

Releasing TASSEL 5 and PHG

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Introduction

The order of these steps are important. Please review all steps prior to starting. Parts of this process can be omitted for a given release, but consider the implications of the other steps. These repositories should be exactly the master branch. Not your development environment.

Prerequisites

Install4j (<https://www.ej-technologies.com/products/install4j/overview.html>)

- Free Open Source License (<https://www.ej-technologies.com/buy/install4j/openSource/enter>)
- Use this project (tassel.bitbucket.org/installer/tassel5.install4j)
- Update General Settings -> Media File Options -> Media file output directory (i.e. [builds/tassel.bitbucket.org/installer](https://tassel.bitbucket.org/installer))
- Update Files -> Define Distribution Tree (2 Content directories)
- If you ever remove a supporting .jar from TASSEL 5 lib directory, add it to this list of files to be deleted during future installations. Installer -> Screens & Actions -> Installation -> Delete files and directories -> Files and directories

Docker (<https://www.docker.com/>)

Git (<https://git-scm.com/>)

Maven (<https://maven.apache.org/>)

In `~/.m2/settings.xml`, add your userid / password for <https://oss.sonatype.org>

```
<settings>
  <servers>
    <server>
      <id>ossrh</id>
      <username>YourUserid</username>
      <password>YourPassword</password>
    </server>
  </servers>
</settings>
```

GPG Suite (<https://gpgtools.org/>)

- Working with PGP Signatures (<https://central.sonatype.org/pages/working-with-gpg-signatures.html>)
- `gpg --version`
- `gpg --gen-key`
- `gpg --list-keys`
- `gpg --keyserver hkp://pool.sks-keyservers.net --send-keys <key-id>` (NOTE: This may work faster from the GPG keychain App)

Java 8

- Older License: <https://www.oracle.com/java/technologies/javase/javase8-archive-downloads.html>
- <https://www.oracle.com/technetwork/java/javase/downloads/index.html>

Create `builds` directory and change into it...

- `mkdir builds`
- `cd builds`

Check out repositories...

```
// TASSEL 5 Source Code
git clone https://<userid>@bitbucket.org/tasseladmin/tassel-5-source.git

// PHG Source Code
git clone
https://<userid>@bitbucket.org/bucklerlab/practicalhaplotypegraph.git

// TASSEL 5 Standalone
git clone https://<userid>@bitbucket.org/tasseladmin/tassel-5-standalone.git

// TASSEL 5 Test
git clone https://<userid>@bitbucket.org/tasseladmin/tassel-5-test.git

// TASSEL Website
git clone https://<userid>@bitbucket.org/tassel/tassel.bitbucket.org.git
```

TASSEL 5 Build and Deploy to Maven Central

- `cd tassel-5-test`
- `git pull` (Do this to get all committed code. This repository should be exactly the master branch. **NOT** your development environment)
- `cd tassel-5-source`
- `git pull` (Do this to get all committed code. This repository should be exactly the master branch. **NOT** your development environment)
- Modify `src/net/maizegenetics/tassel/TASSELMainFrame.java` (version and versionDate)
- Modify `pom.xml` `<version>` tag (should match version above)
- Commit changes above with message "New Build Date" (`git commit pom.xml src/net/maizegenetics/tassel/TASSELMainFrame.java, git push`)
- `mvn clean test` (do this to run all unit tests)
- `mvn clean package -Dmaven.test.skip=true` (do this to test compile)
- `mvn clean deploy -Dmaven.test.skip=true` (do this to deploy to sonatype -> maven central)
- <https://oss.sonatype.org/#stagingRepositories> (See screenshot below)
- Find staged repository, and verify all steps passed
- Release repository (Click release with correct repository selected)
- <https://mvnrepository.com/artifact/net.maizegenetics/tassel> (artifact will show here but may take some time to update)

PHG Build and Deploy to Maven Central

- `cd practicalhaplotypegraph`
- `git pull` (Do this to get all committed code. This repository should be exactly the master branch. **NOT** your development environment)
- Modify `pom.xml` `<version>` tag

- Modify `pom.xml` TASSEL dependency version (NOTE: The step above “TASSEL 5 Build and Deploy to Maven Central” needs to be complete before this will work)
- Commit changes above with message “New Build Date” (`git commit pom.xml, git push`)
- `mvn clean package -Dmaven.test.skip=true` (do this to test compile)
- `mvn clean deploy -Dmaven.test.skip=true` (do this to deploy to sonatype -> maven central)
- <https://oss.sonatype.org/#stagingRepositories> (See screenshot below)
- Find staged repository, and verify all steps passed
- Release repository (Click release with correct repository selected)
- <https://mvnrepository.com/artifact/net.maizegenetics/phg> (artifact will show here but may take some time to update)

TASSEL 5 Standalone

- `cd tassell-5-standalone`
- `cp ../tassel-5-source/dist/sTASSEL.jar sTASSEL.jar`
- `cp ../practicalhaplotypegraph/dist/phg.jar lib/phg.jar`
- Add new jars to `lib` if needed (i.e. `git add lib/library.jar`)
- Remove unneeded jars from `lib` (i.e. `git rm lib/library.jar`) (NOTE: update `install4j` project)

TASSEL Website (<http://www.maizegenetics.net/tassel>)

- `cd tassell.bitbucket.org`
- Update date in `index.html`
- Run `install4j` build (Build -> Start Build) (Check there are no errors - see screenshot below)
- Update change history `tassel.bitbucket.org/docs/Tassel5ChangeHistory.html`
 - `cd ../tassel-5-source`
 - `./run_change_history.pl`
 - Copy output to `Tassel5ChangeHistory.html`
 - Indicate new `phg.jar` version if changed in `tassel-5-standalone/lib`
 - Indicate new jars added to `tassel-5-standalone/lib`
 - Indicate jars deleted from `tassel-5-standalone/lib`
- NOTE: TASSEL javadoc will be updated within 24 hours automatically after the new image is in maven central. <https://javadoc.io/doc/net.maizegenetics/tassel/latest/index.html>
- NOTE: PHG javadoc will be updated within 24 hours automatically after the new image is in maven central. <https://javadoc.io/doc/net.maizegenetics/phg/latest/index.html>

Commit / Push TASSEL 5 Standalone and TASSEL Website

Create script named `builds/update_build_tassel5.pl` with this code...

```
#!/usr/bin/perl -w

use strict;

system "cp tassell-5-source/dist/sTASSEL.jar tassell-5-standalone/sTASSEL.jar";

my $versionComment5 = `./tassel-5-source/run_pipeline_non_verbose.pl -versionComment`;
$versionComment5 =~ s/\s+$///;
```

```

my $versionTag5 = `./tassel-5-source/run_pipeline_non_verbose.pl -versionTag`;

if (!defined $versionComment5 || length $versionComment5 == 0) {
    print "versionComment5 is not defined\n";
    exit;
}

if (!defined $versionTag5 || length $versionTag5 == 0) {
    print "versionTag5 is not defined\n";
    exit;
}

my @args = @ARGV;
if ($args[0] eq "-test") {
    print "Test Mode...\n\n";
    print "Tassel 5 Comment: " . $versionComment5 . "\n";
    print "Tassel 5 Tag: " . $versionTag5 . "\n";
    system "cd tassel.bitbucket.org; git commit -a -m'$versionComment5' --dry-run";
    system "cd tassel-5-standalone; git commit -a -m'$versionComment5' --dry-run";
}
elseif ($args[0] eq "-commit") {
    print "Commit Mode...\n\n";
    print "Tassel 5 Comment: " . $versionComment5 . "\n";
    print "Tassel 5 Tag: " . $versionTag5 . "\n";
    system "cd tassel-5-standalone; git commit -a -m'$versionComment5'";
    system "cd tassel-5-standalone; git tag -m'$versionComment5' $versionTag5";
    system "cd tassel-5-standalone; git push";
    system "cd tassel-5-standalone; git push --tags";

    system "cd tassel.bitbucket.org; git commit -a -m'$versionComment5'";
    system "cd tassel.bitbucket.org; git tag -m'$versionComment5' $versionTag5";
    system "cd tassel.bitbucket.org; git push";
    system "cd tassel.bitbucket.org; git push --tags";
}

```

Running script builds/update_build_tassel5.pl

- ./update_build_tassel5.pl -test (Dry run - shows what will be committed. Notice date and version)
- ./update_build_tassel5.pl -commit (Commits and pushes changes)

PHG Docker Image

- cd practicalhaplotypegraph/docker/buildFiles
- **Remove old PHG docker images** (docker rmi maizegenetics/phg:latest, docker rmi maizegenetics/phg:0.0.10, docker rmi phg, docker rmi broadinstitute/gatk)
- **Optionally add this line to Dockerfile and copy the sentieon directory to this location** (ADD ./sentieon-genomics-201711/ /sentieon/)
- docker build -t phg .
- docker login -u <userid>
- docker tag phg maizegenetics/phg:<PHG version>
- docker tag phg maizegenetics/phg:latest

- `docker push maizegenetics/phg`
- <https://hub.docker.com/r/maizegenetics/phg/tags/>
- `docker run --rm -it maizegenetics/phg` (to test it works)

PHG Liquibase Docker Image

- `cd practicalhaplotypegraph/docker/buildFiles/liquibase`
- **Remove old phg_liquibase images** (`docker rmi maizegenetics/phg_liquibase:latest`, `docker rmi maizegenetics/phg_liquibase:0.0.10`, `docker rmi phg_liquibase`)
- `docker build -t phg_liquibase .`
- `docker login -u <userid>`
- `docker tag phg_liquibase maizegenetics/phg_liquibase:<PHG version>` (NOTE: Same version as PHG Docker Image)
- `docker tag phg_liquibase maizegenetics/phg_liquibase:latest`
- `docker push maizegenetics/phg_liquibase`
- https://hub.docker.com/r/maizegenetics/phg_liquibase/tags/
- `docker run --rm -it maizegenetics/phg_liquibase` (to test it works)

Send email notifying TASSEL User Group (tassel@googlegroups.com)

I've posted the latest build for Tassel 5 to the website.

Tassel Website..

<http://www.maizegenetics.net/tassel>

Tassel 5 User Manual...

<https://bitbucket.org/tasseladmin/tassel-5-source/wiki/UserManual>

Tassel Wiki...

<https://bitbucket.org/tasseladmin/tassel-5-source/wiki/Home>

Tassel 5 Change History...

<https://tassel.bitbucket.io/docs/Tassel5ChangeHistory.html>

How to Report Tassel Issues...

<https://bitbucket.org/tasseladmin/tassel-5-source/wiki/docs/ReportingTassel5Issues.pdf>

Best,

Name

References

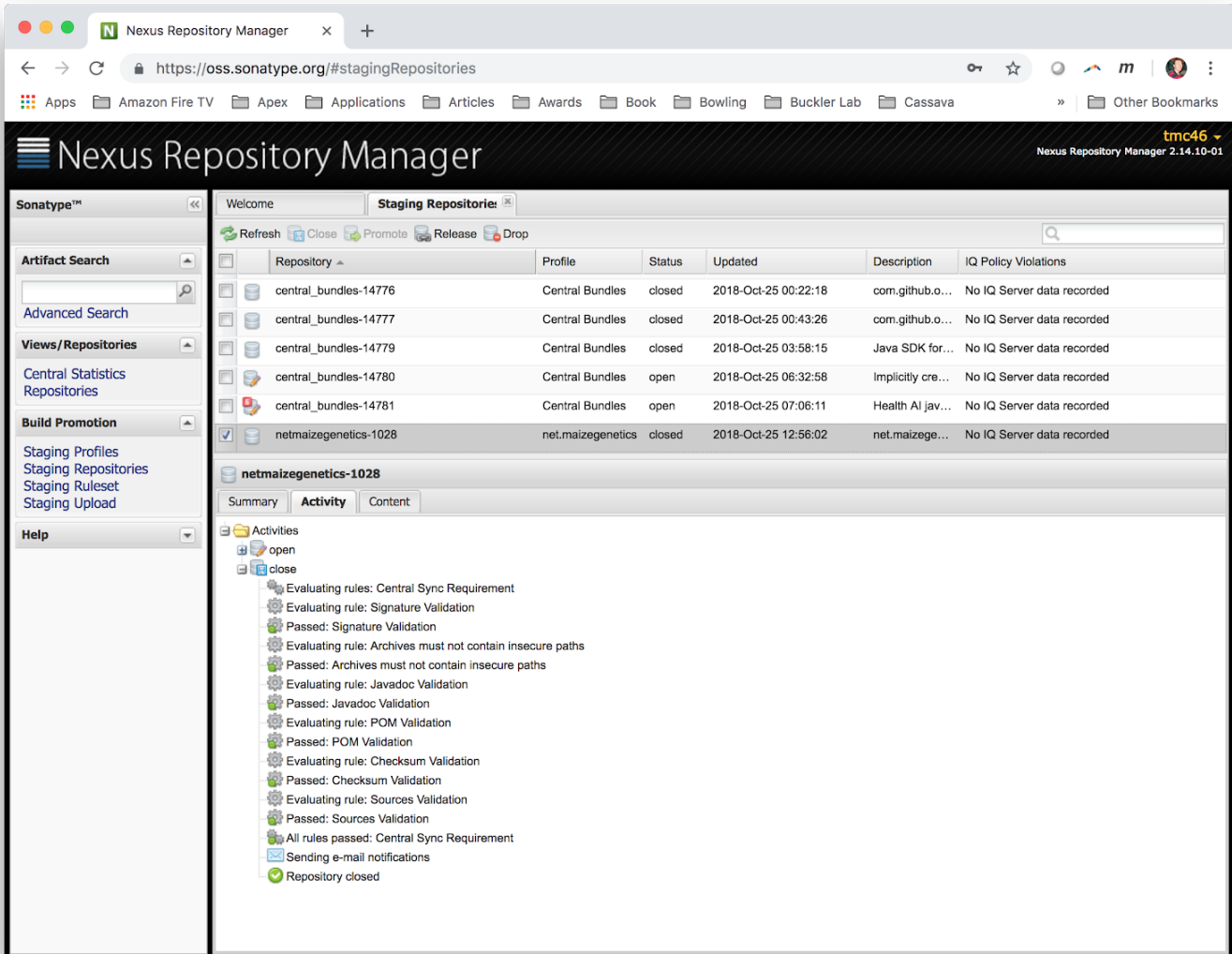
<https://maven.apache.org/repository/guide-central-repository-upload.html>

<https://central.sonatype.org/pages/ossrh-guide.html>

<https://maven.apache.org/settings.html>

Screen Shots

Nexus Repository Manager (sonatype.org)



Install4j Building TASSEL Native Installers

install4j Multi-Platform Edition [tassel5]

Build

In this final step of your install4j configuration, the launchers and the media files are built. Please adjust the build options as needed.

Build Options

- Enable extra verbose output
- Do not delete temporary directory
- Disable LZMA and Pack200 compression
- Disable code signing
- Disable JRE bundling
- Create additional debug installer

Build Selection

- Build all
- Build selected:

- Windows (64 Bit)
- Windows (32 Bit)
- Unix Installer
- Mac OS X Folder

Build output:

```
Adding JRE (macosx-am004-1.8.0_121)
Shrinking runtime
Compressing 4 media files with 4 threads:
Compressed media file 'Unix Installer':
  Compressing files
  Moving media files to media directory /Users/terry/builds/tassel.bitbucket.org/installer
  The name of the media file is TASSEL_5_unix.sh.
  The size of the media file is 58.8 MB
Compressed media file 'Windows (32 Bit)':
  Compressing files
  Moving media files to media directory /Users/terry/builds/tassel.bitbucket.org/installer
  The name of the media file is TASSEL_5_windows.exe.
  The size of the media file is 93.4 MB
Compressed media file 'Windows (64 Bit)':
  Compressing files
  Moving media files to media directory /Users/terry/builds/tassel.bitbucket.org/installer
  The name of the media file is TASSEL_5_windows-x64.exe.
  The size of the media file is 96.8 MB
Compressed media file 'Mac OS X Folder':
  Compressing files
  Generating VM options file vmoptions.txt.
  Moving media files to media directory /Users/terry/builds/tassel.bitbucket.org/installer
  The name of the media file is TASSEL_5_macos.dmg.
  The size of the media file is 93.2 MB
Writing md5sums.
Writing updates.xml.
Please upload updates.xml to https://tassel.bitbucket.io/installer/updates.xml
and upload all generated media files to the same directory.

To check your settings, you can generate a project report
Build was completed in 20.4 seconds.
```

Build completed. Idle