

Advanced Web Technology

TP1 Maven V2.0

14 Oct 2017

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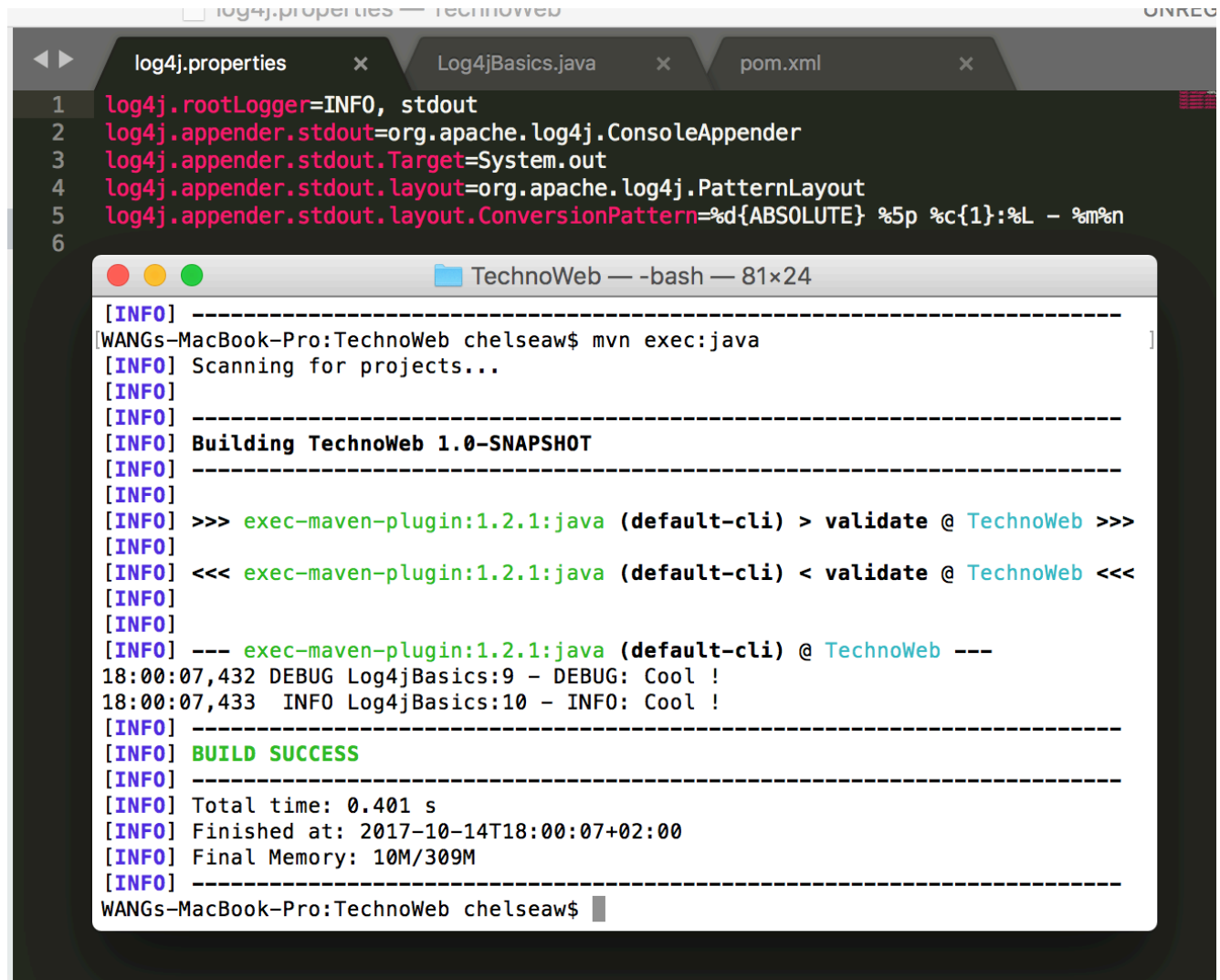
1.2 Exercise 01.B – Maven – Hello World

```
TechnoWeb — -bash — 81x24
WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO]
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
Hello World!
argument [0]: foo
argument [1]: bar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.412 s
[INFO] Finished at: 2017-10-14T15:35:01+02:00
[INFO] Final Memory: 10M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$
```

1.3 Exercise 01.C: Logging exercise 1

In the `log4j.properties`, change the level from **INFO** to **DEBUG**, what happens?

We tried to replace `INFO` to `DEBUG`, compile and run, nothing significant happens. Same result.



The screenshot shows an IDE with three tabs: `log4j.properties`, `Log4jBasics.java`, and `pom.xml`. The `log4j.properties` file contains the following configuration:

```
1 log4j.rootLogger=INFO, stdout
2 log4j.appender.stdout=org.apache.log4j.ConsoleAppender
3 log4j.appender.stdout.Target=System.out
4 log4j.appender.stdout.layout=org.apache.log4j.PatternLayout
5 log4j.appender.stdout.layout.ConversionPattern=%d{ABSOLUTE} %5p %c{1}:%L - %m%n
6
```

Below the editor is a terminal window titled "TechnoWeb — -bash — 81x24". It shows the output of running `mvn exec:java`. The output includes several `[INFO]` messages, a `DEBUG` message, and a `BUILD SUCCESS` message.

```
[INFO] -----
[WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO]
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO]
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
18:00:07,432 DEBUG Log4jBasics:9 - DEBUG: Cool !
18:00:07,433 INFO Log4jBasics:10 - INFO: Cool !
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.401 s
[INFO] Finished at: 2017-10-14T18:00:07+02:00
[INFO] Final Memory: 10M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$
```

`log4j.rootLogger = INFO, stdout`

```
log4j.properties — technoweb UNRE
log4j.properties x Log4jBasics.java x pom.xml x
1 log4j.rootLogger=DEBUG, stdout
2 log4j.appender.stdout=org.apache.log4j.ConsoleAppender
3 log4j.appender.stdout.Target=System.out
4 log4j.appender.stdout.layout=org.apache.log4j.PatternLayout
5 log4j.appender.stdout.layout.ConversionPattern=%d{ABSOLUTE} %5p %c{1}:%L - %m%n
6

TechnoWeb — -bash — 81x24
[INFO] -----
[WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO]
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
18:00:47,586 DEBUG Log4jBasics:9 - DEBUG: Cool !
18:00:47,588 INFO Log4jBasics:10 - INFO: Cool !
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.427 s
[INFO] Finished at: 2017-10-14T18:00:47+02:00
[INFO] Final Memory: 10M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$
```

log4j.rootLogger = **DEBUG**, stdout

1.4 Exercise 01.D: References

```
TechnoWeb — -bash — 81x24
[INFO] Final Memory: 9M/309M
[INFO] -----
[WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Scanning for projects...
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO]
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
i=0, s=abcd
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.330 s
[INFO] Finished at: 2017-10-14T12:44:18+02:00
[INFO] Final Memory: 10M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$
```

1.5 Exercise 01.E: Inheritance

- Which `m()` method is called in (1)? `m()` method is called from class B
- Is it the expected result? It is.
- Which OOP implementation type fits to that result? (*Virtual function overloading*) Polymorphism

```
TechnoWeb — -bash — 81x24
[WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Scanning for projects...
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
Je suis dans la méthode m d'une instance de A
Je suis dans la méthode m d'une instance de B
Je suis dans la méthode m d'une instance de A
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.366 s
[INFO] Finished at: 2017-10-14T12:43:45+02:00
[INFO] Final Memory: 9M/245M
[INFO] -----
[WANGs-MacBook-Pro:TechnoWeb chelseaw$
```

1.6 Exercise 01.F: toString() overloading

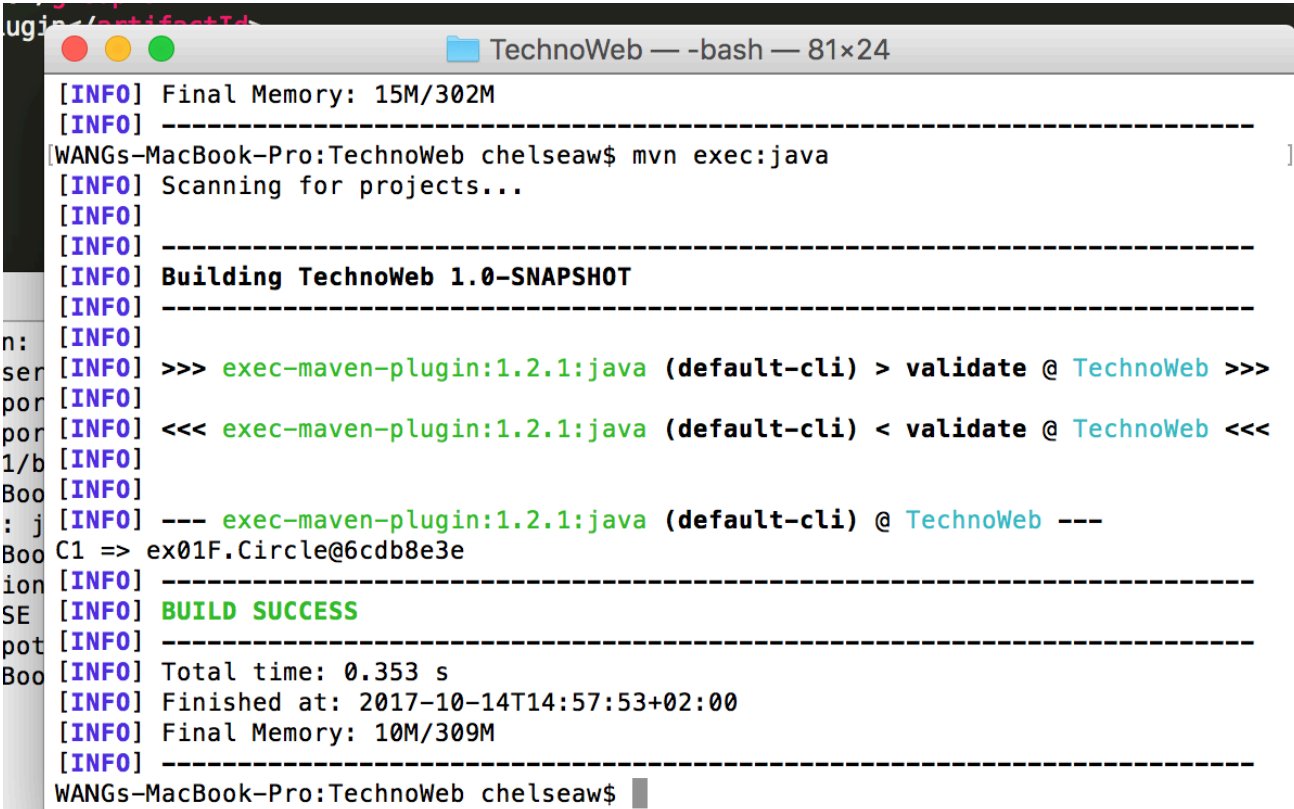
- What shows up? Why is the method `toString()` called without being named?

C1 => Circle with center (0,0) and radius 5 (Perimter is 31.42)

shows up, because the method `toString()` is called by `System.out.println()` method.

```
TechnoWeb — -bash — 81x24
[INFO] Final Memory: 9M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Scanning for projects...
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
C1 => Circle with center (0,0) and radius 5 (Perimter is 31.42)
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.334 s
[INFO] Finished at: 2017-10-14T12:42:40+02:00
[INFO] Final Memory: 10M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$
```

- If you rename the method `toString()`, what happens?
The result will be replaced by address.



```
WANGs-MacBook-Pro:TechnoWeb chelseaw$ mvn exec:java
[INFO] Final Memory: 15M/302M
[INFO] -----
[INFO] Scanning for projects...
[INFO] -----
[INFO] Building TechnoWeb 1.0-SNAPSHOT
[INFO] -----
[INFO] >>> exec-maven-plugin:1.2.1:java (default-cli) > validate @ TechnoWeb >>>
[INFO] <<< exec-maven-plugin:1.2.1:java (default-cli) < validate @ TechnoWeb <<<
[INFO] --- exec-maven-plugin:1.2.1:java (default-cli) @ TechnoWeb ---
C1 => ex01F.Circle@6cdb8e3e
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.353 s
[INFO] Finished at: 2017-10-14T14:57:53+02:00
[INFO] Final Memory: 10M/309M
[INFO] -----
WANGs-MacBook-Pro:TechnoWeb chelseaw$
```