



Lesson 03.A

Configuration Management



DEVOPS - ITI 4
HEI 2021-2022



What is configuration Management ?



Previously,

- Different environments are used during project

DEV



TEST



PRODUCTION



Environment Management

For each environment, we have :

- Servers hostname
- Passwords
- Applications URL
- Directories Path
- ...

This information may be different

Ideas to manage environment

A

Use the same values to all environment.

- Everyone knows all the passwords.
- URL can not be same for all environment.

B

Build one application for one environment.

- It requires building as many applications as environments.
- This is not the same package on different environments.

C

Use a system to value information based on the environment.

- Position between the two previous solutions.
- It Requires good information control to avoid application malfunction.

Configuration management allows you to configure an application without modifying its source code.

Rules to manage configuration

- Identify the elements to make configurable
- Secure the retrieve of this elements
- Document these elements

System to manage configuration

Configuration can be stored :

- Database (Except the information to connect to the database !!!)
- File
- Parameters in the process command line

How to set up configuration management ?



Property File

- Key Value File

Key1=Value1

Key2=Value2

```
#####  
# This file contains property settings for #  
# use in Tutorial' ant build scripts.      #  
#####  
  
### WebLogic configuration ###  
-- Configure per your WLS installation.  
wls.hostname=localhost  
wls.port=7021  
wls.username=weblogic  
wls.password=weblogic  
wls.server.name=AdminServer  
  
### QuickSilver Examples locations ###  
examples.home.dir=.  
examples.src.dir=${examples.home.dir}/src  
examples.build.dir=${examples.home.dir}/build  
ex.webapp.dir=${examples.build.dir}/examplesWebApp  
ex.webapp.webinf.dir=${ex.webapp.dir}/WEB-INF  
ex.webapp.classes.dir=${ex.webapp.webinf.dir}/classes
```

JAVA Properties

- Present in Java from the beginning
- Library to interact with property files (and many more)
- Property files must be in *src/main/resources*

Initialization

1. Instantiate object with Properties constructor

```
Properties properties = new Properties();
```

2. Load data in object :

- In non-static method (90%)

```
properties.load(getClass().getClassLoader().getResourceAsStream("my.properties"));
```

- In static method (10%)

```
properties.load(MyClass.class.getClassLoader().getResourceAsStream("my.properties"));
```

Get Property

```
String myproperty = properties.getProperty("myproperty");
```

*Key of the property
in the property file*

Example

The screenshot displays an IDE interface with three main components:

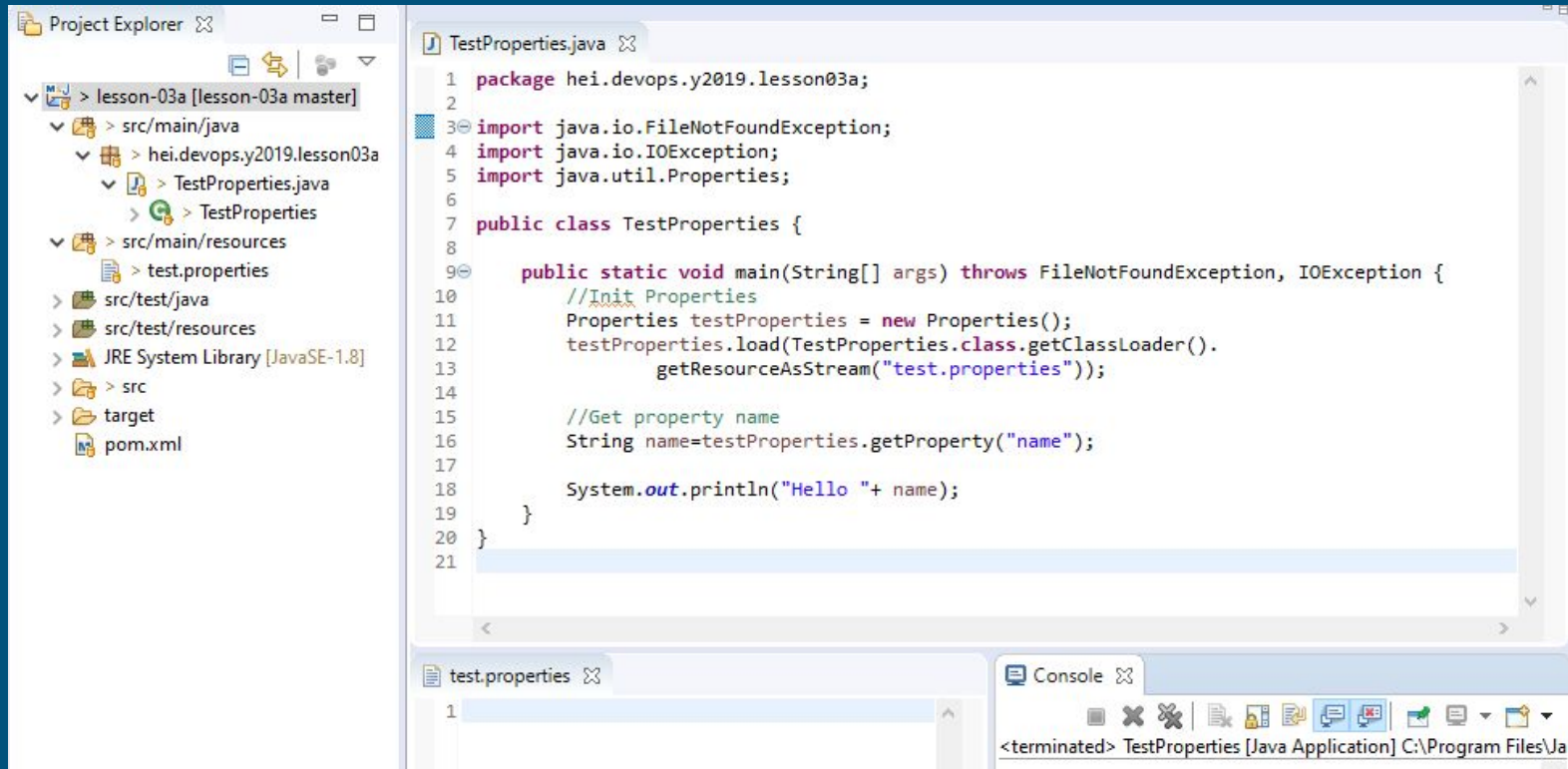
- Project Explorer (Left):** Shows the project structure for 'lesson-03a [lesson-03a master]'. The tree includes:
 - src/main/java
 - hei.devops.y2019.lesson03a
 - TestProperties.java
src/main/resources
 - test.propertiessrc/test/java
src/test/resourcesJRE System Library [JavaSE-1.8]srctargetpom.xml
- Source Editor (Center):** Displays the code for 'TestProperties.java':

```
1 package hei.devops.y2019.lesson03a;
2
3 import java.io.FileNotFoundException;
4 import java.io.IOException;
5 import java.util.Properties;
6
7 public class TestProperties {
8
9     public static void main(String[] args) throws FileNotFoundException, IOException {
10         //Init Properties
11         Properties testProperties = new Properties();
12         testProperties.load(TestProperties.class.getClassLoader().
13             getResourceAsStream("test.properties"));
14
15         //Get property name
16         String name=testProperties.getProperty("name");
17
18         System.out.println("Hello "+ name);
19     }
20 }
21
```
- Console (Bottom Right):** Shows the output of the application:

```
<terminated> TestProperties [Java Application] C:\Program Files\Ja
Hello World
```

Question

What will the console display?



Thank you for you attention !



Links :

- Sources

- <http://www.commitstrip.com/>
- <https://giphy.com/>
- <https://www.mkyong.com/java/java-properties-file-examples/>

- Examples :

- <https://gitlab.com/hei-devops/lesson/lesson-2021/lesson-03a>