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* [Tutorials](https://guides.gradle.org/)

### Reference

* [Groovy DSL Reference](http://docs.google.com/dsl/)
* [Gradle API Javadoc](http://docs.google.com/javadoc/)
* [Core Plugins](http://docs.google.com/userguide/plugin_reference.html)
* [Gradle & Third-party Tools](http://docs.google.com/userguide/third_party_integration.html)

### Getting Started

* [Creating New Gradle Builds](https://guides.gradle.org/creating-new-gradle-builds/)
* [Creating Build Scans](https://guides.gradle.org/creating-build-scans/)
* [Migrating From Maven](https://guides.gradle.org/migrating-from-maven/)

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* [Integrating Separate Gradle Builds (Composite Builds)](http://docs.google.com/userguide/composite_builds.html)

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  + [Introducing the Basics of Build Scripts](http://docs.google.com/userguide/tutorial_using_tasks.html)
  + [Working with Tasks](http://docs.google.com/userguide/more_about_tasks.html)
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* [Sample Gradle builds](#1t3h5sf)
  + [Groovy DSL Samples](https://github.com/gradle/gradle/tree/master/subprojects/docs/src/samples)
  + [Kotlin DSL Samples](https://github.com/gradle/kotlin-dsl/tree/master/samples)

### Extending Gradle

* [Writing Custom Plugins](http://docs.google.com/userguide/custom_plugins.html)
* [Plugin Development Guides](https://gradle.org/guides/?q=Plugin+Development)

[Edit this page](https://github.com/gradle/gradle/edit/master/subprojects/docs/src/docs/userguide/)

# Potential Traps

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[Groovy script variables](#4d34og8)

For Gradle users it is important to understand how Groovy deals with script variables. Groovy has two types of script variables. One with a local scope and one with a script-wide scope.

[Example: Variables scope: local and script wide](#17dp8vu)

**scope.groovy**

String localScope1 = 'localScope1'  
def localScope2 = 'localScope2'  
scriptScope = 'scriptScope'  
  
println localScope1  
println localScope2  
println scriptScope  
  
closure = {  
 println localScope1  
 println localScope2  
 println scriptScope  
}  
  
def method() {  
 try {  
 localScope1  
 } catch (MissingPropertyException e) {  
 println 'localScope1NotAvailable'  
 }  
 try {  
 localScope2  
 } catch(MissingPropertyException e) {  
 println 'localScope2NotAvailable'  
 }  
 println scriptScope  
}  
  
closure.call()  
method()

**Output of groovy scope.groovy**

> groovy scope.groovy  
localScope1  
localScope2  
scriptScope  
localScope1  
localScope2  
scriptScope  
localScope1NotAvailable  
localScope2NotAvailable  
scriptScope

Variables which are declared with a type modifier are visible within closures but not visible within methods.

[Configuration and execution phase](#2s8eyo1)

It is important to keep in mind that Gradle has a distinct configuration and execution phase (see [Build Lifecycle](http://docs.google.com/build_lifecycle.html#build_lifecycle)).

[Example: Distinct configuration and execution phase](#3rdcrjn)

**build.gradle**

def classesDir = file('build/classes')  
classesDir.mkdirs()  
task clean(type: Delete) {  
 delete 'build'  
}  
task compile(dependsOn: 'clean') {  
 doLast {  
 if (!classesDir.isDirectory()) {  
 println 'The class directory does not exist. I can not operate'  
 // do something  
 }  
 // do something  
 }  
}

**Output of** gradle -q compile

> gradle -q compile  
The class directory does not exist. I can not operate

As the creation of the directory happens during the configuration phase, the clean task removes the directory during the execution phase.

Docs

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