CYDEO

Properties – ConfigurationReader

Agenda:

- Understand a current issue we have with hardcoding
- Understand how can we solve the issue
- Create a properties file
- Create a utility class to read from the properties file
- Practice

What is test data?

- Test data definition: data created or selected to satisfy the execution preconditions and inputs to execute one or more test cases.
- Basically, all of the data we select (or create) to pass to AUT* to verify expected output is called test data
- Example: username, password, search values etc.

- AUT*: Application Under Test

How we have been passing our data until today?

- We have been directly passing our test data in our tests
- Which means we are keeping our test data in our source code
- This means we are hard coding our test data.

What is hardcoding?

- Google.

What is hardcoding?

- Hard coding is keeping your data (test data) in the source code.
- If you have to go in your java-selenium code to change your data, it means you have hard coded it.
- We will be creating a logic where we read our test data from outside of our code.

Issue we are trying to solve:

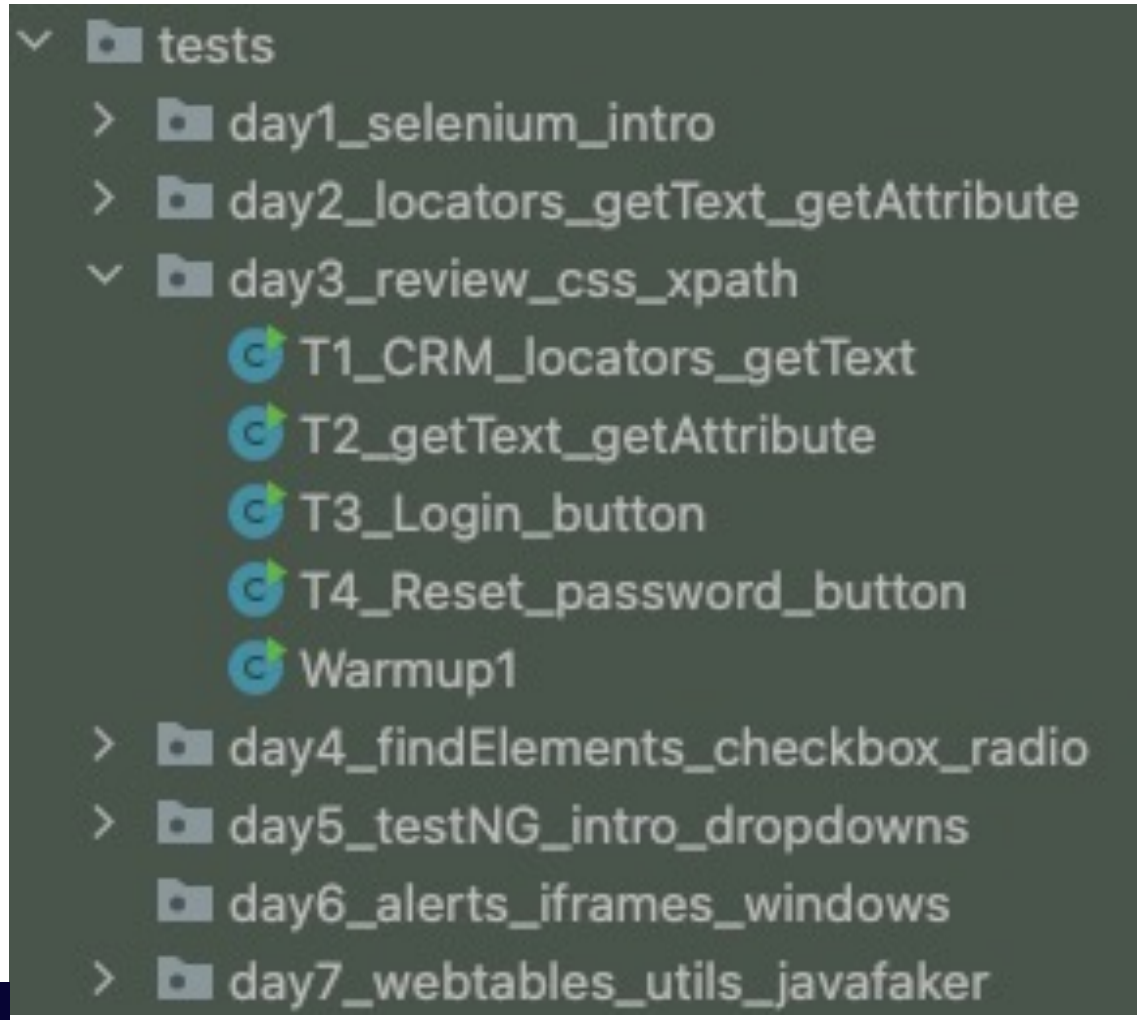
- We are hardcoding some of the important test data.
- We are passing our test data from within our source code itself.
- This means every time we need to change it, we must go in each and every place we used it and change one by one.

- Ex: Working on env1, but its down. What can we do with our existing structure?

- environments:
    - qa1.vytrack.com
    - qa2.vytrack.com
    - staging1.vytrack.com
    - staging2.vytrack.com
    - prod: www.vytrack.com

QA environment : is generally used testing purposes
staging env : is also used for testing but generally has better server support etc.
prod : is actual product that end user is using.

```
driver = WebDriverFactory.getDriver( browserType: "chrome");
driver.manage().window().maximize();
driver.get("https://login1.nextbasecrm.com/");
```



If I want to run all of my @Tests
In different environment,
I now have to go each and every single class and @Test I created.
I have to change line by line.

In short terms

- We are passing important test data inside of .java class directly.
- It is called ”hardcode”
- It is not scalable.
- It is not re-usable.
- It is not easy to maintain.
- Therefore, it is not a good practice!

After today's session you should be able to:

- Pass certain important test data into our tests from outside of our code, external file we will be creating named:

"configuration.properties"

- We will be able to change the test data from outside of our Java code.

- Java is keeping track of some of the important properties regarding your computer and project etc.
- Let’s see some of them!

Different type of file types.

A few common type of files.

- Text file : testData.txt → regular text file
- Excel file : testData.xlsx → a bit more complex with rows and cells
- CSV file : testData.csv → comma separated value
- Properties file : testData.properties → key=value format

We will be using .properties type of file

- What is a properties type of file?
- Basically, it stores data in KEY = VALUE pairs.

```
1  browser=chrome
2  env=https://www.google.com
3  username=helpdesk1@cydeo.com
4  password=UserUser
```

.properties type file rules:

- Data stored in key=value pairs
- There can only be 1 key with same name.
- When we try to get value, we must pass the exact same “key”

- Key=value format is useful because:

1. “key” part will be stored in .java classes so it will be hard coded.
2. “value” part will be stored in .properties file, so it will NOT be hard coded.

```
1    browser=chrome
2    env=https://www.google.com
3    username=helpdesk1@cydeo.com
4    password=UserUser
```

```
driver = WebDriverFactory.getDriver( browserType: "chrome");
driver.manage().window().maximize();
driver.get("https://login1.nextbasecrm.com/");
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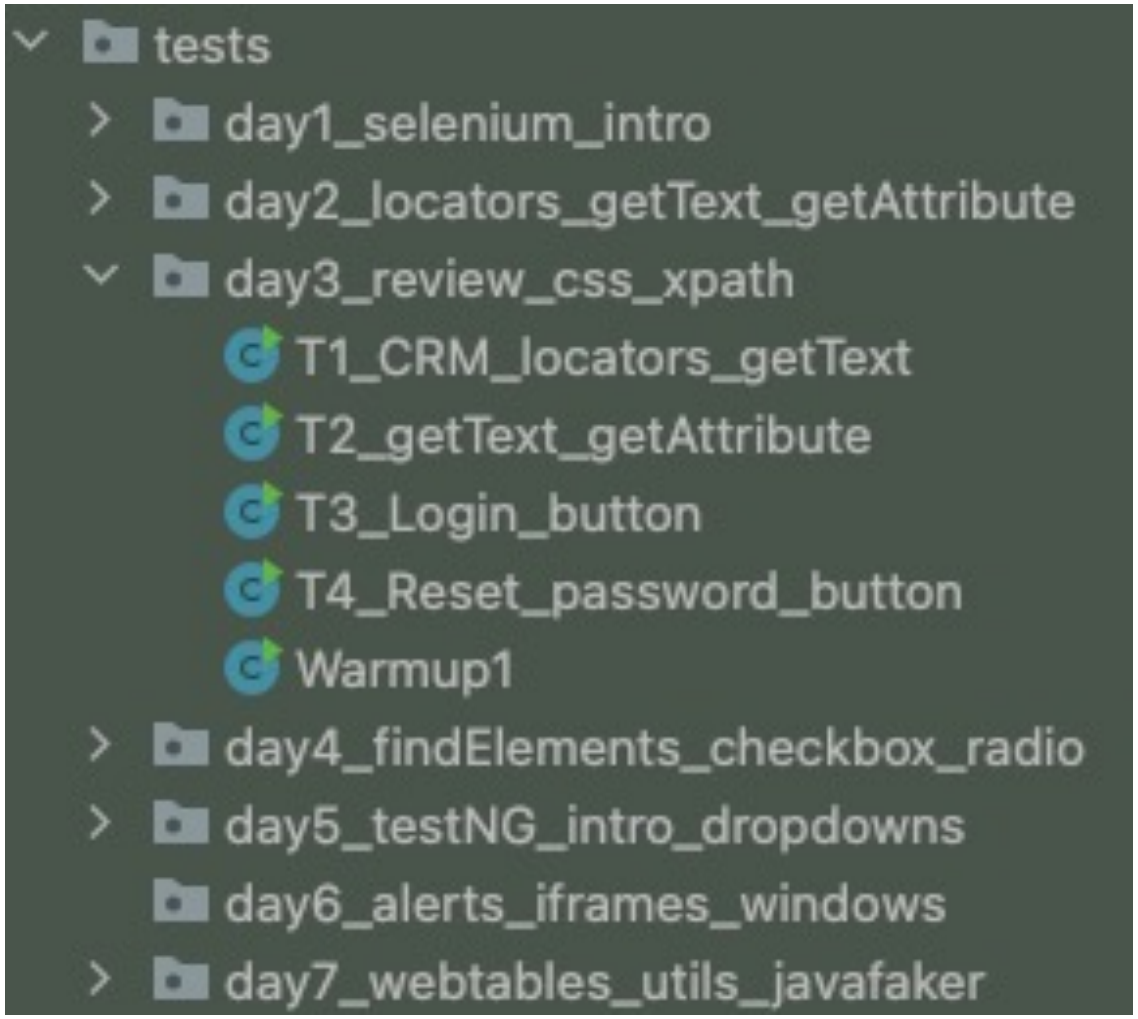

If I want to run all of my @Tests
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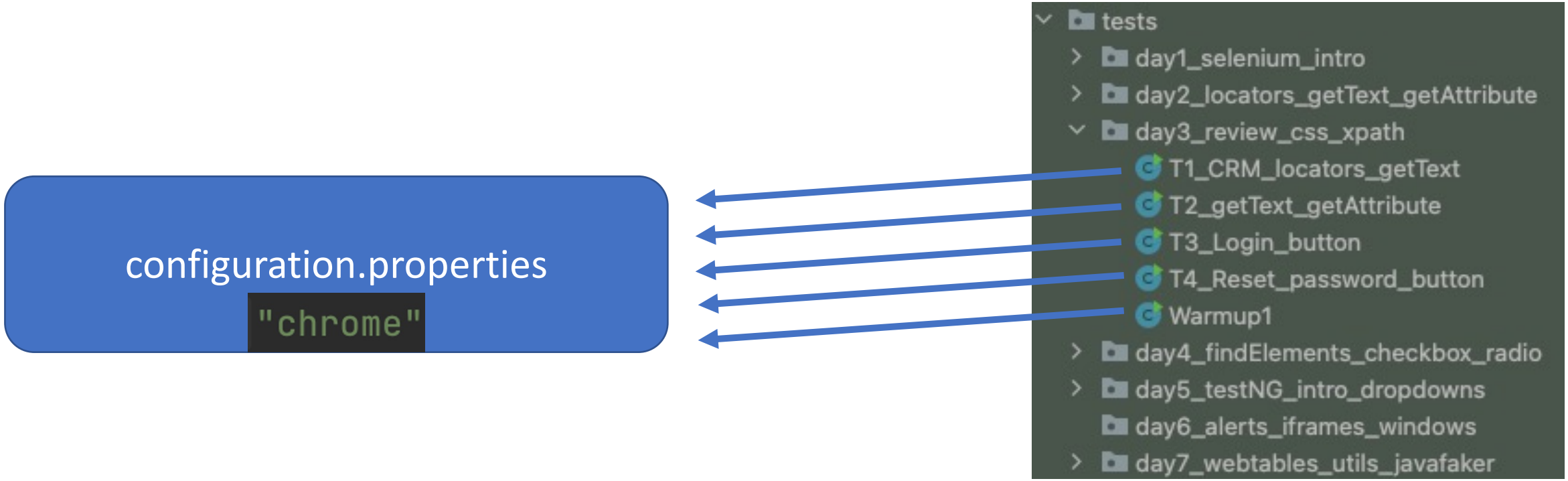
1. Instead of writing passing some test data in every single class, we will provide from 1 file.



2. All the rest of our .java classes will be reading from that file.
3. When we change 1 file, all of the rest of the code will be updated automatically.

What are we trying to achieve?

- The data we will be storing in our configuration.properties is going to be the kind of data that will be able to change the flow of the execution of our test suites.
- Examples:
- Be able to login with different usernames
- Be able to enter different password
- Be able to change the browser type we are running our test suite
- Be able to change the environment we are running our test suite on

How to read from a properties file?

1. We need to use Properties class. The object of this class can read .properties files.

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

2. We need to use FileInputStream class. This class allows us read data from a file.

```
FileInputStream file = new FileInputStream( name: "file.path");
```

3. After opening file stream using its path, we load the file to properties object.

```
properties.load(file);
```

4. Once object is loaded with the file, we can get any “value” by passing “key”

```
properties.getProperty("browser");
```

Let’s create our utility method

- Reading one time is good but we need to create a re-usable utility method so we can read from our .properties file whenever we want.

1. Create a new class: ConfigurationReader
2. Copy/paste our .properties file reading logic
3. Edit if needed
4. Create a new utility method to re-use our logic
5. Method should accept “key” as a String, and return “value” as String