

# Serenity BDD Screenplay Maven POM

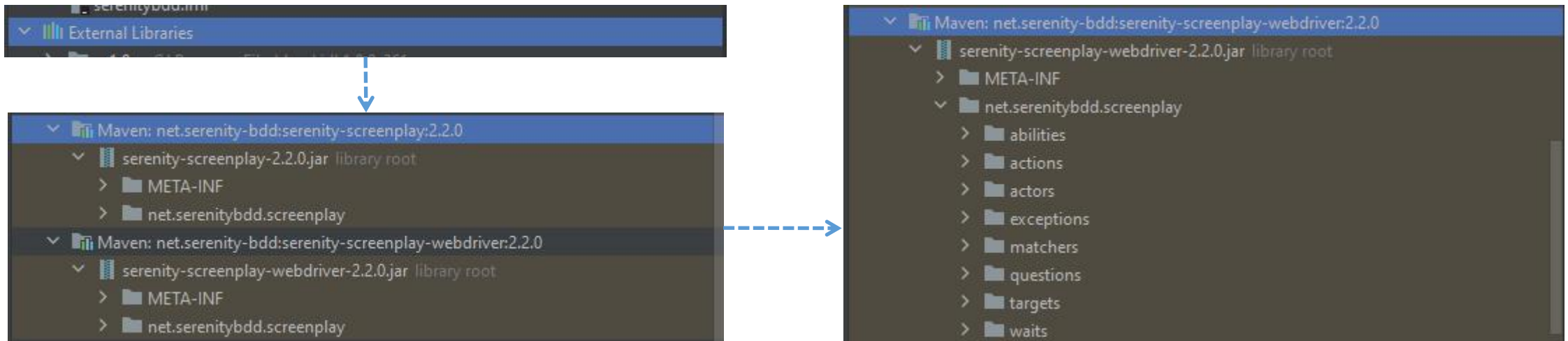
```
<properties>
  <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
  <serenity.version>2.2.0</serenity.version>
  <serenity.maven.version>2.2.0</serenity.maven.version>
  <serenity.cucumber.version>2.2.0</serenity.cucumber.version>
  <cucumber.version>5.5.0</cucumber.version>
  <encoding>UTF-8</encoding>
  <tags></tags>
  <parallel.tests>4</parallel.tests>
  <webdriver.base.url></webdriver.base.url>
  <generatedSources>${project.build.directory}/generated-sources/java</generatedSources>
</properties>
```

```
<dependency>
  <groupId>net.serenity-bdd</groupId>
  <artifactId>serenity-screenplay</artifactId>
  <version>${serenity.version}</version>
  <scope>test</scope>
</dependency>
<dependency>
  <groupId>net.serenity-bdd</groupId>
  <artifactId>serenity-screenplay-webdriver</artifactId>
  <version>${serenity.version}</version>
  <scope>test</scope>
</dependency>
```

```
<dependency>
  <groupId>net.serenity-bdd</groupId>
  <artifactId>serenity-ensure</artifactId>
  <version>${serenity.version}</version>
  <scope>test</scope>
</dependency>
```

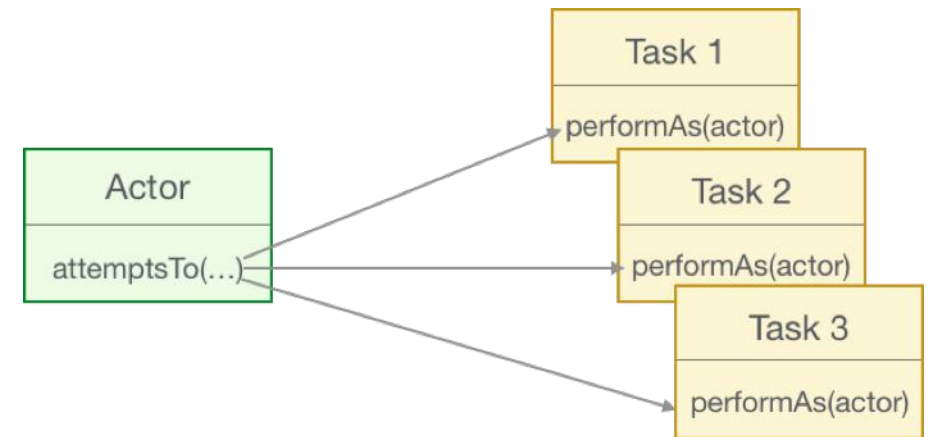
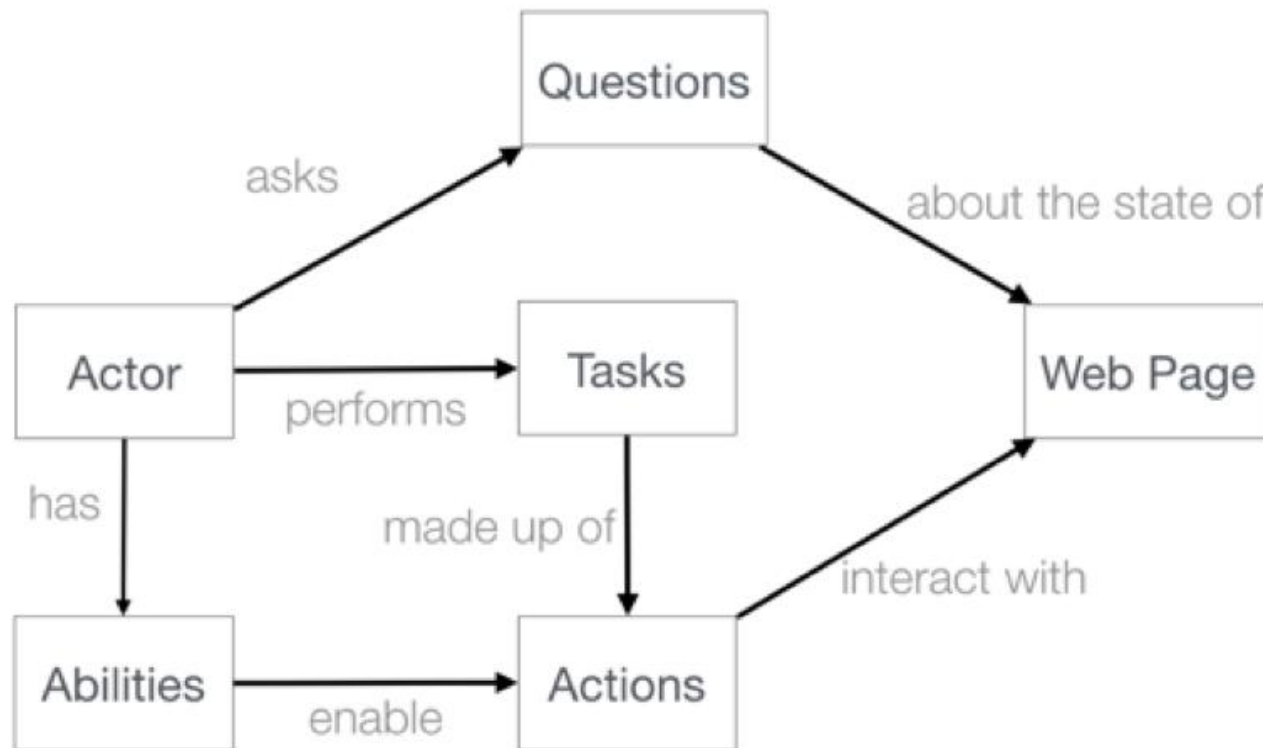
1. Screenplay
2. Screenplay - Web Drive
3. Serenity Fluent Wait

# Serenity BDD Screenplay Lib Content



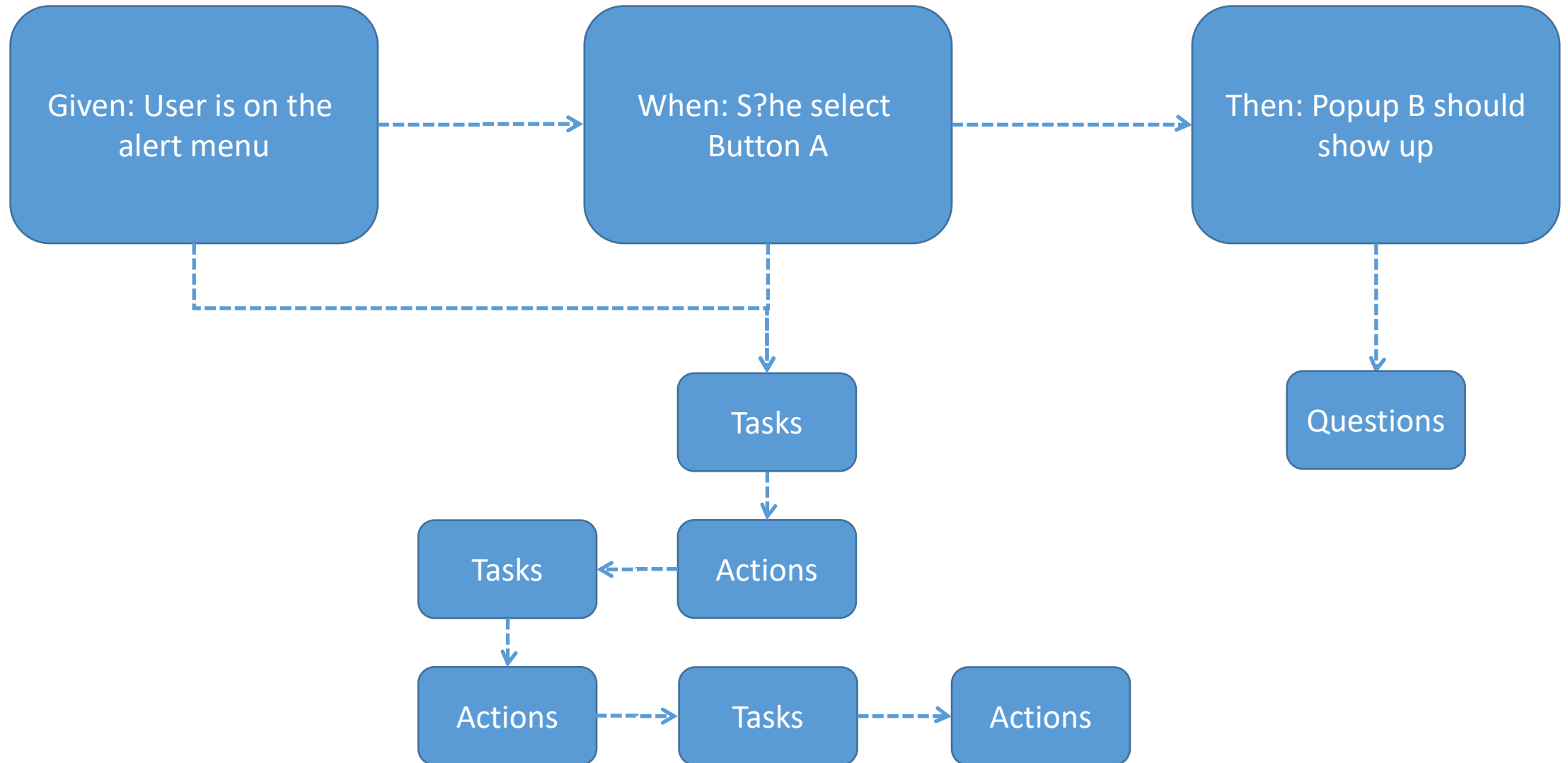
Note: In case that these Lib are missing, Right click on POM.xml, select Maven, select Reload Project.

# Serenity BDD Screenplay Pattern



Note: Testcase is a scenario where we prove that user can/can't able to do things.  
Screenplay pattern is a way to prove that.

# Serenity BDD Screenplay Pattern



Type	Example
Open a web page	<code>Open.url("https://google.com")</code>
Clicking on an element	<code>Click.on(PageObject.Locator)</code>
Typing value into fields	<code>Enter.theValue("abcde").into(PageObject.Locator)</code>
Hitting a key	<code>Hit.the(Keys.ENTER).into(PageObject.Locator)</code>
Working with dropdowns	<code>SelectFromOptions.byVisibleText("Hanoi").from(PageObject.Locator)</code>
Moving the mouse	<code>MoveMouse.to(PageObject.Locator)</code>
Javascript Clicks*	<code>JavaScriptClick.on(PageObject.Locator)</code>
Scrolling	<code>Scroll.to(PageObject.Locator)</code>
Switching Frames/Window	<code>Switch.toFrame(2), Switch.toWindow(windowTitle)</code>
Writing custom interaction class**	

Type	Example
Chain interactions	<code>Open.url("https://google.com").andThen( actions -&gt; actions.doubleClick()</code>

Type	Example
Reading Text	<code>Text.of(PageObject.Locator).viewedBy(actor).as&lt;Type&gt;()</code>
Reading Values	<code>Value.of(PageObject.Locator).viewedBy(actor).as&lt;Type&gt;()</code>
Reading from drop down list	<code>SelectedValue.of(PageObject.Locator).viewedBy(actor).as&lt;Type&gt;()</code> <code>SelectedVisibleTextValue.of(PageObject.Locator).viewedBy(actor).as&lt;Type&gt;()</code>
Reading Atributes	<code>Attribute.of(PageObject.Locator).named("abc").viewedBy(actor).as(&lt;Type&gt;)</code> <code>CSSValue.of(PageObject.Locator).named("abc").viewedBy(actor).as&lt;Type&gt;()</code>
Checking UI State*	<code>isVisible(), isVisible(), isCurrentlyVisible(),</code> <code>isNotCurrentlyVisible(), isEnabled(), isNotEnabled(), isCurrentlyEnabled(),</code> <code>isNotCurrentlyEnabled(), isPresent(), isNotPresent(), isSelected(), isNotSelected(),</code> <code>containsText(), containsOnlyText(), containsSelectOption(), hasValue()</code>  <code>WebElementQuestion.the(TITLE), WebElementStateMatchers.isVisible()</code> <code>the(TITLE), isVisible() **</code> <code>import static net.serenitybdd.screenplay.matchers.WebElementStateMatchers.*;</code> <code>import static net.serenitybdd.screenplay.questions.WebElementQuestion.the;</code>

Type	Example
Performing Wait	<code>WaitUntil.the(TITLE, isVisible())</code> <code>WaitUntil.the(TITLE, isVisible()).forNoMoreThan(10).seconds()</code>

Type	Example
Integer, long, float numbers	Ensure.that(age).isEqualTo(18) Ensure.that(age).isNotEqualTo(65) Ensure.that(age).isGreaterThan(18) Ensure.that(age).isGreaterThanOrEqualTo(20) Ensure.that(age).isLessThan(100) Ensure.that(age).isBetween(18,25) Ensure.that(age).isStrictlyBetween(20,25)
Double and float numbers	Ensure.that(creditScore).isCloseTo(9.81F, 0.01F)
Strings	Ensure.that(name).isEqualTo("Bill") Ensure.that(name).isNotEqualTo("Joe") Ensure.that(name).isGreaterThan("Alfred") * Ensure.that(name).isGreaterThanOrEqualTo("Al") * Ensure.that(name).isLessThan("Carrie") * Ensure.that(name).isBetween("Bill","Carrie") Ensure.that(name).isStrictlyBetween("Al",25)

Type	Example
Assertions to check the String Contents	<pre> Ensure.that(colors).containsIgnoringCase("RED") Ensure.that("123").containsOnlyDigits() Ensure.that("abc123").containsOnlyLettersOrDigits() Ensure.that("abc").containsOnlyLetters() Ensure.that("Red Green").containsWhitespaces() Ensure.that(" ").containsOnlyWhitespaces() Ensure.that(colors).startsWith("Red") Ensure.that(colors).endsWith("Blue") Ensure.that(colors).matches("Red (.*) Blue") Ensure.that(colors).doesNotContain("cyan") Ensure.that(" ").isBlank() Ensure.that(colors).isNotBlank() Ensure.that("").isEmpty() Ensure.that(colors).isNotEmpty() Ensure.that("red").isInLowerCase() Ensure.that("RED").isInUpperCase() Ensure.that("Green").isSubstringOf(colors) </pre>



Type	Example
Assertions to check the length of the string	<pre> Ensure.that("red").hasSize(3) Ensure.that("red").hasSizeGreaterThan(2) Ensure.that("red").hasSizeGreaterThanOrEqualTo(3) Ensure.that("red").hasSizeLessThan(4) Ensure.that("red").hasSizeLessThanOrEqualTo(3) Ensure.that("red").hasSizeBetween(1,5) Ensure.that(colors).hasLineCount(1) </pre>
Assertions using Lambda expressions, return true/false	<pre> String actualColor = "green"; Ensure.that(actualColor).matches("is an RGB color",                                 color -&gt; color.equals("red")                                    color.equals("blue")                                    color.equals("green")) </pre>
Negative assertions	<pre> Ensure.that(colors).not().contains("Cyan") </pre>
Working with dates and times	<pre> LocalTime tenInTheMorning = LocalTime.of(10,0); LocalTime twoInTheAfternoon = LocalTime.of(14,0); Ensure.that(tenInTheMorning).isBefore(twoInTheAfternoon)  ----  LocalDate firstOfJanuary = LocalDate.of(2000,1,1); Ensure.that(firstOfJanuary).isDayOfWeek(DayOfWeek.SATURDAY) </pre>

Type	Example
Assertions to check the length of the string	<pre> Ensure.that("red").hasSize(3) Ensure.that("red").hasSizeGreaterThan(2) Ensure.that("red").hasSizeGreaterThanOrEqualTo(3) Ensure.that("red").hasSizeLessThan(4) Ensure.that("red").hasSizeLessThanOrEqualTo(3) Ensure.that("red").hasSizeBetween(1,5) Ensure.that(colors).hasLineCount(1) </pre>
Assertions using Lambda expressions, return true/false	<pre> String actualColor = "green"; Ensure.that(actualColor).matches("is an RGB color",                                 color -&gt; color.equals("red")                                    color.equals("blue")                                    color.equals("green")) </pre>
Negative assertions	<pre> Ensure.that(colors).not().contains("Cyan") </pre>
Working with dates and times	<pre> LocalTime tenInTheMorning = LocalTime.of(10,0); LocalTime twoInTheAfternoon = LocalTime.of(14,0); Ensure.that(tenInTheMorning).isBefore(twoInTheAfternoon)  ----  LocalDate firstOfJanuary = LocalDate.of(2000,1,1); Ensure.that(firstOfJanuary).isDayOfWeek(DayOfWeek.SATURDAY) isDayOfWeek(SATURDAY), isDayOfMonth(1), isInTheMonthOf(JANUARY), isTheYear(2000) </pre>

Type	Example
Assertions about <b>list</b> equality and size	Ensure.that(list1).isEqualTo(list2) Ensure.that(list1).isEmpty() Ensure.that(list1).isNotEmpty() Ensure.that(list1).hasSize(3) Ensure.that(list1).hasSizeGreaterThan(2) Ensure.that(list1).hasSizeLessThan(4) Ensure.that(list1).hasSizeBetween(2,4) Ensure.that(list1).hasSameSize(list2)
Assertions about <b>list</b> contents	Ensure.that(colors).contains("red","blue") Ensure.that(colors).anyOf("red","pink") Ensure.that(colors).containsOnly("blue","green","red") Ensure.that(colors).containsExactly("red","blue","green") Ensure.that(colors).containsExactly("red","blue","green") Ensure.that(colors).doesNotContain("pink") Ensure.that(allColors).containsElementsFrom(colors) Ensure.that(colors).containsAnyElementsOf(redAndPink) Ensure.that(colors).containsExactlyElementsOf(sameColors) Ensure.that(colors).isASubsetOf(allColors) Ensure.that(colors).doesNotHaveDuplicates() Ensure.that(colors).startsWith("red", "green") Ensure.that(allColors).startsWithElementsFrom(colors) Ensure.that(colors).endsWith("green","blue") Ensure.that(allColors).endsWithElementsFrom(lastColors)

Type	Example
Matching list elements with Java 8 Lambdas	<pre>List&lt;String&gt; colors = ImmutableList.of("blue", "cyan", "pink");  aster.attemptsTo(     Ensure.that(colors).allMatch("4 characters long",         it -&gt; it.length() == 4) );</pre> <p><b>allMatch, anyMatch, noneMatch, atLeast</b></p>
Using Named Expectations	<pre>aster.attemptsTo(     Ensure.that(colors).anyMatch(IS_A_PRIMARY_COLOR) );  private static final NamedExpectation&lt;String&gt; IS_A_PRIMARY_COLOR     = new NamedExpectation&lt;&gt;("is a primary color",         color -&gt; (color.equals("red")                (color.equals("green")                    (color.equals("blue"))));</pre>

Type	Example
Web element assertions	Ensure.that(PageObject.Locator).isDisplayed() Ensure.that(PageObject.Locator).isDisabled() Ensure.that(PageObject.Locator).isEnabled()
Checking text content and field values	Ensure.that(PageObject.Locator).value().isEqualTo("Joe") Ensure.that(PageObject.Locator).text().isNotEmpty() Ensure.that(PageObject.Locator).textContent().isNotEmpty() Ensure.that(PageObject.Locator).attribute("title").isEqualTo("First name") Ensure.that(PageObject.Locator).selectedValue().isEqualTo("green") Ensure.that(PageObject.Locator).selectedVisibleText().isEqualTo("Green") Ensure.that(PageObject.Locator).hasClass("color-list") Ensure.that(PageObject.Locator*).containsElements(".result-details")
Converting values to different types	Ensure.that(ITEM_COUNT).value().asAnInteger().isEqualTo(2) Ensure.that(TOTAL_COST).value().asADouble().isEqualTo(99.99d) Ensure.that(TOTAL_COST).value().asAFloat().isCloseTo(99.99f,0.01f) Ensure.that(TOTAL_COST).value().asABigDecimal().isEqualTo(new BigDecimal("99.99")) Ensure.that(CURRENT_DATE).value().asADate().isEqualTo(expectedLocalDate) Ensure.that(CURRENT_TIME).value().asATime().isEqualTo(expectedLocalTime) Ensure.that(SOME_FLAG).value().asABoolean().isTrue()

Type	Example
Making assertions about collections of web elements	<pre> Ensure.thatTheSetOf(RESULTS).allMatch(isDisplayed()) Ensure.thatTheSetOf(RESULTS).noneMatch(isNotDisplayed()) Ensure.thatTheSetOf(INPUT_FIELDS).atLeast(1, isDisabled()) Ensure.thatTheSetOf(INPUT_FIELDS).atLeast(1, isNotDisabled()) Ensure.thatTheSetOf(INPUT_FIELDS).atLeast(1, isEnabled()) Ensure.thatTheSetOf(INPUT_FIELDS).atLeast(1, isNotEnabled()) Ensure.thatTheSetOf(RESULTS).noMoreThan(1, hasCssClass("selected")) Ensure.thatTheSetOf(RESULTS).anyMatch(hasValue("red")) Ensure.thatTheSetOf(RESULTS).anyMatch(containsText("Red")) Ensure.thatTheSetOf(RESULTS).anyMatch(containsOnlyText("Red Car")) Ensure.thatTheSetOf(RESULTS).anyMatch(containsElementsLocatedBy(".model")) </pre>
Waiting for elements and defining timeouts	<pre> Target SLOW_FIELD = Target.the("Slow field")                         .locatedBy("#slow")                         .waitingForNoMoreThan(Duration.ofSeconds(5)) aster.attemptsTo(     Ensure.that(SLOW_FIELD         .waitingForNoMoreThan(Duration.ofSeconds(10)))         .value()         .isEqualTo("Marseille")     ); </pre>

Type	Example
Making assertions about the current page	Ensure.thatTheCurrentPage().title().isEqualTo("Some Title")
Reporting and <b>hiding Ensure steps</b>	aster.attemptsTo( Ensure.that(ElementLocated.by(PageObject.Locator)) . <b>silently()</b> .isDisplayed() );