Promotion** /prə'moʊ.ʃən/ (noun): The act of raising something to a higher position or rank.
2. **Innovation** /,ɪn.ə'veɪ.ʃən/ (noun): The introduction of new ideas methods or products.
3. **Released** /rɪ'li:st/ (verb): Made something available to the public.
4. **Enhancing** /ɪn'hæ.nɪŋ/ (verb): Improving the quality value or extent of something.
5. **Stability** /stə'bɪl.ɪ.ti/ (noun): The state of being steady and not changing or being disturbed.
6. **Configuration** /kən,fɪg.ə'reɪ.ʃən/ (noun): The arrangement of and relations between the parts or elements of something.

Comprehension Questions

Multiple Choice

1. What is the purpose of JEP 502, Stable Values (Preview)?
Option: Introducing dynamic variables
Option: Improving final field initialization
Option: Updating JDK security
Option: Enhancing Hibernate functionality
2. What did Oracle release in their Critical Patch Update for January 2025?
Option: JDK version 20.0.3
Option: JDK version 23.0.2
Option: JDK version 26.0.8
Option: JDK version 30.0.5
3. What recent updates have been made to GraalVM for JDK 23 Community?
Option: Security patches from Apache
Option: Performance enhancements from Oracle's CPU
Option: Bug fixes for Jakarta EE
Option: New features for the Spring Framework



4. What was the focus of the recent update on Jakarta EE 11 by Ivar Grimstad?

- Option: Introduction of Jakarta NoSQL
- Option: Finalization of Jakarta EE Web Profile 11 TCK
- Option: Release of Spring Framework milestone
- Option: Updates to GraalVM

5. What enhancements were introduced in the recent Payara Platform release?

- Option: New data storage options
- Option: Bug fixes for Hibernate
- Option: Dynamic configuration features
- Option: Performance improvements for Spring Framework

6. Which JDK releases were recently addressed for bug fixes?

- Option: JDK 26 and JDK 28
- Option: JDK 21 and JDK 17
- Option: JDK 24 and JDK 25
- Option: JDK 30 and JDK 32

True-False

- 7. JEP 502 was previously known as Computed Constants (Preview).
- 8. BellSoft released CPU patches for GraalVM.
- 9. Ivar Grimstad discussed the progress of Jakarta EE 12 in his blog post.
- 10. Hibernate has recently seen updates that enhance functionality.
- 11. Oracle released JDK versions 23.0.2, 21.0.6, 17.0.14, 11.0.26, and 8u441 in the latest CPU update.
- 12. Jakarta NoSQL version 1.0 has been released with updates to Jakarta EE 10.

Gap-Fill

13. JEP 502, Stable Values (Preview), has been upgraded from the initial draft to Candidate status.

Previously known as _____.

14. Oracle released JDK versions 23.0.2, 21.0.6, 17.0.14, 11.0.26, and _____ in the latest



CPU update.

15. Payara recently released its January 2025 edition, introducing essential bug fixes and new command-line features for _____ configuration.

16. Ivar Grimstad discussed an update on Jakarta EE 11, noting exciting progress with the upcoming release of Jakarta NoSQL version 1.0 and the nearly finalized Jakarta EE Web Profile 11 _____.

17. The new release of GraalVM for JDK 23 Community (23.0.2) includes critical fixes based on Oracle's _____, enhancing performance and stability.

18. The Spring Framework has rolled out milestone releases, while Hibernate has seen updates addressing various issues, enhancing overall _____.

Answer

Multiple Choice: 1. Improving final field initialization 2. JDK version 23.0.2 3. Performance enhancements from Oracle's CPU 4. Finalization of Jakarta EE Web Profile 11 TCK 5. Dynamic configuration features 6. JDK 24 and JDK 25

True-False: 7. True 8. False 9. False 10. True 11. True 12. False

Gap-Fill: 13. Computed Constants (Preview) 14. 8u441 15. dynamic 16. TCK 17. CPU 18. functionality

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What term refers to weaknesses in a system that can be exploited by attackers?

- Option: Sanctioned
- Option: Vulnerability
- Option: Perceived
- Option: Innovation

2. Which term relates to the use of codes and ciphers to secure communication?

- Option: Compromise
- Option: Cryptographic



- Option: Biomes
- Option: Configuration

3. The process of improving or adding value to something can be described as:

- Option: Enhancing
- Option: Exhilarating
- Option: Transmission
- Option: Caution

4. What term refers to the state of being resistant to change or disruption?

- Option: Torque
- Option: Distraction
- Option: Stability
- Option: Anticipation

5. Which term describes the introduction of new ideas or methods?

- Option: Released
- Option: Innovation
- Option: Privacy
- Option: Sophisticated

6. What is the term used to describe a situation where security is breached?

- Option: Promotion
- Option: Biomes
- Option: Compromise
- Option: Perceived

7. What term refers to large naturally occurring communities of flora and fauna?

- Option: Versatile
- Option: Biomes
- Option: Artificial
- Option: Function

8. What term describes something made or produced by human beings rather than occurring naturally?

- Option: Desolate
- Option: Artificial
- Option: Function
- Option: Distraction

9. What term refers to the advancement or elevation of someone or something?

- Option: Enhancing
- Option: Merits
- Option: Promotion



Option: Caution

10. Which term describes something complex advanced or highly developed?

Option: Vulnerability

Option: Exhilarating

Option: Sophisticated

Option: Torque

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. The _____ in a computer processor contains low-level instructions.

12. Access levels in a system are often based on user _____.

13. The abandoned town looked _____ and devoid of life.

14. The roller coaster ride was fast-paced and _____.

15. The _____ of data between devices is essential for communication.

16. Reaching the _____ of success requires dedication and hard work.

17. It is important to proceed with _____ when dealing with sensitive information.

18. Individuals value their _____ and seek ways to protect it.

19. The atmosphere was filled with _____ before the concert began.

20. Understanding the _____ of a system is key to its proper operation.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. A security breach involving a can lead to data loss and system vulnerabilities.
22. The new smartphone is highly offering multiple features for different user needs.
23. The agreement was officially by the authorities.
24. The music brought a sense of magic to the evening.
25. The candidate's skills and qualifications were discussed based on their for the job.



26. Setting up the network requires attention to detail and proper planning.
27. Constant notifications can be a major when trying to focus on work.
28. The feeling of grew as the long-awaited event approached.
29. The new software update was finally after months of development.
30. The interactive workshop was highly keeping the audience involved throughout.

Answer

Multiple Choice: 1. Vulnerability 2. Cryptographic 3. Enhancing 4. Stability 5. Innovation 6. Compromise 7. Biomes 8. Artificial 9. Promotion 10. Sophisticated

Gap-Fill: 11. Microcode 12. Privileges 13. Desolate 14. Exhilarating 15. Transmission 16. Pinnacle 17. Caution 18. Privacy 19. Anticipation 20. Function

Matching sentence: 1. Compromise 2. Versatile 3. Sanctioned 4. Enchanting 5. Merits 6. Configuration 7. Distraction 8. Anticipation 9. Released 10. Engaging

CATEGORY

1. Sci/Tech - LEVEL4

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