



Code

Blame



Raw



```
56     public class RestSearchAction extends BaseRestHandler {
81         public List<Route> routes() {
82             return List.of(
83                 new Route(GET, "/_search"),
84                 new Route(POST, "/_search"),
85                 new Route(GET,("/{index}/_search"),
86                 new Route(POST,("/{index}/_search")
87             );
88         }
89
90         @Override
91         public Set<String> supportedCapabilities() {
92             return SearchCapabilities.CAPABILITIES;
93         }
94
95         @Override
96         public RestChannelConsumer prepareRequest(final RestRequest request, final NodeClient client) throws IOException {
97             if (client.threadPool() != null && client.threadPool().getThreadContext() != null) {
98                 client.threadPool().getThreadContext().setErrorTraceTransportHeader(request);
99             }
100             SearchRequest searchRequest = new SearchRequest();
101             // access the BwC param, but just drop it
```

Test coverage

```
»
417 public IndexWriter(Directory d, IndexWriterConfig conf)
417     conf.setIndexWriter(this); // prevent reuse by other i
416     config = conf;
416     directory = d;
416     analyzer = config.getAnalyzer();
416     infoStream = config.getInfoStream();
416     mergeScheduler = config.getMergeScheduler();
416     codec = config.getCodec();

416     bufferedUpdatesStream = new BufferedUpdatesStream(info
416     poolReaders = config.getReaderPooling();

416     writeLock = directory.makeLock(WRITE_LOCK_NAME);

414     if (!writeLock.obtain(config.getWriteLockTimeout())) /
0     throw new LockObtainFailedException("Index locked fo

414     boolean success = false;
414     try {
414         OpenMode mode = config.getOpenMode();
414         boolean create;
414         if (mode == OpenMode.CREATE) {
963             create = true;
451         } else if (mode == OpenMode.APPEND) {
302             create = false;
        } else {
```

```
SeedTest.java x
29 class SeedTest { new *
30
31     private static final Logger LOGGER = LogManager.getLogger(); 2 usages
32
33     @Test new *
34     void random00() {
35         Random generator = new Random( seed: 12345L);
36         int num = generator.nextInt();
37         LOGGER.info( message: " Num is [{}]", num);
38         assertThat(num).isNotEqualTo( other: 1553932502);
39     }
40
41     @Test new *
42     void randomWithSeed01() {
43         Random generator = new Random( seed: 12345L);
44         int num = generator.nextInt();
45         LOGGER.info( message: " Num is [{}]", num);
46         assertThat(num).isEqualTo( expected: 1553932502);
47     }
48 }
```

Run SeedTest x

SeedTest (fr.pilato.talk.randomizedtesting) 43 ms 1 test failed, 1 passed 2 tests total, 43 ms

- ✓ randomWithSeed01() 37 ms
- ✗ random00() 6 ms

/Users/david/.sdkman/candidates/java/21.0.2-open/bin/java ...

(45) Num is [1553932502]

(37) Num is [1553932502]

java.lang.AssertionError:
Expecting actual:
1553932502
not to be equal to:
1553932502

at fr.pilato.talk.randomizedtesting.SeedTest.random00(SeedTest.java:38)

Process finished with exit code 255

Actions	New workflow
All workflows	
Comment on PR for .asciidoc chang...	
Docs preview comment	
Docs Preview Links	
docs-build	
docs-cleanup	
updatecli-compose	
Validate Gradle Wrapper	
Management	
 Caches	
 Deployments	↗
 Attestations	↗
 Runners	
 Usage metrics	↗
 Performance metrics	↗

Validate Gradle Wrapper #59459: Commit 65e2c3f pushed by davidkyle	8.19	 2 weeks ago ...
Remove index refresh block ITs (replaced by ITs i... Validate Gradle Wrapper #59458: Commit 650ce32 pushed by benchaplin	main	 2 weeks ago ...  27s
Mute org.elasticsearch.index.mapper.vectors.De... Validate Gradle Wrapper #59457: Commit 0b0f4f8 pushed by elasticsearchmachine	main	 2 weeks ago ...  24s
Mute org.elasticsearch.index.mapper.vectors.De... Validate Gradle Wrapper #59456: Commit 6af55c2 pushed by elasticsearchmachine	main	 2 weeks ago ...  1m 1s
[ES QL] Implement new syntax for RERANK and ... Validate Gradle Wrapper #59455: Commit d56a476 pushed by afoucret	main	 2 weeks ago ...  36s
Add test Validate Gradle Wrapper #59454: Commit 9e75c14 pushed by felixbarny	metrics_prototype	 2 weeks ago ...  29s
Upgrade MinIO (& work around bug) (#132178) Validate Gradle Wrapper #59453: Commit 3a285cf pushed by elasticsearchmachine	8.18	 2 weeks ago ...  28s





Push code to production

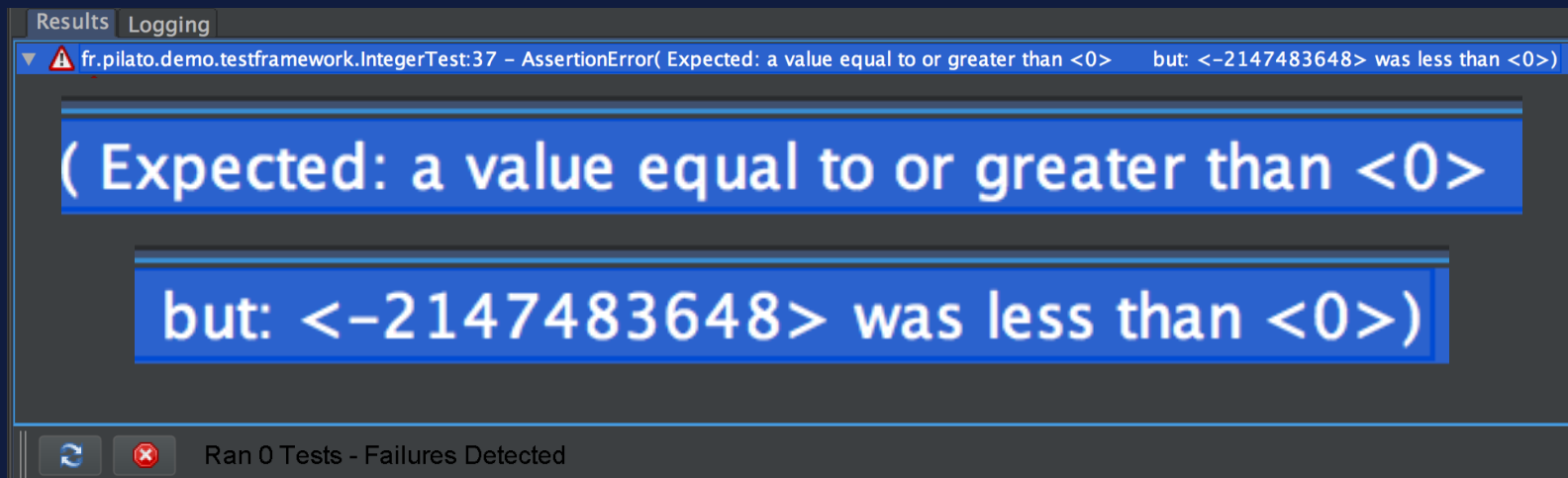
June 4th 1996

Original footage from ESA

https://www.esa.int/ESA_Multimedia/Videos/1996/06/Ariane_501_recording_launch_pad_before_and_at_launch

```
public static int generateInt(int min, int max) {  
    return ThreadLocalRandom.current().nextInt(min, max);  
}
```

```
@Test  
void testInteger() {  
    int input = generateInt(Integer.MIN_VALUE, Integer.MAX_VALUE);  
    int output = Math.abs(input);  
    assertThat(output).isGreaterThanOrEqualTo(0);  
}
```



```
int output = Math.abs(input);  
assertThat(output).isGreaterThanOrEqualTo(0);
```

Le hasard fait bien les tests

**Randomized
Testing**
Gotta Catch 'em all!



FScrawler

You know, for files!



github.com/dadoonet/fscrawler/

	Update Pull Requests files #525: Pull request <u>#2059</u> synchronize by dadoonet	assertj	3 months ago 1m 22s	...
✓	Switch to AssertJ CodeQL #1388: Pull request <u>#2059</u> synchronize by dadoonet	assertj	3 months ago 5m 6s	...
✗	Switch to AssertJ Build Pull Requests #1195: Pull request <u>#2059</u> synchronize by dadoonet	assertj	3 months ago 3m 58s	...
✓	Switch to AssertJ CodeQL #1387: Pull request <u>#2059</u> synchronize by dadoonet	assertj	3 months ago 4m 53s	...
✓	Switch to AssertJ Update Pull Requests files #524: Pull request <u>#2059</u> synchronize by dadoonet	assertj	3 months ago 1m 12s	...
✓	Switch to AssertJ Update Pull Requests files #523: Pull request <u>#2059</u> synchronize by dadoonet	assertj	3 months ago 1m 10s	...
✓	Switch to AssertJ	assertj	3 months ago	...

<https://github.com/dadoonet/fscrawler/actions/runs/14357866984/job/40251514398#step:4:296>

Summary

Jobs

build

unit

build-docker

it

it-es7

it-es6

it-cloud

it-serverless

Run details

Usage

Workflow file

unit

failed 3 weeks ago in 38s

Search logs

Explain error

Refresh

Settings

Run all the unit tests30s

340 Error:

341 Error: To see the full stack trace of the errors, re-run Maven with the -e switch.

342 Error: Re-run Maven using the -X switch to enable full debug logging.

343 Error:

344 Error: For more information about the errors and possible solutions, please read the following articles:

345 Error: [Help 1] <http://cwiki.apache.org/confluence/display/MAVEN/MojoExecutionException>

346 Error:

347 Error: After correcting the problems, you can resume the build with the command

348 Error: mvn <args> -rf :fscrawler-settings

349 Error: Process completed with exit code 1.

> Post Set up JDK 211s

> Post Run actions/checkout@v40s

> Complete job0s

 elastic

Throwable #1: `java.lang.NullPointerException`: Cannot invoke "`Elasticsearch.setIndex(String)`" because the return value of "`FsSettings.getElasticsearch()`" is `null`

Throwable #1: `java.lang.NullPointerException`: Cannot invoke "`Elasticsearch.setIndex(String)`" because the return value of "`FsSettings.getElasticsearch()`" is `null`

```
@Test
void settingsValidation() {
    FsSettings settings = FsSettingsLoader.load();
    settings.getElasticsearch().setIndex(getCurrentTestName());

    // ...
}
```

```
@Test
void settingsValidation() {
    FsSettings settings = FsSettingsLoader.load();
    settings.getElasticsearch().setIndex(getCurrentTestName());

    // ...
}
```



REPRODUCE WITH:

mvn integration-test -Dtests.locale=az

Throwable #1: java.lang.NullPointerException: Cannot invoke "Elasticsearch.setIndex(String)" because the return value of "FsSettings.getElasticsearch()" is null

It depends!





It depends!

@Test

```
void settingsValidationFr() {  
    Locale.setDefault(new Locale.Builder().setLanguageTag("fr").build());  
    FsSettings settings = FsSettingsLoader.load();  
    settings.getElasticsearch().setIndex(getCurrentTestName());  
  
    // ...  
}
```

@Test

```
void settingsValidationAz() {  
    Locale.setDefault(new Locale.Builder().setLanguageTag("az").build());  
    FsSettings settings = FsSettingsLoader.load();  
    settings.getElasticsearch().setIndex(getCurrentTestName());  
  
    // ...  
}
```

@Test

```
void settingsValidationEn() {  
    Locale.setDefault(new Locale.Builder().setLanguageTag("en").build());  
    FsSettings settings = FsSettingsLoader.load();  
    settings.getElasticsearch().setIndex(getCurrentTestName());  
}
```

Randomized Testing



Installation (pom.xml - Java)

```
<dependency>  
  <groupId>com.carrotsearch.randomizedtesting</groupId>  
  <artifactId>randomizedtesting-jupiter</artifactId>  
  <version>0.3.0</version>  
  <scope>test</scope>  
</dependency>
```


Use the default test plugin - surefire

```
<plugin>  
  <groupId>org.apache.maven.plugins</groupId>  
  <artifactId>maven-surefire-plugin</artifactId>  
  <version>3.5.5</version>  
</plugin>
```

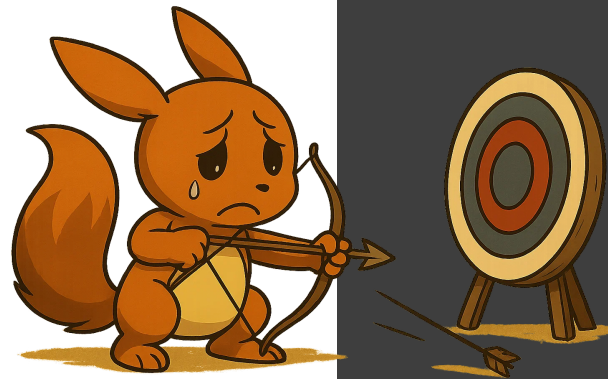
```
@Test
void testCreateClusterAndIndex(Random rnd) {
    int numberOfNodes = RandomizedTest.randomIntInRange(rnd, 1, 20);
    int numberOfShards = RandomizedTest.randomIntInRange(rnd, 1, 30);
    int numberOfReplicas = RandomizedTest.randomIntInRange(rnd,
        0, numberOfNodes - 1);
    String indexName = RandomizedTest.randomAsciiAlphanumOfLength(
        rnd, RandomizedTest.randomIntInRange(rnd, 5, 20)) ;

    // Create a cluster with the specified number of nodes
    startCluster(numberOfNodes) ;

    // Create an index with the specified number of shards and replicas
    createIndex(indexName, numberOfShards, numberOfReplicas);

    // Run tests here
    // ...
}
```

atLeast(Random, int): int
atMost(Random, int): int
frequently(Random): boolean
iterations(Random, int, int): int
multiplier(): double
randomAsciiAlphanumOfLength(Random, int): String
randomAsciiAlphanumOfLengthBetween(Random, int, int): String
randomAsciiLettersOfLength(Random, int): String
randomAsciiLettersOfLengthBetween(Random, int, int): String
randomBoolean(Random): boolean
randomByte(Random): byte
randomBytesOfLength(Random, int): byte[]
randomBytesOfLength(Random, int, int): byte[]
randomDouble(Random): double
randomFloat(Random): float
randomFrom(Random, byte[]): byte
randomFrom(Random, char[]): char
randomFrom(Random, double[]): double
randomFrom(Random, float[]): float
randomFrom(Random, int[]): int



Seed



Seed

```
@Test
void testSeed() {
    Random generator = new Random();
    int num = generator.nextInt();
    assertThat(num).isEqualTo(1553932502);
}
```



Seed

```
@Test
void testSeed() {
    Random generator = new Random(12345L);
    int num = generator.nextInt();
    assertThat(num).isEqualTo(1553932502);
}
```





REPRODUCE WITH:

```
mvn integration-test -Dtests.seed=489581FE40712E4A  
# -Dtests.locale=az -Dtests.timezone=Asia/Ashkhabad
```



REPRODUCE WITH:

```
mvn integration-test -Dtests.seed=489581FE40712E4A  
# -Dtests.locale=az -Dtests.timezone=Asia/Ashkhabad
```

```
@Test  
@FixSeed("489581FE40712E4A")  
void settingsValidationForLocaleAz() {  
    // ...  
}
```



```

@RepeatedTest(10)
void repeatMe(Random rnd) {
    Locale locale = RandomizedTest.randomLocale(rnd);
    DateTimeFormatter dateTimeFormatter =
        DateTimeFormatter.ofLocalizedDate(FormatStyle.FULL).withLocale(locale);
    String format = dateTimeFormatter.format(LocalDate.now());
    System.out.println("date is [" + format + "] with locale [" +
        locale.toLanguageTag() + "]");
}

```

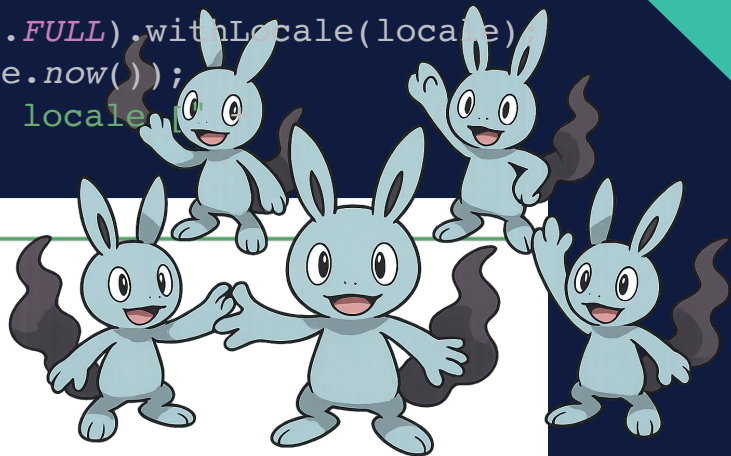
```

✓ RandomizedTest (fr.pilato.talk.randomizedtests) 61 ms
  ✓ repeatMe(Random) 61 ms
    ✓ repetition 1 of 10 17 ms
    ✓ repetition 2 of 10 7 ms
    ✓ repetition 3 of 10 5 ms
    ✓ repetition 4 of 10 6 ms
    ✓ repetition 5 of 10 5 ms
    ✓ repetition 6 of 10 6 ms
    ✓ repetition 7 of 10 4 ms
    ✓ repetition 8 of 10 3 ms
    ✓ repetition 9 of 10 5 ms
    ✓ repetition 10 of 10 3 ms

✓ 10 tests passed 10 tests total, 61 ms

(61 ) 🌐 Starting test suite with Locale [so-KE]
(71 ) 🌀 Starting test [repetition 1 of 10]
date is [Laraba 22 Afirilu, 2026] with locale [ha-NG]
(71 ) 🌀 Starting test [repetition 2 of 10]
date is [mercredi 22 avril 2026] with locale [fr-MC]
(71 ) 🌀 Starting test [repetition 3 of 10]
date is [22 апрель, 2026 ен, чаршамбе] with locale [tt-RU]
(71 ) 🌀 Starting test [repetition 4 of 10]
date is [2026 أبريل 22 , الأربعاء] with locale [ar-IL]
(71 ) 🌀 Starting test [repetition 5 of 10]
date is [22 april 2026 çarşenbe] with locale [tk-TM]
(71 ) 🌀 Starting test [repetition 6 of 10]
date is [Dé Céadaoin 22 Aibreán 2026] with locale [ga-Latn-IE]
(71 ) 🌀 Starting test [repetition 7 of 10]
date is [᠒᠒ ᠒᠕᠕ 2026] with locale [km]
(71 ) 🌀 Starting test [repetition 8 of 10]
date is [2026 अप्रैल 22, बुधवार] with locale [raj]
(71 ) 🌀 Starting test [repetition 9 of 10]
date is [среда, 22 апреля 2026 г.] with locale [ru-MD]
(71 ) 🌀 Starting test [repetition 10 of 10]
date is [metúkpiápe 22 mesij, oóli ú kénie 2026] with locale [yav-CM]

```



Try other locales

```
private static final Locale savedLocale = Locale.getDefault();

@BeforeAll
static void setLocale(Random rnd) {
    String testLocale = System.getProperty("tests.locale", "random");
    Locale locale = testLocale.equals("random") ? RandomizedTest.randomLocale(rnd) :
        new Locale.Builder().setLanguageTag(testLocale).build();
    Locale.setDefault(locale);
    LOGGER.info("🌐 Starting test suite with Locale [{}]",
        Locale.getDefault().toLanguageTag());
}

@AfterAll
static void resetLocale() {
    Locale.setDefault(savedLocale);
}
```

```
@Test
void withLocale() {
    DateTimeFormatter dateTimeFormatter =
        DateTimeFormatter.ofLocalizedDate(FormatStyle.FULL);
    String format = dateTimeFormatter.format(LocalDate.now());
    LOGGER.info(" ➡ Date is formatted as [{}]", format);
}
```

RUN 1

(56) 🌐 Starting test suite with Locale [es-US]

(127) ➡ Date is formatted as [viernes, 24 de abril de 2026]

RUN 2

(56) 🌐 Starting test suite with Locale [lb-LU]

(127) ➡ Date is formatted as [Freideg, 24. Abrëll 2026]

```
mvn test -Dtests.locale=fr-FR
```

```
# RUN 1
```

```
(56 ) 🌐 Starting test suite with Locale [fr-FR]
```

```
(127) ➡ Date is formatted as [vendredi 24 avril 2026]
```

```
# RUN 2
```

```
(56 ) 🌐 Starting test suite with Locale [fr-FR]
```

```
(127) ➡ Date is formatted as [vendredi 24 avril 2026]
```

```

@Test
void sometimes(Random rnd) {
    int bulkSize = RandomizedTest.randomIntInRange(rnd, 500, 1000);
    for (int i = 0; i < bulkSize; i++) {
        addDocument("english_" + i, generatePerson(rnd));
        if (RandomizedTest.frequently(rnd)) {
            addDocument("french_" + i, generatePerson(rnd));
        }

        if (RandomizedTest.rarely(rnd)) {
            // Shutdown Node 1
            shutdownNode(1);
        }
    }
}

```

```

} (85 ) Adding document [english_59]: [Person[name=Grf0m6rkkC, age=32]]
(85 ) Adding document [english_60]: [Person[name=yxMwbm9lF0, age=37]]
(85 ) Adding document [french_60]: [Person[name=3rDZ6T6hux, age=56]]
(85 ) Adding document [english_61]: [Person[name=kBdYtlakhD, age=34]]
(85 ) Adding document [french_61]: [Person[name=xkN07zq9Qk, age=35]]
(89 ) Shutting down node [1]
(85 ) Adding document [english_62]: [Person[name=2noxk1z8fn, age=54]]

```

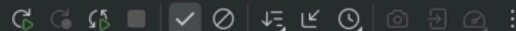
```
@Test
void ignoreIfUseless20(Random rnd) {
    boolean b = RandomizedTest.randomBoolean(rnd);
    LOGGER.info(" ➡ boolean is [{}]", b);

    assertThat(b).isTrue();
}
```



```
@Test
void ignoreIfUseless20(Random rnd) {
    boolean b = randomBoolean(rnd);
    LOGGER.info(" ➡ boolean is [{ }]", b);
    assumeTrue(b);
    assertThat(b).isTrue();
}
```

Run RandomTest.ignoreIfUseless20 x



RandomTest (fr.pilato.talk.randomizedtesting) 5 ms

1 test ignored 1 test total, 5 ms

/Users/david/.sdkman/candidates/java/21.0.2-open/bin/java ...

(61) Starting test suite with Locale [en-IE]

(71) Starting test [ignoreIfUseless20(Random)]

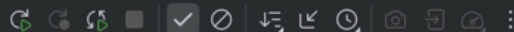
(133) boolean is [false]

org.opentest4j.TestAbortedException: Assumption failed: assumption is not true

> at __randomizedtesting.SeedChain.seed([323033F803389CED:17D53FF03F4A1E21:9987BD8DCBC1048E]) <3 internal lines>
at fr.pilato.talk.randomizedtesting.RandomTest.ignoreIfUseless20(RandomTest.java:134)

```
@Test
void ignoreIfUseless20(Random rnd) {
    boolean b = randomBoolean(rnd);
    LOGGER.info(" ➡ boolean is [{}]", b);
    assumeTrue(b);
    assertThat(b).isTrue();
}
```

Run RandomTest.ignoreIfUseless20 x



✓ RandomTest (fr.pilato.talk.randomizedtesting) 26 ms
✓ ignoreIfUseless20(Random) 26 ms

✓ 1 test passed 1 test total, 26 ms

```
/Users/david/.sdkman/candidates/java/21.0.2-open/bin/java ...
(61 ) 🌟 Starting test suite with Locale [ta-MY]
(71 ) 🌀 Starting test [ignoreIfUseless20(Random)]
(133) 📡 boolean is [true]
```

Process finished with exit code 0


```
@Test
void ignoreOnWindows() {
    String osName = System.getProperty("os.name").toLowerCase();
    assumeFalse(osName.contains("win"));
    // Run the specific non windows test here
}
```

```
@Test
@DisabledOnOs(OS.WINDOWS)
void ignoreOnWindows() {
    // Run the specific non windows test here
}
```

Tag your tests

junit

```
@Test
@Tag("Nightly")
void longRunningTest(Random rnd) {
    int bulkSize = RandomizedTest.randomIntInRange(rnd, 10, 1000);
    for (int i = 0; i < bulkSize; i++) {
        try {
            Thread.sleep(RandomizedTest.randomIntInRange(rnd, 10, 100));
        } catch (InterruptedException e) {
            Thread.currentThread().interrupt();
        }
    }
}
```

Do less during the day

junit

```
$ mvn test -DexcludedGroups=Nightly
```

```
[INFO] Running fr.pilato.talk.randomizedtesting.ElasticsearchTest
```

```
(39 ) 🏁 Starting test [sometimes(Random)]
```

```
(39 ) 🏁 Starting test [testCreateClusterAndIndex(Random)]
```

```
[INFO] Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed:  
0.123 s -- in fr.pilato.talk.randomizedtesting.ElasticsearchTest
```

Do more during the night

junit

```
$ mvn test
```

```
[INFO] Running fr.pilato.talk.randomizedtesting.ElasticsearchTest
(39 ) 🏁 Starting test [longRunningTest(Random)]
(39 ) 🏁 Starting test [sometimes(Random)]
(39 ) 🏁 Starting test [testCreateClusterAndIndex(Random)]
[INFO] Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed:
23.55 s -- in fr.pilato.talk.randomizedtesting.ElasticsearchTest
```

But stay reasonable

junit

```
@Test
@Tag("Nightly")
@Timeout(30)
void longRunningTest(Random rnd) {
    // ...
}
```

```
$ mvn test
```

```
[ERROR] Tests run: 3, Failures: 0, Errors: 1, Skipped: 0, Time
elapsed: 30.152 s <<< FAILURE! -- in
```

```
fr.pilato.talk.randomizedtesting.ElasticsearchTest
```

```
[ERROR]
```

```
fr.pilato.talk.randomizedtesting.ElasticsearchTest.longRunningTest(Ran
dom) -- Time elapsed: 30.045 s <<< ERROR!
```

```
java.util.concurrent.TimeoutException:
```

```
longRunningTest(java.util.Random) timed out after 30 seconds
```

Create your own annotation

junit

```
@Target(ElementType.METHOD)
@Retention(RetentionPolicy.RUNTIME)
@Tag("Nightly")
@Test
@Timeout(value = 5, unit = TimeUnit.MINUTES)
public @interface NightlyTest {
}
```

```
@NightlyTest
void longRunningTest(Random rnd) {
    // ...
}
```

Random execution order

junit

In `src/test/resources/junit-platform.properties`

```
junit.jupiter.testclass.order.default=org.junit.jupiter.api.ClassOrderer$Random
junit.jupiter.testmethod.order.default=org.junit.jupiter.api.MethodOrderer$Random
```

✓ <default package>	4 sec 628 ms
✓ ElasticsearchTest	4 sec 550 ms
✓ testCreateClusterAndIndex(Random)	16 ms
✓ longRunningTest(Random)	4 sec 516 ms
✓ sometimes(Random)	18 ms
✓ RandomTest	78 ms
✓ randomWithSeed01()	21 ms
> randomIntegerWithRange04(Random)	4 ms
✓ random00()	
✓ ignoreOnWindows21()	1 ms
✓ randomInteger02(Random)	
> repeatMe05(Random)	
> repeatMe(Random)	44 ms
✓ stopOrIdentifyYourThreads30()	1 ms
✓ ignoreOnWindows22()	1 ms
✓ randomLocale10()	2 ms
✓ randomIntegerWithSeed03(Random)	1 ms

✓ <default package>	53 sec 630 ms
✓ RandomTest	100 ms
✓ stopOrIdentifyYourThreads30()	33 ms
✓ randomInteger02(Random)	2 ms
✓ ignoreOnWindows21()	
✓ randomIntegerWithSeed03(Random)	1 ms
✓ ignoreOnWindows22()	
> repeatMe(Random)	54 ms
✓ random00()	
> randomIntegerWithRange04(Random)	4 ms
✓ randomWithSeed01()	
✓ randomLocale10()	4 ms
> repeatMe05(Random)	
✓ ElasticsearchTest	53 sec 530 ms
✓ testCreateClusterAndIndex(Random)	1 ms
✓ sometimes(Random)	3 ms
✓ longRunningTest(Random)	53 sec 526 ms

ZOMBIE THREADS

```
@DetectThreadLeaks
```

```
@Randomized
```

```
class RandomTest {  
    @Test  
    void stopYourThreads() {  
        new Thread(() -> {  
            public void run() {  
                while (true) {  
                    try { Thread.sleep(1000L); } catch (InterruptedException e) { } }  
                } }, "zombie").start();  
        }  
    }  
}
```



ZOMBIE THREADS

@DetectThreadLeaks

@Randomized

```
class RandomTest {  
    @Test  
    void stopYourThreads() {  
        new Thread(() -> {  
            public void run() {  
                while (true) {  
                    try { Thread.sleep(1000L); } catch (InterruptedException e) { } }  
                } }, "zombie").start();  
    }  
}
```

1 thread(s) leaked from suite [RandomTest]:

```
1) Thread[id=39, name=zombie, state=TIMED_WAITING, group=main]  
   at java.base@25/java.lang.Thread.sleepNanos0(Native Method)  
   at java.base@25/java.lang.Thread.sleepNanos(Thread.java:509)  
   at java.base@25/java.lang.Thread.sleep(Thread.java:540)  
   at app//RandomTest.lambda$stopYourThreads$0(RandomTest.java:163)
```



ZOMBIE THREADS

```
@DetectThreadLeaks
@ExcludeThreads(FriendlyZombieFilter.class)
@Randomized
class RandomTest {
    @Test
    void identifyYourThreads() {
        new Thread(() -> {
            public void run() {
                while (true) {
                    try { Thread.sleep(1000L); } catch (InterruptedException e) { } }
                } }, "friendly-zombie").start();
    }
}

public static class FriendlyZombieFilter implements Predicate<Thread> {
    public boolean test(Thread t) {
        return "friendly-zombie".equals(t.getName());
    }
}
```



Back to the bug

```
@Test
void settingsValidation() {
    FsSettings settings = FsSettingsLoader.load();
    settings.getElasticsearch().setIndex(getCurrentTestName());

    // ...
}
```



```
@Test
void testLocaleFr() throws Exception {
    Locale.setDefault(new Locale.Builder().setLanguageTag("fr").build());
    Gestalt gestalt = new GestaltBuilder()
        .addSource(MapConfigSourceBuilder.builder()
            .addCustomConfig("elasticsearch.index", "foo")
            .build())
        .build();
    gestalt.loadConfigs();
    assertThat(gestalt.getConfigOptional("elasticsearch", Elasticsearch.class)).isPresent();
}
```



```
@Test
void testLocaleAz() throws Exception {
    Locale.setDefault(new Locale.Builder().setLanguageTag("az").build());
    Gestalt gestalt = new GestaltBuilder()
        .addSource(MapConfigSourceBuilder.builder()
            .addCustomConfig("elasticsearch.index", "foo")
            .build())
        .build();
    gestalt.loadConfigs();
    assertThat(gestalt.getConfigOptional("elasticsearch", Elasticsearch.class)).isPresent();
}
```





credmond-git on Apr 11 · edited by credmond-git

Edits ▾

Collaborator



I found the root cause of the issue.

Gestalt uses the following pattern to tokenize a path.

```
pattern: ^((?<name>[\w .,+=-\;\:'"~!@#%&*()\<>]+)(?<array>\[[(?<index>\d*)])?)?$
```

When presented with the word: 'flushinterval'

the following doesn't find a match in the PathLexer: `Matcher matcher = pathPattern.matcher(word);`

It seems to work in every other Locale, but Az?

I need to look into why this is happening, and how to fix it.



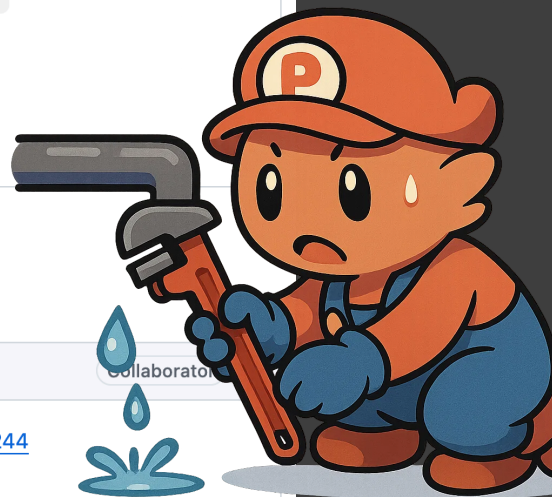
credmond-git mentioned this on Apr 11

[fix: specify the root locale when using toLower. #243](#)



credmond-git on Apr 11

I also made a fix so we can support different languages Unicode characters for object field names. [#244](#)



```
@Test
@FixSeed("489581FE40712E4A")
void testGestalt242() throws Exception {
    FsSettings settings = FsSettingsLoader.load();
    // This is supposed to fail because of:
    // https://github.com/gestalt-config/gestalt/issues/242
    assertThatNullPointerException()
        .isThrownBy(() -> settings.getElasticsearch().setIndex("foo"));
}
```

(70) 🏁 Starting test [testGestalt242()] with seed [489581FE40712E4A]

java.lang.AssertionError:
Expecting code to raise a throwable.

```
at __randomizedtesting.SeedChain.seed([489581FE40712E4A])
at RandomTest.testGestalt242(RandomTest.java:177)
```

Tika 3.3.2

assert4j

```
Doc doc = extractFromFile("test.html");
Map<String, String> raw = doc.getMeta().getRaw();
Assertions.assertThat(raw)
    .hasSize(17)
    .containsEntry("html:Mots clés", "keyword1, keyword2")
    .containsEntry("html:Originator", "Microsoft Word 15");
```



Tika 4.0.0-beta1

assert4j

```
Doc doc = extractFromFile("test.html");
Map<String, String> raw = doc.getMeta().getRaw();
Assertions.assertThat(raw)
    .hasSize(17)
    .containsEntry("html:Mots clés", "keyword1, keyword2")
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```



Tika 4.0.0-beta1

assert4j

```
Doc doc = extractFromFile("test.html");
Map<String, String> raw = doc.getMeta().getRaw();
Assertions.assertThat(raw)
    .hasSize(17)
    // Tika 4.0.0.beta1 mis-decodes non-ASCII HTML metadata
    // attribute names: the key "html:Mots clés" is
    // returned as mojibake ("html:Mots cl√©s")
    // Tracked upstream in
    // https://issues.apache.org/jira/browse/TIKA-4774
    .doesNotContainEntry("html:Mots clés", "keyword1, keyword2")
    .containsEntry("html:Originator", "Microsoft Word 15");
```



Tika 4.0.0

assert4j

```
Doc doc = extractFromFile("test.html");
Map<String, String> raw = doc.getMeta().getRaw();
Assertions.assertThat(raw)
    .hasSize(17)
    // Tika 4.0.0.beta1 mis-decodes non-ASCII HTML metadata
    // attribute names: the key "html:Mots clés" is
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    // Tracked upstream in
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    .doesNotContainEntry("html:Mots clés", "keyword1, keyword2")
    .containsEntry("html:Originator", "Microsoft Word 15");
```



Tika 4.0.0

assert4j

```
Doc doc = extractFromFile("test.html");  
Map<String, String> raw = doc.getMeta().getRaw();  
Assertions.assertThat(raw)  
    .hasSize(17)  
    .containsEntry("html:Mots clés", "keyword1, keyword2")  
    .containsEntry("html:Originator", "Microsoft Word 15");
```



TestContainers

JAVA INTEGRATION TESTING

```

@Testcontainers
class EsClientIT {

    @Container
    static ElasticsearchContainer container =
        new ElasticsearchContainer("docker.elastic.co/elasticsearch/elasticsearch:9.5.2");

    private ElasticsearchClient client;

    @BeforeEach
    void setUp() {
        final byte[] certAsBytes = container.copyFileFromContainer(
            "/usr/share/elasticsearch/config/certs/http_ca.crt",
            InputStream::readAllBytes);

        client = ElasticsearchClient.of(b -> b
            .host("https://" + container.getHostAddress())
            .sslContext(createContextFromCaCert(certAsBytes))
            .usernameAndPassword("elastic", "changeme"));
    }
}

```

@Test

```
void indexAndSearchDocument() throws IOException {  
    // 1. Index a document  
    Person person = new Person("1", "David", "Developer | Evangelist");  
    client.index(i -> i.index("persons").document(person));  
  
    // 2. Force index refresh for immediate searchability  
    client.indices().refresh(r -> r.index("persons"));  
  
    // 3. Search using official Java API Client DSL  
    SearchResponse<Person> response = client.search(s -> s  
        .index("persons")  
        .query(q -> q.match(m -> m.field("name").query("David"))),  
        Person.class  
    );  
  
    assertThat(response.hits().hits()).hasSize(1);  
}
```

@Testcontainers

```
class KibanaClientIT {  
    static Network network = Network.newNetwork();  
    static HttpClient kibanaClient;  
  
    @Container  
    static ElasticsearchContainer elasticsearch =  
        new ElasticsearchContainer("docker.elastic.co/elasticsearch/elasticsearch:9.5.2")  
            .withNetwork(network);  
  
    @Container  
    static KibanaContainer kibana =  
        new KibanaContainer("docker.elastic.co/kibana/kibana:9.5.2")  
            .withNetwork(network);  
  
    @BeforeEach  
    void setUpKibanaClient() {  
        kibanaUrl = "http://" + kibanaContainer.getHostAddress();  
        kibanaClient = HttpClient.newBuilder()  
            .followRedirects(HttpClient.Redirect.NEVER)  
            .build();  
    }  
}
```



```

private static HttpResponse<String> kibana(final String method,
                                           final String path,
                                           final String json)
    throws IOException, InterruptedException {
    final var request = HttpRequest.newBuilder()
        .uri(URI.create(kibanaUrl + path))
        .header("Authorization", "Basic " + BASIC_AUTH)
        .header("kbn-xsrf", "true")
        .header("Content-Type", "application/json")
        .method(method, json == null
            ? HttpRequest.BodyPublishers.noBody()
            : HttpRequest.BodyPublishers.ofString(json))
        .build();
    final var response = kibanaClient.send(request, HttpResponse.BodyHandlers.ofString());
    logger.debug("{} {} -> {} {}", method, path, response.statusCode(), response.body());
    return response;
}

```

```

private void createDashboard() {
    kibana("PUT", "/api/dashboards/fscrawler", "")
    {
        "title": "FSCrawler Dashboard",
        "panels": [ {
            "type": "markdown",
            "grid": { "x": 0, "y": 0, "w": 24, "h": 8 },
            "config": { "content": "# FSCrawler\\n\\nSample markdown." }
        }, {
            "type": "vis",
            "grid": { "x": 24, "y": 0, "w": 24, "h": 8 },
            "config": {
                "type": "metric",
                "title": "FSCrawler docs",
                "data_source": {
                    "type": "esql",
                    "query": "FROM fscrawler | STATS count = COUNT()"
                },
                "metrics": [{ "type": "primary", "column": "count" }]
            }
        } ]
    }
    """);
}

```

```
privat  
kiba  
{
```

Jug Summer Camp

-enjoy it-



Elasticsearch Query Language: **ES|QL**

Speaker : David Pilato - @dadoonet

slides et demo



```
"type": "esql",
```

```
"query": "FROM fscrawler | STATS count = COUNT() "
```

```
},
```

```
"metrics": [{ "type": "primary", "column": "count" }]
```

```
} } ]
```

```
}
```

```
" " " );
```

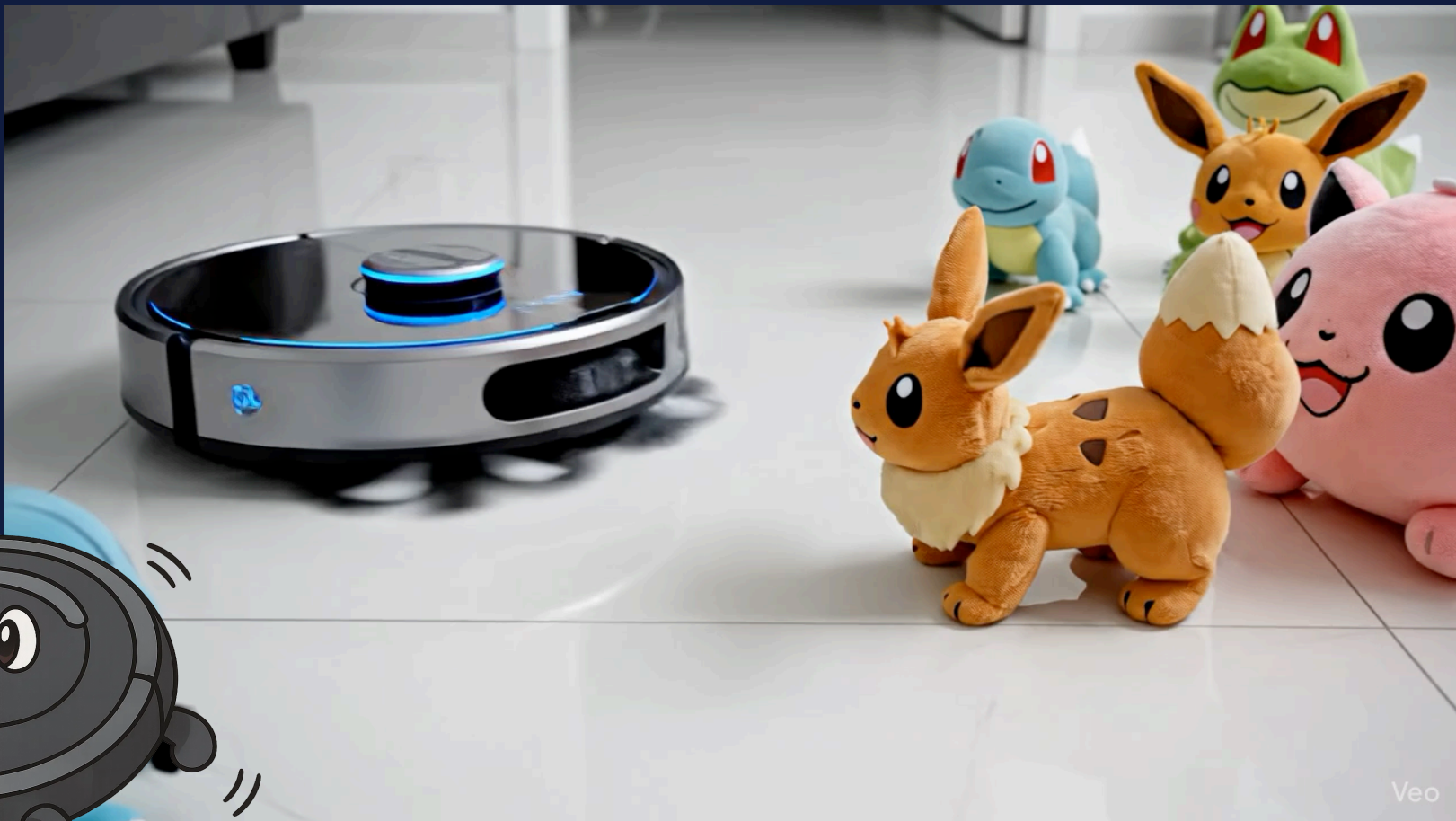
```
}
```

<https://david.pilato.fr/jsc24/>

TestContainers



`dadoonet/elasticsearch-java-client-demo`



Veo





David Pilato



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 [@dadoonet](https://twitter.com/dadoonet)

 <https://david.pilato.fr/>

Le hasard fait bien les tests

**Randomized
Testing**
Gotta Catch 'em all!

Slides



<https://david.pilato.fr/jsc26>



Feedback

