

# Arquillian Guides (/guides/)

Designed exclusively to teach you how to use Arquillian to write real tests.

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## Integration Testing using Arquillian Cube

file ([https://github.com/arquillian/arquillian.github.io/edit/develop/guides/integration\\_testing\\_using\\_arquillian\\_cube.textile](https://github.com/arquillian/arquillian.github.io/edit/develop/guides/integration_testing_using_arquillian_cube.textile))

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**Level:** More Coverage **Tags:** openshift **Last Update:** Apr 04, 2018

This guide introduces you to Arquillian Cube. After reading this guide, you'll be able to:

**Write an Arquillian test which deploys your application on openshift cluster and verify your application.**

**Execute an Integration Test in both Maven and IDE using arquillian configuration.**

You'll learn how to write an integration test for Openshift using Arquillian Cube and it's configuration.

## Assumptions

This guide assumes you have openshift cluster up and running. If you don't please download and install minishift (<https://docs.openshift.org/latest/minishift/getting-started/installing.html>). Also make sure you have Maven available, either in your command shell or your IDE. If you don't, please download and install Maven now (<http://maven.apache.org/download.html>). You'll also need JDK 1.8 (<http://www.oracle.com/technetwork/java/javase/downloads>) installed on your machine.

## Application Under Testing

In order to write an Arquillian Cube Integration Test, you need to have a application for it. Let's take a clone of sample spring boot application (<https://github.com/dipak-pawar/arquillian-cube-openshift-ftest>) which we are going to use in this guide.

```
git clone https://github.com/dipak-pawar/arquillian-cube-openshift-ftest
```

## Setting Dependencies and Plugin Configurations

Go ahead and open up the `pom.xml` in your editor. Add following dependencies in pom.xml inside `<dependencies>` section.

```

<dependency>
  <groupId>org.arquillian.cube</groupId>
  <artifactId>arquillian-cube-openshift-starter</artifactId> # <1>
  <version>${version.arquillian.cube}</version>
  <scope>test</scope>
</dependency>
<dependency>
  <groupId>io.rest-assured</groupId>
  <artifactId>rest-assured</artifactId> # <2>
  <version>${version.restassured}</version>
  <scope>test</scope>
</dependency>
<dependency>
  <groupId>junit</groupId>
  <artifactId>junit</artifactId> # <3>
  <version>${version.junit}</version>
  <scope>test</scope>
</dependency>

```

<1> Cube openshift dependency for standalone mode.

<2> Validate interesting things from response.

<3> Unit Testing Framework.

Add `Maven` profile with fabric8-maven-plugin (<https://maven.fabric8.io/>) configuration as follows:

```

<profiles>
  <profile>
    <id>openshift</id>
    <build>
      <plugins>
        <plugin>
          <groupId>io.fabric8</groupId>
          <artifactId>fabric8-maven-plugin</artifactId>
          <version>${version.fabric8.maven.plugin}</version>
          <executions>
            <execution>
              <goals>
                <goal>resource</goal>
                <goal>build</goal>
              </goals>
            </execution>
          </executions>
        </plugin>
      </plugins>
    </build>
  </profile>
</profiles>

```

Add Failsafe Plugin (<http://maven.apache.org/surefire/maven-failsafe-plugin>) and it's configuration to run integration tests.

```
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-failsafe-plugin</artifactId>
  <version>${version.failsafe.plugin}</version>
  <executions>
    <execution>
      <goals>
        <goal>integration-test</goal>
        <goal>verify</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```

You can find entire `pom.xml` here ([https://raw.githubusercontent.com/dipak-pawar/arquillian-cube-openshift-ftest/integration\\_test/pom.xml](https://raw.githubusercontent.com/dipak-pawar/arquillian-cube-openshift-ftest/integration_test/pom.xml)).

## Write Integration Test

Once all dependency and plugin configuration is set, you are ready to write Integration Test. In your IDE, create a new Java class named `OpenshiftIT` in the `org.arquillian.cube` package. Add following code in it.

```
src/test/java/org/arquillian/cube/OpenshiftIT.java
```

```

package org.arquillian.cube;

import io.restassured.RestAssured;
import java.net.URL;
import org.arquillian.cube.openshift.impl.enricher.AwaitRoute;
import org.arquillian.cube.openshift.impl.enricher.RouteURL;
import org.jboss.arquillian.junit.Arquillian;
import org.junit.Before;
import org.junit.Test;
import org.junit.runner.RunWith;

import static io.restassured.RestAssured.when;
import static org.hamcrest.CoreMatchers.containsString;

@RunWith(Arquillian.class)
public class OpenshiftIT {

    @AwaitRoute
    @RouteURL("${app.name}") #<1>
    private URL baseUrl;

    @Before
    public void setup() throws Exception {
        RestAssured.baseURI = baseUrl.toString();
    }

    @Test
    public void testGreetingEndpoint() {
        when()
            .get()
            .then()
                .statusCode(200)
                .body(containsString("Greetings from Spring Boot!"));
    }
}

```

<1> To Resolve `${app.name}`, you have to set `app.name` either using system property or environment variable or arquillian.xml properties.

## Creating Arquillian Configuration for Integration Test

Below snippet shows how to set Arquillian configuration for your integration test.

```
src/test/resources/arquillian.xml
```

```
<arquillian xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://jboss.org/schema/arquillian"
xsi:schemaLocation="http://jboss.org/schema/arquillian http://jboss.org/schema/arquillian/arquillian_1_0.xsd">
  <extension qualifier="openshift">
    <property name="namespace.use.current">true</property> #<1>
    <property name="env.init.enabled">true</property> #<2>
    <property name="enableImageStreamDetection">false</property> #<3>
    <property name="app.name">arquillian-cube-openshift-ftest</property> #<4>
    <property name="cube.fmp.build.disable.for.mvn">true</property> #<5>
    <property name="cube.fmp.profiles">openshift</property> #<6>
  </extension>
</arquillian>
```

<1> Use current namespace for this test.

<2> Initialize environment (apply kubernetes resources).

<3> Disable detecting ImageStream resources located at `target/*-is.json`.

<4> Resolve `@RouteUrl` expression used in injecting baseUrl for your application.

<5> Execute fabric8-maven-plugin goal

`mvn package fabric8:build fabric8:resource -Dfabric8.namespace=${namespace_configured_to_use_in_test}` during test execution from `IDE`.

<6> Enable profile with `fabric8-maven-plugin` configuration.

## Run Integration Test

1. To Run integration test from Maven

```
mvn clean install -Popenshift
```

2. To run the same test from `IDE` simply select `Run as JUnit Test` option.

## What's Next

You can find full source code with application and integration test here ([https://github.com/dipak-pawar/arquillian-cube-openshift-ftest/tree/integration\\_test](https://github.com/dipak-pawar/arquillian-cube-openshift-ftest/tree/integration_test)). Similarly, you can write integration tests for `Vert.x`, `Wildfly Swarm` applications.

You can find more examples here (<https://github.com/arquillian/arquillian-cube/tree/master/openshift>).

## Share the Knowledge

Find this guide useful?



There's a lot more about Arquillian to cover. If you're ready to learn more, check out the other available guides ([/guides](#)).

*Feedback*

Find a bug in the guide? Something missing? You can fix it by forking this website (<http://github.com/arquillian/arquillian.github.com>), making the correction and sending a pull request (<http://help.github.com/send-pull-requests>). If you're just plain stuck, feel free to ask a question in the user discussion forum (<http://community.jboss.org/en/arquillian?view=discussions>).

## Recent Changelog

- Apr 04, 2018: Chore: update guide with formatting and missing content *by Dipak Pawar*
- Apr 03, 2018: Docs: add guide for writing integration tests *by Dipak Pawar*

See full history »

([https://github.com/arquillian/arquillian.github.io/commits/develop/guides/integration\\_testing\\_using\\_arquillian\\_cube.textile](https://github.com/arquillian/arquillian.github.io/commits/develop/guides/integration_testing_using_arquillian_cube.textile))



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