

Build and Source Control - Feature #4147

Improve Gradle build for offline use

07/11/2019 05:33 AM - Hynek Cihlar

Status:	Closed	Start date:	
Priority:	Normal	Due date:	
Assignee:	Hynek Cihlar	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:		vendor_id:	GCD
billable:	No		
Description			

History

#1 - 07/11/2019 06:10 AM - Hynek Cihlar

- Subject changed from Lock dependencies resolved with Gradle to Improve Gradle build for offline use

#2 - 07/11/2019 06:29 AM - Hynek Cihlar

Current issues:

- Gradle wrapper or a Gradle distribution must be downloaded before Gradle build can be run.
- Current approach of copying the Gradle cache doesn't seem to handle the cases when a modul version is changed by Gradle during dependency resolution.
- Current approach of copying the Gradle cache may break when the Gradle cache format changes.

The solution:

- Download the Gradle wrapper binaries and put them in the dependency zip archive, change the Gradle wrapper url to point to local file system (local-repo). Modify distributionUrl in gradle-wrapper.properties.
- In the build script initialize the configurations conditionally either using the module name dependency syntax or directly from files on the local file system depending whether in online mode or not. Something like the below.

```
dependencies {
    if (gradle.startParameter.isOffline()) {
        fwdLocalLibs fileTree(dir: localLibs)
    } else {
        fwdClient group: 'com.twelvemonkeys.common', name: 'common-image', version: '3.1.2'
    }
}
```

- Create the local lib dir by copying the resolved files directly from the configurations.

```
task refreshLocalLibs(dependsOn: 'deleteLocalLibs') << {
    ['fwdAllCompile', 'fwdAllRuntime'].each { cfg ->
        copy {
            from configurations.getByName(cfg).files
            into "${localLibs}/${cfg}"
        }
    }
}
```

#3 - 07/17/2019 04:59 PM - Hynek Cihlar

- File *build.gradle* added

The ideas above are implemented in the attached *build.gradle*. The changes are based on the FWD version 3.2.0. The changes were tested on Linux and Windows with and without internet connectivity, with fresh Gradle installs of versions 3.5 and 5.5.

#4 - 07/17/2019 05:35 PM - Hynek Cihlar

Another version of *build.gradle* attached. I added the task *fetchGradle* which will fetch the Gradle distribution to the *lib* dir. This file will be used as the distribution url for the Gradle wrapper script during offline build.

To use the distribution on a fresh system without internet connectivity set the property *distributionUrl* in *gradle/wrapper/gradle-wrapper.properties* to *../../lib/gradle-3.0-bin.zip*.

#5 - 07/17/2019 05:35 PM - Hynek Cihlar

- File *build.gradle* added

Hynek Cihlar wrote:

Another version of *build.gradle* attached.

And the file.

#6 - 07/17/2019 06:44 PM - Greg Shah

I'm good with the changes.

#7 - 07/18/2019 04:55 AM - Hynek Cihlar

I created task branch 4147a from version FWD 3.2.0 (trunk revision 11281). Checked in "Fix to allow locale definition to work on newer Linux versions (e.g. Ubuntu 18.04 and later). These changes also work on older Linux versions. Refs [#3960](#)." from task branch 4069a (revision 11333).

Also checked in the attached *build.gradle* and increased version in *version.properties* to 3.2.1.

With the changes during the release process, instead of calling *createLocalRepo* Gradle task call the tasks *fetchDependencies* and *fetchGradle* in this order. The dependencies will be fetched to the *lib* dir, zip this dir and use this as the dependencies archive.

To build on an offline system, set the property *distributionUrl* in *gradle/wrapper/gradle-wrapper.properties* to *../../lib/gradle-3.0-bin.zip* and use the *--offline* Gradle parameter.

I'll update the wiki doc. Btw., shouldn't we document the release process on the wiki, too?

#8 - 07/18/2019 05:04 AM - Hynek Cihlar

With the new lib layout some jar files will be duplicated (cca 100 MB of duplicated size). Unfortunately zip doesn't allow a deduplication strategy, but other archive formats do. See <https://stackoverflow.com/questions/27457326/compressing-a-folder-with-many-duplicated-files>.

#9 - 10/23/2019 02:36 PM - Greg Shah

I've merged the build.gradle changes into 4069a revision 11434.

Hynek: Please review.

#10 - 10/23/2019 03:24 PM - Greg Shah

With the changes during the release process, instead of calling createLocalRepo Gradle task call the tasks fetchDependencies and fetchGradle in this order. The dependencies will be fetched to the lib dir, zip this dir and use this as the dependencies archive.

I'm trying to release v3.2.1 but the normal ./gradlew core does not populate lib/ with anything, that directory is empty. How do I capture it?

#11 - 10/23/2019 03:46 PM - Hynek Cihlar

Greg Shah wrote:

With the changes during the release process, instead of calling createLocalRepo Gradle task call the tasks fetchDependencies and fetchGradle in this order. The dependencies will be fetched to the lib dir, zip this dir and use this as the dependencies archive.

I'm trying to release v3.2.1 but the normal ./gradlew core does not populate lib/ with anything, that directory is empty. How do I capture it?

Use the tasks fetchDependencies and fetchGradle to populate the lib directory.

#12 - 10/23/2019 03:49 PM - Hynek Cihlar

Greg Shah wrote:

I've merged the build.gradle changes into 4069a revision 11434.

Hynek: Please review.

The merge is OK.

#13 - 10/23/2019 04:01 PM - Greg Shah

- % Done changed from 0 to 100
- Status changed from New to Closed
- Assignee set to Hynek Cihlar

I've released [FWD_v3.2.1](#) which is based on branch 4147a. The build.gradle change will merge to trunk with 4069a.

#15 - 10/23/2019 04:03 PM - Greg Shah

4147a was archived as merged.

Files			
build.gradle	30.5 KB	07/17/2019	Hynek Cihlar
build.gradle	31 KB	07/17/2019	Hynek Cihlar