

Homework 6

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1 Running TosKeriser

The first step is to run TosKeriser passing as argument the *doodle.yaml* file. I used the policy *size*:

```
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ toskerise doodle.yaml --policy size
founded 116 images for "doodle" node
complete node "doodle" with image "frekele/maven:3.3.3-jdk8u51" (247.45 MB, 116382 pulls, 13 stars)
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$
```

Figure 1

```
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ diff doodle.yaml doodle.completed.yaml
9c9
< - tosker: https://di-unipi-socc.github.io/tosker-types/tosker.yaml
---
> - tosker: https://di-unipi-socc.github.io/tosker-types/tosker.yaml
19,25c19,26
<     node_filter:
<       properties:
<         - ports:
<           - 8080: 8080
<         - supported_sw:
<           - java: 1.8.0
<           - mvn: 3.x
<     ---
>     node_filter:
>       properties:
>         - ports:
>           - 8080: 8080
>         - supported_sw:
>           - java: 1.8.0
>           - mvn: 3.x
>     node: doodle_container
38a40,61
> doodle_container:
>   type: tosker.nodes.Container
>   properties:
>     ports:
>       8080: 8080
>     supported_sw:
>       java: 1.8.0
>       wget: '1.18'
>       curl: 7.52.1
>       perl: 5.24.1
>       erl: '2'
>       bash: 4.4.12
>       tar: '1.29'
>       nano: 2.7.4
>       mvn: 3.3.3
>       unzip: '6.00'
>     os_distribution: Debian GNU/Linux 9 (stretch)
>   artifacts:
>     my_image:
>       type: tosker.artifacts.Image
>       file: frekele/maven:3.3.3-jdk8u51
>       repository: docker_hub
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$
```

Figure 2: Difference between doodle.yaml file and doodle.completed.yaml

2 Running TosKer

In order to run and manage the Doodle application we execute the four operations defined in the `doodle.yaml` file: *create*, *start*, *stop* e *delete*.

2.1 create

The create log output is divided into 2 screenshot, one for the first part of the output, the last for the ending part.

```
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker doodle.completed.yaml create
update memory ok
✓ Create network... Done
✓ Create doodle_container (container)... Done
✓ Create doodle (software)... Done
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker log doodle.completed.doodle create | less
update memory ok
+ unzip /tmp/dt/doodle/doodle.zip
Archive: /tmp/dt/doodle/doodle.zip
  creating: doodle/
  inflating: doodle/.gitignore
  inflating: doodle/doodle.iml
  inflating: doodle/mvnw
  inflating: doodle/pom.xml
  creating: doodle/src/
  creating: doodle/src/main/
  creating: doodle/src/main/java/
  creating: doodle/src/main/java/di/
  creating: doodle/src/main/java/di/unipi/
  creating: doodle/src/main/java/di/unipi/ase/
  creating: doodle/src/main/java/di/unipi/ase/doodle/
  inflating: doodle/src/main/java/di/unipi/ase/doodle/Doodle.java
  inflating: doodle/src/main/java/di/unipi/ase/doodle/DoodleApplication.java
  inflating: doodle/src/main/java/di/unipi/ase/doodle/DoodleController.java
  inflating: doodle/src/main/java/di/unipi/ase/doodle/Vote.java
  creating: doodle/src/main/resources/
  extracting: doodle/src/main/resources/application.properties
  creating: doodle/src/main/resources/static/
  creating: doodle/src/main/resources/templates/
  creating: doodle/src/test/
  creating: doodle/src/test/java/
  creating: doodle/src/test/java/di/
  creating: doodle/src/test/java/di/unipi/
  creating: doodle/src/test/java/di/unipi/ase/
  creating: doodle/src/test/java/di/unipi/ase/doodle/
  inflating: doodle/src/test/java/di/unipi/ase/doodle/DoodleApplicationTests.java
+ cd doodle
+ mvn clean install
[INFO] Scanning for projects...
Downloading: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/1.5.7.RELEASE/spring-boot-starter-parent-1.5.7.RELEASE.pom
3/8 KB
6/8 KB
8/8 KB

Downloaded: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/1.5.7.RELEASE/spring-boot-starter-parent-1.5.7.RELEASE.pom (8 KB at 7.0 KB/sec)
Downloading: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-dependencies/1.5.7.RELEASE/spring-boot-dependencies-1.5.7.RELEASE.pom
3/91 KB
5/91 KB
8/91 KB
```

Figure 3

```

Downloaded: https://repo.maven.apache.org/maven2/classworlds/classworlds/1.1-alpha-2/classworlds-1.1-alpha-2.jar (37 KB at 129.9 KB/sec)
228/228 KB  152/152 KB  212/234 KB
228/228 KB  152/152 KB  216/234 KB
228/228 KB  152/152 KB  220/234 KB
228/228 KB  152/152 KB  224/234 KB
228/228 KB  152/152 KB  228/234 KB
228/228 KB  152/152 KB  232/234 KB
228/228 KB  152/152 KB  234/234 KB

Downloaded: https://repo.maven.apache.org/maven2/commons-codec/commons-codec/1.6/commons-codec-1.6.jar (228 KB at 740.4 KB/sec)
Downloaded: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-utils/0.4/maven-shared-utils-0.4.jar (152 KB at 494.5 KB/sec)

Downloaded: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0.15/plexus-utils-3.0.15.jar (234 KB at 733.8 KB/sec)
[INFO] Installing /root/doodle/target/doodle-0.0.1-SNAPSHOT.jar to /root/.m2/repository/di/unipi/ase/doodle/0.0.1-SNAPSHOT/doodle-0.0.1-SNAPSHOT.jar
[INFO] Installing /root/doodle/pom.xml to /root/.m2/repository/di/unipi/ase/doodle/0.0.1-SNAPSHOT/doodle-0.0.1-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:50 min
[INFO] Finished at: 2017-12-01T08:15:06+00:00
[INFO] Final Memory: 28M/80M
[INFO] -----
(END)

```

Figure 4

```

elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker ls
update memory ok
Application      Component      Type      State      Full name
-----
doodle.completed doodle_container Container created doodle.completed.doodle_container
doodle.completed doodle          Software created doodle.completed.doodle
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$

```

Figure 5: TosKer ls output

2.2 start

The start log output is divided into 2 screenshots, one for the first part of the output, the last for the ending part.

```
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ docker-compose up --build
update memory ok
✓ Start doodle_container (container)... Done
✓ Start doodle (software)... Done
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ docker-compose logs -f doodle
update memory ok
+ java -jar doodle/target/doodle-0.0.1-SNAPSHOT.jar

:: Spring Boot ::
(v1.5.7.RELEASE)

2017-12-01 08:18:19.124 INFO 8 --- [main] di.unipi.ase.doodle.DoodleApplication : Starting Dood
leApplication v0.0.1-SNAPSHOT on da1052bbad7e with PID 8 (/root/.docker/compose/projects/elena/Doodle_Primer/doodle/target/doodle-0.0.1-SNAPSHOT.jar starte
d by root in /root)
2017-12-01 08:18:19.127 INFO 8 --- [main] di.unipi.ase.doodle.DoodleApplication : No active pro
file set, falling back to default profiles: default
2017-12-01 08:18:19.184 INFO 8 --- [main] ationConfigEmbeddedWebApplicationContext : Refreshing or
g.springframework.boot.context.embedded.AnnotationConfigEmbeddedWebApplicationContext@6e5e91e4: startup date [
Fri Dec 01 08:18:19 UTC 2017]; root of context hierarchy
2017-12-01 08:18:20.603 INFO 8 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat initia
lized with port(s): 8080 (http)
2017-12-01 08:18:20.613 INFO 8 --- [main] o.apache.catalina.core.StandardService : Starting serv
ice [Tomcat]
2017-12-01 08:18:20.614 INFO 8 --- [main] org.apache.catalina.core.StandardEngine : Starting Serv
let Engine: Apache Tomcat/8.5.20
2017-12-01 08:18:20.683 INFO 8 --- [ost-startStop-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing
Spring embedded WebApplicationContext
2017-12-01 08:18:20.683 INFO 8 --- [ost-startStop-1] o.s.web.context.ContextLoader : Root WebAppli
cationContext: initialization completed in 1502 ms
2017-12-01 08:18:20.798 INFO 8 --- [ost-startStop-1] o.s.b.w.servlet.ServletRegistrationBean : Mapping servl
et: 'dispatcherServlet' to [/]
```

Figure 6

```

2017-12-01 08:18:21.243 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles],methods=[GET]]" onto public java.util.HashMap<java.lang.Integer, di.unipi.ase.doodle.Doodle> di.unipi.a
se.doodle.DoodleController.getDoodles()
2017-12-01 08:18:21.244 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles/{id}],methods=[DELETE]]" onto public void di.unipi.ase.doodle.DoodleController.deleteDoodle(int)
2017-12-01 08:18:21.244 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles/{id}],methods=[GET]]" onto public di.unipi.ase.doodle.Doodle di.unipi.ase.doodle.DoodleController.getDo
dle(int)
2017-12-01 08:18:21.244 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles/{id}/vote],methods=[PUT]]" onto public java.lang.String di.unipi.ase.doodle.DoodleController.vote(int,di
.unipi.ase.doodle.Vote)
2017-12-01 08:18:21.245 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles/{id}/vote/{name}],methods=[GET]]" onto public java.lang.String di.unipi.ase.doodle.DoodleController.getV
ote(int,java.lang.String)
2017-12-01 08:18:21.245 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles/{id}/vote/{name}],methods=[POST]]" onto public java.lang.String di.unipi.ase.doodle.DoodleController.upd
ateVote(int,di.unipi.ase.doodle.Vote)
2017-12-01 08:18:21.245 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/do
odles/{id}/vote/{name}],methods=[DELETE]]" onto public void di.unipi.ase.doodle.DoodleController.deleteVote(in
t,java.lang.String)
2017-12-01 08:18:21.249 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/er
ror],produces=[text/html]]" onto public org.springframework.web.servlet.ModelAndView org.springframework.boot.
autoconfigure.web.BasicErrorController.errorHtml(javax.servlet.http.HttpServletRequest,javax.servlet.http.Http
ServletResponse)
2017-12-01 08:18:21.249 INFO 8 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "[[/er
ror]]" onto public org.springframework.http.ResponseEntity<java.util.Map<java.lang.String, java.lang.Object>>
org.springframework.boot.autoconfigure.web.BasicErrorController.error(javax.servlet.http.HttpServletRequest)
2017-12-01 08:18:21.277 INFO 8 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL pa
th [/webjars/**] onto handler of type [class org.springframework.web.servlet.resource.ResourceHttpRequestHandl
er]
2017-12-01 08:18:21.277 INFO 8 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL pa
th [/**] onto handler of type [class org.springframework.web.servlet.resource.ResourceHttpRequestHandler]
2017-12-01 08:18:21.312 INFO 8 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL pa
th [/**/favicon.ico] onto handler of type [class org.springframework.web.servlet.resource.ResourceHttpRequestH
andler]
2017-12-01 08:18:21.428 INFO 8 --- [main] o.s.j.e.a.AnnotationMBeanExporter : Registering b
eans for JMX exposure on startup
2017-12-01 08:18:21.493 INFO 8 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat starte
d on port(s): 8080 (http)
2017-12-01 08:18:21.498 INFO 8 --- [main] di.unipi.ase.doodle.DoodleApplication : Started Doodl
eApplication in 2.68 seconds (JVM running for 3.078)
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ █

```

Figure 7

2.3 stop

```

elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker doodle.completed.yaml stop
update memory ok
✓ Stop doodle (software)... Done
✓ Stop doodle_container (container)... Done
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker log doodle.completed.doodle stop
update memory ok
+ pidof java
+ kill -9 8
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ █

```

Figure 8: Stop operation

2.4 delete

```

elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker doodle.completed.yaml delete
update memory ok
✓ Delete doodle (software)... Done
✓ Delete doodle_container (container)... Done
✓ Delete network... Done
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker log doodle.completed.doodle delete
update memory ok
ERROR: Component or interface log not found
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ █

```

Figure 9: Delete operation has no output log

```
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$ tosker ls
update memory ok
Application      Component      Type      State      Full name
-----
elena@elena:~/Documenti/ASE/laboratorio/Doodle_Primer$
```

Figure 10: TosKer ls output