

 무료 전자 책

배우기

osgi

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#osgi

.....	1
<b>1: osgi</b> .....	<b>2</b>
.....	2
.....	2
Examples.....	2
Equinox .....	3
Apache Felix .....	4
<b>2: OSGi Pax</b> .....	<b>5</b>
.....	5
Examples.....	5
.....	5
.....	6

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# 1: osgi

OSGi JVM . . . . .

- ,
- ,
- 

Eclipse 3 OSGi . NetBeans 6.9 OSGi . Liferay 7 OSGi .

SGR1	2000-05-01
SPR2	2001-10-01
SR3	2003-03-01
SR4	2005-11-01
SR4.1	2007-05-01
SR4.2	2009-09-01
SR4.2 Compedium	2009-09-01
SR4.2	2010-03-01
SR4.3	2011-04-01
SR4.3 Compedium	2012-05-01
SR4.3 Residential	2012-05-01
SR5	2012-06-01
SR5 Enterprise	2012-06-01
SR6	2014-06-01
SR6	2014-06-01
SR6	2015-08-01
SR6 Residential	2015-08-01

: <https://www.osgi.org/developer/specifications/> .

## Examples

# Equinox

## Neon Equinox OSGi .

```
( rt rt rt/plugins folder .
```

```
rt/plugins$ java -jar org.eclipse.equinox.launcher_1.3.200.v20160318-1642.jar -console  
osgi>
```

## OSGi .

```
osgi>ss  
"Framework is launched."  
  
id      State      Bundle  
0       ACTIVE     org.eclipse.osgi_3.11.0.v20160603-1336  
        Fragments=1  
1       RESOLVED   org.eclipse.osgi.compatibility.state_1.0.200.v20160504-1419  
        Master=0  
2       RESOLVED   org.apache.commons.codec_1.6.0.v201305230611  
3       RESOLVED   org.apache.commons.logging_1.1.1.v201101211721  
4       ACTIVE     org.apache.felix.gogo.command_0.10.0.v201209301215  
5       ACTIVE     org.apache.felix.gogo.runtime_0.10.0.v201209301036  
6       ACTIVE     org.apache.felix.gogo.shell_0.10.0.v201212101605  
7       RESOLVED   org.apache.httpcomponents.httpclient_4.3.6.v201511171540  
8       RESOLVED   org.apache.httpcomponents.httpcore_4.3.3.v201411290715  
9       STARTING  org.eclipse.core.jobs_3.8.0.v20160509-0411  
10      STARTING  org.eclipse.ecf_3.8.0.v20160405-1820  
        Fragments=17  
11      STARTING  org.eclipse.ecf.filetransfer_5.0.0.v20160405-1820  
12      STARTING  org.eclipse.ecf.identity_3.7.0.v20160405-1820  
13      STARTING  org.eclipse.ecf.provider.filetransfer_3.2.200.v20160405-1820  
        Fragments=16  
14      STARTING  org.eclipse.ecf.provider.filetransfer.httpclient4_1.1.100.v20160405-1820  
        Fragments=15  
15      RESOLVED   org.eclipse.ecf.provider.filetransfer.httpclient4.ssl_1.1.0.v20160405-1820  
        Master=14  
16      RESOLVED   org.eclipse.ecf.provider.filetransfer.ssl_1.0.0.v20160405-1820  
        Master=13  
17      RESOLVED   org.eclipse.ecf.ssl_1.2.0.v20160405-1820  
        Master=10  
18      STARTING  org.eclipse.equinox.app_1.3.400.v20150715-1528  
19      ACTIVE     org.eclipse.equinox.common_3.8.0.v20160509-1230  
20      STARTING  org.eclipse.equinox.concurrent_1.1.0.v20130327-1442  
21      ACTIVE     org.eclipse.equinox.console_1.1.200.v20150929-1405  
22      RESOLVED   org.eclipse.equinox.ds_1.4.400.v20160226-2036  
23      STARTING  org.eclipse.equinox.frameworkadmin_2.0.300.v20160504-1450  
24      ACTIVE     org.eclipse.equinox.frameworkadmin.equinox_1.0.700.v20160102-2223  
25      RESOLVED   org.eclipse.equinox.launcher_1.3.200.v20160318-1642  
        Fragments=26  
26      RESOLVED   org.eclipse.equinox.launcher.win32.win32.x86_64_1.1.400.v20160518-1444  
        Master=25  
27      STARTING  org.eclipse.equinox.p2.artifact.repository_1.1.500.v20160419-0834  
28      ACTIVE     org.eclipse.equinox.p2.console_1.0.500.v20160504-1450  
29      ACTIVE     org.eclipse.equinox.p2.core_2.4.100.v20160419-0834  
30      STARTING  org.eclipse.equinox.p2.director_2.3.300.v20160504-1450  
31      STARTING  org.eclipse.equinox.p2.engine_2.4.100.v20160419-0834  
32      STARTING  org.eclipse.equinox.p2.garbagecollector_1.0.300.v20160504-1450
```

```

33    RESOLVED    org.eclipse.equinox.p2.jarprocessor_1.0.500.v20160504-1450
34    ACTIVE      org.eclipse.equinox.p2.metadata_2.3.100.v20160427-2220
35    STARTING    org.eclipse.equinox.p2.metadata.repository_1.2.300.v20160419-0834
36    STARTING    org.eclipse.equinox.p2.operations_2.4.200.v20160504-1450
37    ACTIVE      org.eclipse.equinox.p2.repository_2.3.200.v20160421-0324
38    STARTING    org.eclipse.equinox.p2.touchpoint.eclipse_2.1.400.v20160419-0834
39    STARTING    org.eclipse.equinox.p2.touchpoint.natives_1.2.100.v20160419-0834
40    STARTING    org.eclipse.equinox.p2.transport.ecf_1.1.200.v20160606-1311
41    STARTING    org.eclipse.equinox.preferences_3.6.0.v20160120-1756
42    ACTIVE      org.eclipse.equinox.registry_3.6.100.v20160223-2218
43    STARTING    org.eclipse.equinox.security_1.2.200.v20150715-1528
        Fragments=44
44    RESOLVED    org.eclipse.equinox.security.win32.x86_64_1.0.100.v20130327-1442
        Master=43
45    STARTING    org.eclipse.equinox.simpleconfigurator_1.1.200.v20160504-1450
46    ACTIVE      org.eclipse.equinox.simpleconfigurator.manipulator_2.0.200.v20160504-1450
47    STARTING    org.eclipse.equinox.util_1.0.500.v20130404-1337
48    RESOLVED    org.eclipse.osgi.services_3.5.100.v20160504-1419
49    RESOLVED    org.sat4j.core_2.3.5.v201308161310
50    RESOLVED    org.sat4j.pb_2.3.5.v201404071733
51    RESOLVED    org.tukaani.xz_1.3.0.v201308270617

```

## Apache Felix

### Apache Felix Framework

```

$ tar xf org.apache.felix.main.distribution-5.4.0.tar.gz
$ cd felix-framework-5.4.0

```

```

$ java -jar bin/felix.jar

Welcome to Apache Felix Gogo

g!

```

Felix [Apache Felix Gogo](#) . , g! .

Gogo Gogo OSGi . g! help g! .

OSGi lb ( *list bundles* ) .

```

g! lb
START LEVEL 1
  ID|State      |Level|Name
  0|Active      |    0|System Bundle (5.4.0)|5.4.0
  1|Active      |    1|Apache Felix Bundle Repository (2.0.6)|2.0.6
  2|Active      |    1|Apache Felix Gogo Command (0.16.0)|0.16.0
  3|Active      |    1|Apache Felix Gogo Runtime (0.16.2)|0.16.2
  4|Active      |    1|Apache Felix Gogo Shell (0.10.0)|0.10.0

```

osgi : <https://riptutorial.com/ko/osgi/topic/2422/osgi->

## 2: OSGi Pax

[Pax Exam OSGi](#) (: AEM, Apache Karaf) . [Pax Exam JUnit](#) .

### Examples

[Pax Exam](#) .

```
package com.example.project.test;

import static org.junit.Assert.*;
import static org.ops4j.pax.exam.CoreOptions.*;

import javax.inject.Inject;

import org.junit.Test;
import org.junit.runner.RunWith;
import org.ops4j.pax.exam.Configuration;
import org.ops4j.pax.exam.Option;
import org.ops4j.pax.exam.junit.PaxExam;
import org.ops4j.pax.exam.regression.pde>HelloService;
import org.ops4j.pax.exam.spi.reactors.*;

@RunWith(PaxExam.class)
@ExamReactorStrategy(PerMethod.class)
public class SampleTest {

    @Inject
    private HelloService helloService;

    @Configuration
    public Option[] config() {

        return options(
            mavenBundle("com.example.myproject", "myproject-api", "1.0.0-SNAPSHOT"),
            bundle("http://www.example.com/repository/foo-1.2.3.jar"),
            junitBundles()
        );
    }

    @Test
    public void getHelloService() {
        assertNotNull(helloService);
        assertEquals("Hello Pax!", helloService.getMessage());
    }
}
```

[Pax Exam 4 Page](#) .

[OSGi Pax](https://riptutorial.com/ko/osgi/topic/9682/osgi----pax--) : <https://riptutorial.com/ko/osgi/topic/9682/osgi----pax-->

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