Spring Projects Version Naming Scheme

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1. Overview

It is common to use Semantic Versioning (https://semver.org/) when naming release versions. For example, these rules apply for a version format such as *MAJOR.MINOR.REVISION*:

- MAJOR: Major features and potential breaking changes
- MINOR: Backward compatible features
- REVISION**:** Backward compatible fixes and improvements

Together with Semantic Versioning, projects often use labels to further clarify the state of a particular release. In fact, by using these labels we give hints about the build lifecycle or where artifacts are published.

In this quick article, we'll examine the version-naming schemes adopted by major Spring projects.

2. Spr

In addition to Semantic Versioning, we can see that Spring Framework and Spring Boot use these labels:

- BUILD-SNAPSHOT
- M[*number*]
- RC[*number*]
- RELEASE

BUILD-SNAPSHOT is the current development release. The Spring team builds this artifact every day and deploys it to https://maven.springframework.org/snapshot (https://maven.springframework.org/snapshot).

A Milestone release (M1, M2, M3, ...) marks a significant stage in the release process. The team builds this artifact when a development iteration is completed and deploys it to https://maven.springframework.org/milestone (https://maven.springframework.org/milestone).

A Release Candidate (RC1, RC2, RC3, ...) is the last step before building the final release. To minimize code changes, only bug fixes should occur at this stage. It is also deployed to https://maven.springframework.org/milestone (https://maven.springframework.org/milestone).

At the very end of the release process, the Spring team produces a RELEASE. Consequently, this is usually the only production-ready artifact. We can also refer to this release as **GA, for General Availability**.

These labels are alphabetically ordered to make sure that build and dependency managers correctly determine if a version is more recent than another. For example, Maven 2 wrongly considered 1.0-SNAPSHOT as more recent than 1.0-

RELEASE. Maven 3 fixed this behavior. As a consequence, we can experience strange behaviors when our naming scheme is not optimal.

3. Umbrella Projects

Umbrella projects, like Spring Cloud and Spring Data, are projects over independent but related sub-projects. To avoid conflicts with these sub-projects, an umbrella project adopts a different naming scheme. **Instead of a numbered version, each Release Train has a special name.**

In alphabetical order, the London Subway Stations are the inspiration for the Spring Cloud release names — for starters, Angel, Brixton, Finchley, Greenwich, and Hoxton.

In addition to Spring labels shown above, it **also defines a Service Release label (SR1, SR2**

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(https://spring.io/projects/spring-cloud) contains the compatibility table.

4. Conclusion

As shown above, having a clear version-naming scheme is important. While some releases like Milestones or Release Candidates may be stable, we should always use production-ready artifacts. What is your naming scheme? What advantages does it have over this one?

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