

In order to execute TestSmellDescriber in headless mode you should apply the following steps:

1. Download and export TestSmellDescriber as a runnable JAR:

a. Download the TestSmellDescriber project from  
'<https://doi.org/10.6084/m9.figshare.6357257.v1>'

b. Download the necessary modules by executing the following three commands:

- cd testsmellsdescriber (Immediately After git clone command)
- git submodule init (Immediately after cd command)
- git submodule update (Immediately after submodule init command)

\*Note: We used the following IDE: Eclipse Java EE, version Oxygen.2 Release (4.7.2)  
Run IDE and follow the below steps

c. Import (File > Open Projects from File System) the following projects into your IDE\*:

- testsmellsdescriber\TACO-detector
- testsmellsdescriber\TestSmellDescriberRunner
- testsmellsdescriber\TestSmellRunner
- testsmellsdescriber\TestSmellUtil
- all projects within testsmellsdescriber\smelldetectioncaller\

d. Select the class TestSmellDescriberRunner/testsmell/describer/Main.java and run it as a Java Application. The execution can be stopped immediately after. This step is required to make the class available as a launch configuration for step 7.

e. Open the context menu of the same class and click the item Export.

f. Select Runnable JAR file.

g. Set the launch configuration to "Main - TestSmellDescriberRunner" and select the desired output path in the Export destination field.

h. Select "Package required libraries into generated JAR".

i. Click Finish.

\*Note: We used the following IDE: Eclipse Java EE, version Oxygen.2 Release (4.7.2)

2. The folder containing the smell description templates has to be added to folder containing the newly generate JAR file. Our repository includes the by us defined templates that are used for the generation of smell descriptions.( Statement needs more clarification )  
The folder is located in /testsmellsdescriber/TestSmellDescriberRunner/.

3. Execute the JAR file by executing the command "java -jar TestSmellDescriber.jar" and follow the instructions on the screen.

- TestSmellDescriber requires the following five parameters:
  - a. the path to the source files of the to be examined project, for instance (C:/Users/Admin/Desktop/workspaceNeon/TestedProjects/apache-ofbiz-16.11.04/src) use '\' instead '/' separator
  - b. the path to binary files of the to be examined project, for instance (C:\Users\Admin\Desktop\workspaceNeon\TestedProjects\apache-ofbiz-16.11.04\bin) use '\' instead '/' separator
  - c. the package path of the to be described test class separated by '/' (e.g. "org/apache/ofbiz/base/util/string/FlexibleStringExpander.java"),
  - d. the package path of the by the test class tested production class separated by '/', (e.g. "org/apache/ofbiz/base/util/string/FlexibleStringExpander.java")
  - e. the bytecode file type of the binary files ("jar" or "class").
- You can alternatively input all five information by executing "java -jar .\TestSmellDescriber.jar <a> <b> <c> <d> <e>".