Way2Automation - Tutorial 5 - Cucumber Tags

What you will Learn:

- o Importance of cucumber tags
- o Add 2 tags separated by 'or'
- o Add 2 tags separated by 'and'
- o Use tags to ignore a scenario
- o Execute all the scenarios

Importance of cucumber tags

We can do some excellent things when we execute our test cases with cucumber. We can tag sanity based test cases, tag smoke test cases, regression test cases etc. We can also do some documentation using tags.

To further understand the tags, let us create a new feature file having 3 scenarios

```
| Pa... ⋈ Jʊ JU... □ □ □ S Tag.feature ⋈
        □ 5 □ ▽
                      1 Feature: Login functionality
 CucumberMavenProject
   src/main/java
                      3⊖ Scenario: Login using valid userid

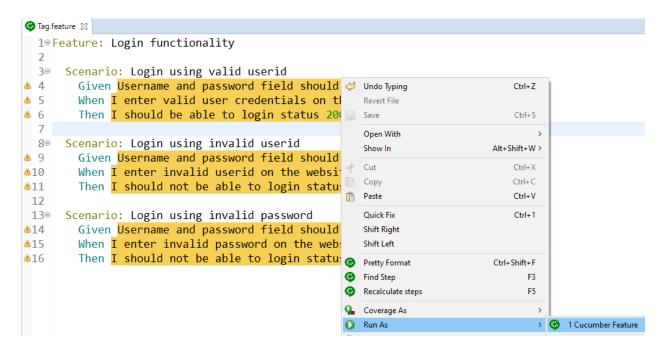
✓ 

## src/test/java

                            Given Username and password field should be present on the landing page
                    4
    When I enter valid user credentials on the website
                    <u>$</u> 5
      Search.feature
Tag.feature
                    6
                             Then I should be able to login status 200
    7
     >  SearchSteps.java
                     8⊖ Scenario: Login using invalid userid
    > 🌐 TestRunner
  > 🕍 JRE System Library [JavaS 🧴 9
                           Given Username and password field should be present on the landing page
                    410
                             When I enter invalid userid on the website
  > Maven Dependencies
  > 🐎 src
                    &11
                            Then I should not be able to login status 401
  > 🗁 target
                     12
    m pom.xml
                     130 Scenario: Login using invalid password
                             Given Username and password field should be present on the landing page
                    <u></u>414
                    15
                             When I enter invalid password on the website
                    △16 Then I should not be able to login status 401
```

Save the file

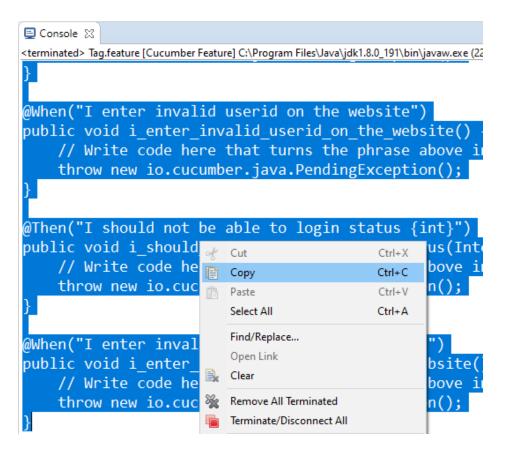
Run this feature file



As expected, the console would show us below error

```
■ Console XX
<terminated> Tag.feature [Cucumber Feature] C:\Program Files\Java\jdk1.8.0_191\bin\javaw.exe (22-Feb-2021, 6:44:41 PM)
You can implement missing steps with the snippets below:
@Given("Username and password field should be present on the landir
public void username and password field should be present on the la
    // Write code here that turns the phrase above into concrete ac
    throw new io.cucumber.java.PendingException();
}
@When("I enter valid user credentials on the website")
public void i enter valid user credentials on the website() {
    // Write code here that turns the phrase above into concrete ac
    throw new io.cucumber.java.PendingException();
@Then("I should be able to login status {int}")
public void i should be able to login status(Integer int1) {
    // Write code here that turns the phrase above into concrete ac
    throw new io.cucumber.java.PendingException();
@When("I enter invalid userid on the website")
nublic void i enter invalid userid on the website() {
```

Copy all the code snippets from the console file



Let us create the corresponding step definition file for the above feature file. Paste the code snippets and import the packages

```
_ _
📮 Pa... 💢 Jτ JU...
                   □ ⟨5) ⑤ ▽
                      1 package StepDefinitions;
 src/main/java
                      3⊖ import io.cucumber.java.en.Given;
  4 import io.cucumber.java.en.Then;
    5 import io.cucumber.java.en.When;
      Search.feature
       Tag.feature
    7 public class TagSD {
     >  SearchSteps.java
                      80
                            @Given("Username and password field should be present on the landing page")
     > 🚺 TagSD.java
                      9
                            public void username_and_password_field_should_be_present_on_the_landing_page()
    > # TestRunner
                     10
                                // Write code here that turns the phrase above into concrete actions
  > 🛋 JRE System Library [JavaS
  > Maven Dependencies
                                throw new io.cucumber.java.PendingException();
                     11
  > 🐎 src
                     12
  > 🗁 target
                     13
    m pom.xml
                     149
                            @When("I enter valid user credentials on the website")
                     15
                            public void i enter valid user credentials on the website() {
                                // Write code here that turns the phrase above into concrete actions
                     16
                     17
                                throw new io.cucumber.java.PendingException();
                     18
                     19
                     20⊝
                            @Then("I should be able to login status {int}")
                     21
                            public void i_should_be_able_to_login_status(Integer int1) {
                     22
                                // Write code here that turns the phrase above into concrete actions
                     23
                                throw new io.cucumber.java.PendingException();
                     24
                     25
                     269
                            @When("I enter invalid userid on the website")
```

Let us remove the exceptions and simple method implementations

```
7 public class TagSD {
  80
        @Given("Username and password field should be present on the lar
 9
        public void username and password field should be present on the
 10
            System.out.println("I landed on home page");
 11
 12
        @When("I enter valid user credentials on the website")
 13⊝
 14
        public void i enter valid user credentials on the website() {
 15
            System.out.println("I enter valid user credentials");
 16
 17
 18⊝
        @Then("I should be able to login status {int}")
 19
        public void i should be able to login status(Integer int1) {
            System.out.println("I successfully login");
 20
 21
 22
 23⊝
        @When("I enter invalid userid on the website")
 24
        public void i_enter_invalid_userid_on_the_website() {
 25
            System.out.println("I enter invalid userid");
 26
 27
 28⊜
        @Then("I should not be able to login status {int}")
        public void i should not be able to login status(Integer intl)
 29
```

Save the file.

We will now create 'tag' in our feature file for all the 3 scenarios. So we have created 3 tags for the respective test cases or scenarios

```
1⊖ Feature: Login functionality
  2
  3
      @smoke
  4⊖
      Scenario: Login using valid userid
        Given Username and password field should be present on the landing page
6
6
        When I enter valid user credentials on the website
3
        Then I should be able to login status 200
 8
  9
      @integration
 10⊝
      Scenario: Login using invalid userid
        Given Username and password field should be present on the landing page
411
        When I enter invalid userid on the website
12
13
        Then I should not be able to login status 401
 14
 15
      @regression
 16⊜
      Scenario: Login using invalid password
17
        Given Username and password field should be present on the landing page
        When I enter invalid password on the website
418
419
        Then I should not be able to login status 401
```

Save the file

We will now create a runner file and add 'tags' option as seen below. So, we want to run only 'smoke' based test cases.

```
# Pa... ⊠ Ju JU...
                                  Tag.feature
                        1 package TestRunner;

✓ 

CucumberMavenProject

    src/main/java
                        3⊕ import org.junit.runner.RunWith;

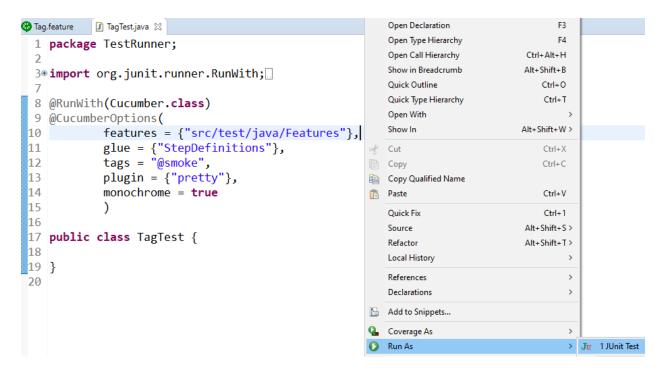
✓ 

## src/test/java

    8 @RunWith(Cucumber.class)
       Search.feature
       🥵 Tag.feature
                        9 @CucumberOptions(
    features = {"src/test/java/Features"},
                       10
      >  SearchSteps.java
                       11
                                    glue = {"StepDefinitions"},
      > J TagSD.java
                       12
                                   tags = "@smoke",
    13
                                    plugin = {"pretty"},
      NunnerTest.java
      > 🚺 TagTest.java
                       14
                                    monochrome = true
  JRE System Library [JavaS
                       15
  > Maven Dependencies
                       16
  > 🐎 src
                          public class TagTest {
  > 🗁 target
```

Note that, although there are 2 feature files in the 'Features' package, still we haven't explicitly mentioned the 'Tag.feature' file in the 'features' option.

Execute this runner file



Notice below that @smoke scenario got executed. Cucumber automatically scanned both the feature files and it found/executed @smoke tag in Tag.feature file. It did not execute other scenarios

```
©smoke
Scenario: Login using valid userid
I landed on home page
Given Username and password field should be present on the landing page
I enter valid user credentials
When I enter valid user credentials on the website
I successfully login
Then I should be able to login status 200
```

To double check, the console o/p matches with the @smoke tag in feature file

```
Tag.feature 
☐ TagTest.java

1 Feature: Login functionality
2
3 @smoke
4 Scenario: Login using valid userid
6 Given Username and password field should be present on the landing page
When I enter valid user credentials on the website
Then I should be able to login status 200
```

Let us now mention Tag.feature in the 'feature' option and run the file

```
♣ Tag.feature
☑ TagTest.java
                                                                                 Open Declarat
                                                                                 Open Type Hie
  1 package TestRunner;
                                                                                 Open Call Hier
  3⊕ import org.junit.runner.RunWith; ...
                                                                                 Quick Outline
                                                                                 Quick Type Hi
  8 @RunWith(Cucumber.class)
                                                                                 Open With
  9 @CucumberOptions(
            features = {"src/test/java/Features/Tag.feature"},
 10
               glue = {"StepDefinitions"},
 11
               tags = "@smoke",
 12
               plugin = {"pretty"},
 13
                                                                              Copy Qualifie
 14
               monochrome = true
                                                                              Paste
 15
                                                                                 Quick Fix
 16
                                                                                 Source
 17 public class TagTest {
                                                                                 Refactor
 18
                                                                                 Local History
 19 }
                                                                                 References
 20
                                                                                 Declarations
                                                                              Add to Snippe
                                                                                Coverage As
                                                                  Alt+Shift+X, T
                                             Ju 1 JUnit Test
                                                                             Run As
```

We again get the same o/p

```
©smoke
Scenario: Login using valid userid # src/tes
I landed on home page
Given Username and password field should be present on the landing page # StepDef
I enter valid user credentials
When I enter valid user credentials on the website # StepDef
I successfully login
Then I should be able to login status 200 # StepDef.
```

Let us now change the tag to @integration

```
Tag.feature

☑ TagTest.java 
☒
  1 package TestRunner;
  3⊕ import org.junit.runner.RunWith;
 8 @RunWith(Cucumber.class)
 9 @CucumberOptions(
            features = {"src/test/java/Features/Tag.feature"},
10
            glue = {"StepDefinitions"},
11
12
            tags = '@integration',
 13
            plugin = {"pretty"},
 14
            monochrome = true
15
16
17 public class TagTest {
```

Save and run, notice below that this time only @integration scenario got executed

```
cterminated> TagTest [JUnit] C:\Program Files\Java\jdk1.8.0_191\bin\javaw.exe (22-Feb-2021, 8:37:08 PM)

@integration
Scenario: Login using invalid userid  #

I landed on home page
Given Username and password field should be present on the landing page #

I enter invalid userid
When I enter invalid userid on the website  #

I am not able to login
Then I should not be able to login status 401 #

#### The status in the status i
```

Add 2 tags seperated by 'or'

You can execute 2 tags as well, see below. By using 'or' we mean, execute those test cases which are tagged with @integration or @regression

```
Tag.feature
         1 package TestRunner;
 3. import org.junit.runner.RunWith; □
 8 @RunWith(Cucumber.class)
 9 @CucumberOptions(
10
           features = {"src/test/java/Features/Tag.feature"},
11
            glue = {"StepDefinitions"},
           tags = "@integration or @regression",
12
13
            plugin = {"pretty"},
14
            monochrome = true
15
            )
16
17 public class TagTest {
```

Save and run the file, see below, 2 scenarios got executed

```
<terminated> TagTest [JUnit] C:\Program Files\Java\jdk1.8.0_191\bin\javaw.exe (22-Feb-2021, 8:50:18 PM)
@integration
Scenario: Login using invalid userid
I landed on home page
  Given Username and password field should be present on the landing page
I enter invalid userid
  When I enter invalid userid on the website
I am not able to login
  Then I should not be able to login status 401
@regression
Scenario: Login using invalid password
I landed on home page
  Given Username and password field should be present on the landing page
I enter invalid password
  When I enter invalid password on the website
I am not able to login
  Then I should not be able to login status 401
```

Similarly you can add more tags and execute them

```
tags = "@integration or @regression or @smoke"
```

Add 2 tags seperated by 'and'

Let us separate the tags using 'and', see below

```
♣ Tag.feature
☑ TagTest.java
☒
 1 package TestRunner;
 3⊕ import org.junit.runner.RunWith; ...
 8 @RunWith(Cucumber.class)
 9 @CucumberOptions(
10
            features = {"src/test/java/Features/Tag.feature"},
            glue = {"StepDefinitions"},
11
            tags = "@integration and @regression",
12
13
            plugin = {"pretty"},
14
            monochrome = true
15
16
17 public class TagTest {
```

Save and run. Nothing gets executed. The reason being there is no scenario represented by above 2 tags

Now, go to the feature file and let us represent second scenario with 2 tags, see below

```
    Tag.feature 
    □ TagTest.java

  1⊖ Feature: Login functionality
  2
  3
      @smoke
      Scenario: Login using valid userid
  4⊖
6
        Given Username and password field should be present on the landing page
6
        When I enter valid user credentials on the website
4
        Then I should be able to login status 200
 8
  9
      @integration @regression
 10⊝
      Scenario: Login using invalid userid
        Given Username and password field should be present on the landing page
411
412
        When I enter invalid userid on the website
413
        Then I should not be able to login status 401
 14
 15
      @regression
 169 Scenario: Login using invalid password
17
        Given Username and password field should be present on the landing page
18
        When I enter invalid password on the website
        Then I should not be able to login status 401
419
```

Save the file

Now let us again run the below file

```
Tag.feature
          1 package TestRunner;
 3⊕ import org.junit.runner.RunWith; ...
 8 @RunWith(Cucumber.class)
 9 @CucumberOptions(
10
            features = {"src/test/java/Features/Tag.feature"},
            glue = {"StepDefinitions"},
11
12
            tags = "@integration and @regression",
13
            plugin = {"pretty"},
14
            monochrome = true
15
            )
16
17 public class TagTest {
```

Notice below that this time the scenario got executed

```
console 
conso
```

Use tags to ignore a scenario

Let us say we want to execute all the scenarios except @integration. We can do that using 'not' keyword, see below

```
Tag.feature
         1 package TestRunner;
  3. import org.junit.runner.RunWith; ...
 8 @RunWith(Cucumber.class)
 9 @CucumberOptions(
            features = {"src/test/java/Features/Tag.feature"},
            glue = {"StepDefinitions"},
11
            tags = "not @integration",
12
13
            plugin = {"pretty"},
14
            monochrome = true
15
16
17 public class TagTest {
```

Save and run, see below. All scenarios except @integration got executed

```
□ Console ⊠
<terminated> TagTest [JUnit] C:\Program Files\Java\jdk1.8.0_191\bin\javaw.exe (22-Feb-2021, 9:09:45 PM)
Scenario: Login using valid userid
I landed on home page
  Given Username and password field should be present on the landing page
I enter valid user credentials
  When I enter valid user credentials on the website
I successfully login
  Then I should be able to login status 200
@regression
Scenario: Login using invalid password
I landed on home page
  Given Username and password field should be present on the landing page
I enter invalid password
  When I enter invalid password on the website
I am not able to login
  Then I should not be able to login status 401
```

Execute all the scenarios

You can also tag at the 'Feature' level, see below. All the scenarios will inherit this tag

```
    Tag.feature 
    □ TagTest.java

  1 @Everything
  2 Feature: Login functionality
  3
  4
      @smoke
      Scenario: Login using valid userid
        Given Username and password field should be present on the landing page
3
        When I enter valid user credentials on the website
a 8
        Then I should be able to login status 200
 9
10
      @integration @regression
 11⊖ Scenario: Login using invalid userid
        Given Username and password field should be present on the landing page
12
        When I enter invalid userid on the website
413
14
        Then I should not be able to login status 401
 15
 16
      @regression
 17⊝
      Scenario: Login using invalid password
        Given Username and password field should be present on the landing page
18
        When I enter invalid password on the website
419
420
        Then I should not be able to login status 401
```

Save the file

Let ususe this tag in runner file, see below

```
1 package TestRunner;
 2
 3⊕ import org.junit.runner.RunWith;
 8 @RunWith(Cucumber.class)
 9 @CucumberOptions(
           features = {"src/test/java/Features/Tag.feature"},
10
           glue = {"StepDefinitions"},
11
           tags = "@Everything",
12
           plugin = {"pretty"},
13
14
           monochrome = true
15
16
17 public class TagTest {
```

Save an run. Notice below, all scenarios are executed

```
■ Console ⋈
<terminated> TagTest [JUnit] C:\Program Files\Java\jdk1.8.0_191\bin\javaw.exe (22-Feb-2021, 9:22:20 PM)
@Everything @smoke
Scenario: Login using valid userid
I landed on home page
  Given Username and password field should be present on the
I enter valid user credentials
  When I enter valid user credentials on the website
I successfully login
  Then I should be able to login status 200
@Everything @integration @regression
Scenario: Login using invalid userid
I landed on home page
  Given Username and password field should be present on the
I enter invalid userid
  When I enter invalid userid on the website
I am not able to login
  Then I should not be able to login status 401
@Everything @regression
Scenario: Login using invalid password
I landed on home page
  Given Username and password field should be present on the
I enter invalid password
  When I enter invalid password on the website
I am not able to login
  Then I should not be able to login status 401
```

So this is how we can use tags in our feature files.

Thank you for reading!