

# sbt

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# Preface

sbt . . . . . , sbt . . . . . , . . . . . sbt . . . . . ! . . . . . , .sbt ,scopes, . . . . . , sbt . . . . . !

## sbt

sbt , :

- sbt
- [hello world](#)

—  
—

- [sbt](#) sbt
- [.sbt](#)

, Jar Shell , , [Mac,Windows,Linux](#),

sbt , ,HTTP ,JVM

## Mac sbt

: ,

### [Macports](#)

```
$ port install sbt
```

### [Homebrew](#)

```
$ brew install sbt
```

### [ZIP TGZ](#)

**Windows**    **sbt**

**Windows**

[msi](#)

[ZIP](#)   [TGZ](#)

**Linux**   **sbt**

[ZIP](#)   [TGZ](#)

**RPM**   **DEB**

:

- [RPM](#)
- [DEB](#)

:            [sbt-launcher-package](#)

**Gentoo**

sbt            ebuild            sbt   [ebuilds](#)            ebuilds    sbt:

```
$ mkdir -p /usr/local/portage && cd /usr/local/portage
$ git clone git://github.com/whiter4bbit/overlays.git
$ echo "PORTDIR_OVERLAY=$PORTDIR_OVERLAY /usr/local/portage/overlays" >> /etc/make.conf
$ emerge sbt-bin
```

:    ebuild

**sbt**

[sbt-launch.jar](#),

## Unix

[sbt-launch.jar](#) ~/bin

jar, ~/bin/sbt :

```
SBT_OPTS="-Xms512M -Xmx1536M -Xss1M -XX:+CMSClassUnloadingEnabled -XX:MaxPermSize=256M"
java $SBT_OPTS -jar ` $0`/sbt-launch.jar "$@"
```

:

```
$ chmod u+x ~/bin/sbt
```

## Windows

Windows                  Cygwin                  , batch                  path ,                  sbt  
sbt , , JVM

**Non-Cygwin**                  Windows                  Cygwin ,                  sbt.bat                  batch :

```
set SCRIPT_DIR=%~dp0
java -Xms512M -Xmx1536M -Xss1M -XX:+CMSClassUnloadingEnabled -XX:MaxPermSize=256M -jar "%SCRIP
```

[sbt-launch.jar](#)                  sbt.bat

**Cygwin**                  **Windows**                  Cygwin                  Windows ,                  bash                  ~/bin/sbt:

```
SBT_OPTS="-Xms512M -Xmx1536M -Xss1M -XX:+CMSClassUnloadingEnabled -XX:MaxPermSize=256M"
java $SBT_OPTS -jar sbt-launch.jar "$@"
```

[sbt-launch.jar](#)                  sbt-launch.jar,                  cygpath                  :

```
$ chmod u+x ~/bin/sbt
```

```
Cygwin  Ansi      Cygwin  Ansi  (  Ansi      stty  ),  bash
~/bin/sbt:
```

```
SBT_OPTS="-Xms512M -Xmx1536M -Xss1M -XX:+CMSClassUnloadingEnabled -XX:MaxPermSize=256M"
stty -icanon min 1 -echo > /dev/null 2>&1
java -Djline.terminal=jline.UnixTerminal -Dsbt.cygwin=true $SBT_OPTS -jar sbt-launch.jar "$@"
stty icanon echo > /dev/null 2>&1
```

```
sbt-launch.jar      sbt-launch.jar,      cygpath      :
```

```
$ chmod u+x ~/bin/sbt
```

```
(backspace) scala      ,      (erase character), stty      cygwin
(mintty),      -> ,“      ^H”      cygwin      ^H
```

```
:      pull request
```

## Hello, World

```
sbt
```

```
sbt      hello ,      hw.scala:

object Hi {
  def main(args: Array[String]) = println("Hi!")
}
```

```
hello      sbt,      run      sbt      Linux      OS X      :
```

```
$ mkdir hello
$ cd hello
$ echo 'object Hi { def main(args: Array[String]) = println("Hi!") }' > hw.scala
$ sbt
...
> run
...
Hi!
```

```
,sbt      sbt      :
```

- 
- `src/main/scala src/main/java`
- `src/test/scala src/test/java`
- `src/main/resources src/test/resources`
- `lib jar`

```
,sbt          Scala
      sbt run          sbt console  Scala REPL sbt console      class-
path,          Scala
```

```
          build.sbt
,      hello , hello/build.sbt      :

name := "hello"

version := "1.0"

scalaVersion := "2.10.3"

          ,          .sbt          build.sbt
          jar , build.sbt      name version
```

```
sbt

      hello/project/build.properties      sbt      ,      0.13.6:

sbt.version=0.13.6

sbt      release      99%      project/build.properties      sbt
```

```
sbt      Hello, World
```

```
sbt      ,“ ”      ,      Hello, World      hello ,      hello/build.sbt
hello/hw.scala, hello
```

```

    hello/hw.scala      ,      ,
sbt  Maven      (      ):

src/
  main/
    resources/
      <files to include in main jar here>
    scala/
      <main Scala sources>
    java/
      <main Java sources>
  test/
    resources
      <files to include in test jar here>
    scala/
      <test Scala sources>
    java/
      <test Java sources>

src/      ,

sbt

    build.sbt  sbt  project
project      .scala  ,      .sbt      .scala

build.sbt
project/
  Build.scala

  project/      .sbt  ,      .sbt      ,

(  classes,  jars,  ,caches  )  target

.gitignore (      ) :
```



```

target/

:      / ( )      / (      target/      project/target/ )

sbt      sbt      Hello, World

sbt      :

$ sbt

sbt      ( tab      )
, sbt      compile:

> compile

compile,
run
exit Ctrl+D (Unix) Ctrl+Z (Windows)

sbt,      sbt ,      sbt :

$ sbt clean compile "testOnly TestA TestB"

,testOnly      TestA TestB      (clean, compile, testOnly)

- - , sbt
~ ,      ,      :

> ~ compile

~

```

```

    sbt
clean
    ( target )
compile
    ( src/main/scala src/main/java )
test

console

    classpath Scala :quit, Ctrl+D (Unix), Ctrl+Z (Windows)
    sbt
run < >*
    sbt main class
package
    src/main/resources src/main/scala src/main/java class jar
help < >

,

reload
    (build.sbt, project/.scala, project/.sbt )

```

## Tab

```

    tab sbt , tab ,

, sbt :

!

!!

!:
```

```

!n
    n
!n
    n , !:
!n
    n
!string
    string
!string
    string

.sbt

```

## Scopes

**.scala**