

# Sling Graphql Core Upgrade

Due to a security vulnerability the import of **graphql-java** in Sling Graphql Core needs to be upgraded to at least 17.4 or higher. That said as of now any applicable version of graphql-java is not usable by Sling due to:

- Import of package **sun.misc** in the Manifest
- MANIFEST.MF not the first entry in the bundle

Both of these issues are fixed in the latest code base of **graphql-java master** branch which is slated to be released somewhere in April as version 20.1. As of now master branch also contains another issue:

- Pagination leads to a Class Loading failure with GenericConnection

This issue can be prevented by disabling the **Lambda Use Factory** which is added to the Sling Graphql Core.

The graphql-java team told me that they do not consider releases of back ports except for security issues but that will take time anyhow.

## Current State (March 1st, 2023)

This is the current state of graphql-java is:

- 17.4, 18.3 and 19.3 all seems to work just fine when the first two issues are fixed
- I created a PR for 19.3 but was told that they are only doing a new release for security issues
- Master branch contains fixes for the first two issues
- There is a pending PR against Master branch that fixes the class loading issues
  - This fix still can negatively affect performance for pagination
- All fixed versions used inside Adobe AEM work just fine including persistent queries, pagination, indexing and sorting

## Sling Graphql Core Module

I upgraded Sling Graphql Core to graphql-java 20.0 in this branch: <https://github.com/apache/sling-org-apache-sling-graphql-core/tree/issue/SLING-10900-200>

This does compile but it will fail the Jenkins tests.

## Next Steps

Any upgrade to a fixed release of graphql-java (17.4, 18.3, 19.3 and 20.0) will break the Jenkins tests due to the first two issues (see PR: <https://github.com/apache/sling-org-apache-sling-graphql-core/pull/34>) but this module is not used in Sling Starter.

In order to test the upgrade of graphql-java with Sling we would need to do the following:

1. Create a private release of graphql-java on 20.0 that has all 3 issues fixed
2. Create a private release of Sling Graphql Core updated to graphql-java 20.x
  - a. Note: all graphql-java releases require the same changes except for testing
3. Test GraphQL both on a local AEM instance and in the cloud

Beside Peregrine CMS and AEM I am not aware of another platform using Sling Graphql Core.