

JEUS Deployment



Copyright © 2005 Tmax Soft Co., Ltd. All Rights Reserved.

Copyright Notice

Copyright©2005 Tmax Soft Co., Ltd. All Rights Reserved.

Tmax Soft Co., Ltd.

946-1

18

)135-708

Restricted Rights Legend

This software and documents are made available only under the terms of the Tmax Soft License Agreement and may be used or copied only in accordance with the terms of this agreement. No part of this document may be reproduced, transmitted, or translated in any form or by any means, electronic, mechanical, manual, or optical, without the prior written permission of Tmax Soft Co., Ltd.

TmaxSoft

. TmaxSoft Co., Ltd.

Trademarks

Tmax, WebtoB, WebT, and JEUS are registered trademarks of Tmax Soft Co., Ltd.

All other product names may be trademarks of the respective companies with which they are associated.

Tmax, WebtoB, WebT, JEUS TmaxSoft Co., Ltd.

Document info

Document name: JEUS Deployment

Document date: 2005-06-06

Manual release version: 3

Software Version: JEUS 5

1	.....	15
2 Deployment	.....	17
2.1	(Deployment Unit).....	17
2.1.1	Stand-Alone J2EE Module	17
2.1.1.1	Enterprise JavaBeans(EJB).....	17
2.1.1.2	Web Application.....	17
2.1.1.3	Resource Adapter	18
2.1.2	J2EE Application.....	18
2.2	.....	18
2.2.1	Deploy	18
2.2.2	Distribute	18
2.2.3	Start.....	19
2.2.4	Stop.....	19
2.2.5	Undeploy	19
2.2.6	Redeploy.....	19
2.3	(Deployment Target).....	19
2.3.1	.....	19
2.3.2	(Cluster).....	20
2.3.3	가 (Virtual Host).....	20
3 Deployment Directory	.....	21
3.1 J2EE Application Directory	.....	21
3.1.1	.....	21
3.1.2 J2EE Application (EAR )	.....	21
3.1.2.1 webhome	.....	22

3.1.2.2	app_home	22
3.1.2.3	deploy_home	23
3.2	Deployment Directory	23
3.2.1	Deployment target	23
4	Deployment Tool	25
4.1	.....	25
4.2	JEUS Deployment tool	25
4.3	Administration Console Tool.....	25
4.3.1	jeusadmin.....	26
4.3.2	Deployment	26
4.4	JDeploy Ant Task	27
4.4.1	build.xml - Task.....	27
4.4.2	distribute	28
4.4.3	modulecommand task	29
4.4.4	build.xml	30
4.4.5	Jdeploy Ant Task	33
4.5	.....	33
4.5.1	.....	33
4.5.1.1	.....	33
4.5.1.2	.....	34
4.5.1.3	.....	35
4.5.2	(Deployment).....	35
4.5.2.1	.....	36
4.5.2.2	(Permanent)	44
4.5.2.3	(Auto Deploy).....	46
4.6	JEUS Builder	48
5	Deployment API.....	49
5.1	.....	49

JEUS Deployment		JEUS
5.2	DeploymentManager.....	49
5.2.1	DeploymentManager	49
5.2.2	DeploymentManager	49
5.3	DeploymentManager Deployment Operation	50
5.3.1	Distribute Application ().....	50
5.3.2	Start Application.....	51
5.3.3	Stop Application	52
5.3.4	Undeploy Application.....	53
6	.....	55
6.1	.....	55
6.2	Two-Phase Deployment (2)	55
6.2.1	1 (Phase 1) : (Prepare)	55
6.2.2	2 (Phase 2) : (Activate)	55
6.3	Auto Source Distribution ()	55
6.4	Auto Deployment ()	56
6.4.1	JEUSMain.xml auto-deploy	56
6.4.1.1	auto-deploy	56
6.4.1.2	auto-deploy	57
7	J2EE Application Deployment Descriptor	59
7.1	.....	59
7.2	J2EE Application	59
7.2.1	EAR	59
7.2.2	application .xml	59
7.3	J2EE Application	60
7.3.1	.....	60
7.3.2	J2EE Application	60
8	.....	63
A	Deployment API Reference.....	65

A.1	.....	65
A.2	DeploymentManager API	65
A.2.1	Method	65
B	Administration Console Tool (jeusadmin) Deployment Reference	79
B.1	.....	79
B.2	.....	79
B.3	.....	79
B.4	Deployment	80
B.4.1	deploy –	80
B.4.2	undeploy –	82
B.4.3	start –	83
B.4.4	stop –	84
B.4.5	reload –	84
B.4.5	applist –	85
C	J2EE Application Deployment Descriptor Schema	87
C.1	.....	87
C.2	J2EE Application Deployment Descriptor Schema File.....	87
	.....	97

1. JEUS EAR	21
2.	34
3.	35
4. (WebManager)	35
5.	36
6. –	37
7. –	38
8. –	39
9. –	40
10. –	41
11. –	41
12.	43
13.	44
14.	45
15. Application	46
16. –	47
17. JEUS J2EE Module	48
18. DeploymentManager	51
19. DeploymentManager	52
20. DeploymentManager	53
21. DeploymentManager	54
22. EAR	59

23. J2EE Application XML 60
--------------------------	----------

1.distribute task	29
2. modulecommand task	30

TmaxSoft JEUS JEUS Server Java 2
Platform Enterprise Edition (J2EE) application application module
(deploy) application .

JEUS
JEUS
JEUS Server
JEUS Getting Started Tutorial .

J2EE JEUS (deployment)
.
JEUS Deployment 8 .

- 1.
- 2. Deployment
- 3. Deployment Directory
- 4. Deployment Tool
- 5. Deployment API
- 6.
- 7. J2EE Application Deployment Descriptor
- 8.

가

3

.

A Deployment API Reference

B Administration Console Tool (jeusadmin) Deployment Reference

C J2EE Application Deployment Descriptor Schema

- .
- JEUS Server .
 - JEUS Web Server .
 - JEUS EJB .
 - JEUS Builder .

	, 12	,	Times New Roman
CTRL+C	CTRL	C	
<div>public class myClass { }</div>	Java		
<div><system-config></div>	XML		

:/ :

Configuration

GUI

JEUS_HOME

JEUS 가

)c:\jeus42

j eusadmi n nodename

[]

< xyz >

‘<’ ‘>’

|

.) A|B: A B

...

?, +, *

XML

“

”

“

”

“

”

”

.

. . .

XML

<<*FileName.ext*>>

1.

Korea

Tmax Soft Co., Ltd
18F Glass Tower, 946-1, Daechi-Dong, Kangnam-Gu, Seoul 135-708
South Korea
Tel: 82-2-6288-2114
Fax: 82-2-6288-2115
Email: info@tmax.co.kr
Web (Korean): <http://www.tmax.co.kr>

USA

Tmax Soft, Inc.
560 Sylvan Ave, Englewood Cliffs NJ 07632
USA
Tel: 1-201-567-8266
FAX: 1-201-567-7339
Email: info@tmaxsoft.com
Web (English): <http://www.tmaxsoft.com>

Japan

Tmax Soft Japan Co., Ltd.
6-7 Sanbancho, Chiyoda-ku, Tokyo 102-0075
Japan
Tel: 81-3-5210-9270
FAX: 81-3-5210-9277
Email: info@tmaxsoft.co.jp
Web (Japanese): <http://www.tmaxsoft.co.jp>

China

Beijing Silver Tower, RM 1507, 2# North Rd Dong San Huan,
Chaoyang District, Beijing, China, 100027
Tel: 86-10-6410-6148
Fax: 86-10-6410-6144
E-mail : info@tmaxchina.com.cn
Web (Chinese): <http://www.tmaxchina.com.cn>

1

(Deployment)
Application Server ,
JEUS ,
.

2 Deployment

(deployment)

2.1 (Deployment Unit)

J2EE 1.4 J2EE 3 가 (deployment unit)

- Stand-alone J2EE module
- J2EE module J2EE application. J2EE application (deployment descriptor) 가
- Extension Mechanism Architecture .jar

2.1.1 Stand-Alone J2EE Module

J2EE stand-alone 가
가 .jar EJB modul, 가 .war Web Application module,
.rar Resource Adapter module

2.1.1.1 Enterprise JavaBeans(EJB)

EJB
. EJB EJB
, JEUS JEUS EJB 가
. EJB 가 EJB
(.jar file)
EJB JEUS EJB

2.1.1.2 Web Application

Web Application (,

가 ,

)

static content dynamic content

.

Web Application

JEUS Web Container

.

2.1.1.3 Resource Adapter

Resource Adapter J2EE Connector

,

EIS(Enterprise Information System)

EIS

API

.

J2EE

API

.

Resource Adapter

.

Resource Adapter

JEUS Server

.

2.1.2 J2EE Application

J2EE Application

J2EE Application Module

(application deployment descriptor)

. J2EE Application

가 .ear(Enterprise Archive) Java Archive

.

J2EE Application

J2EE Application Module

,

Java

.

J2EE Application

JEUS Server

.

2.2

.

2.2.1 Deploy

(target server)

, application

.

2.2.2 Distribute

.

2.2.3 Start

application (distribute) .

2.2.4 Stop

application . application
name start redeploy .

2.2.5 Undeploy

application , application .

2.2.6 Redeploy

application , application
application . application
 , application .

2.3 (Deployment Target)

J2EE application stand-alone module
. JEUS engine container, cluster, virtual host 가 .

2.3.1

JEUS 가 engine container . Engine
container J2EE application engine
 , JEUS engine container application
stand-alone module . , engine container 가
(deployment target) .

Engine container JEUSMain.xml <node> <engine-c
ontainer> .
Engine container JEUS Server .

2.3.2 (Cluster)

JEUS node 가 node connection
. , node engine container connection
. , (deployment target)
.

JEUS JEUS Server .

2.3.3 가 (Virtual Host)

JEUS virtual host node
JEUS Manager 가
. , node name base port identity 가
(virtual node name) , 가
.

가 engine container engine node 가
. 가 .

가 JEUS Server .

3 Deployment Directory

J2EE Application

3.1 J2EE Application Directory

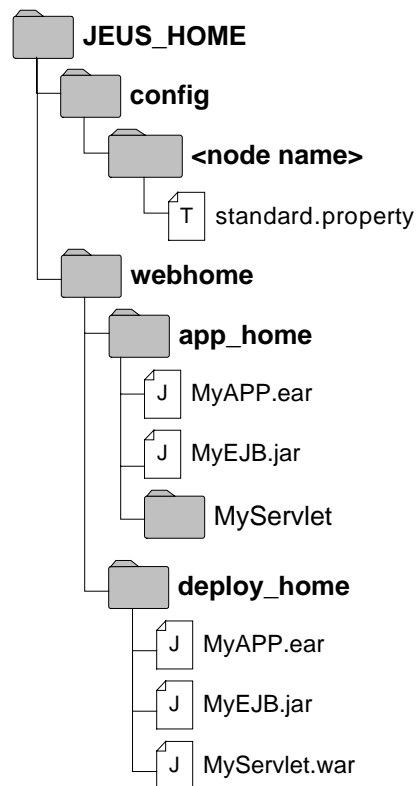
3.1.1

J2EE application

JEUS

3.1.2 J2EE Application (EAR)

[1] J2EE ear



1. JEUS EAR

- **JEUS_HOME** : JEUS 가 설치된 디렉토리 (예: c:\jeus)
- **webhome** : J2EE 웹 애플리케이션이 배포된 디렉토리
- **app_home** : application archive (war) 파일이 있는 디렉토리
 exploded directory (예: %JEUS_HOME%\webhome\app_home)가
 생성됩니다. JEUSMain.xml 파일은 %app_home%\WEB-INF\에
 있습니다.
- **deploy_home** : J2EE 애플리케이션이 배포된 디렉토리
 deploy (예: %JEUS_HOME%\webhome\deploy)가 생성됩니다.
 EAR_HOME 디렉토리는 %JEUS_HOME%\webhome\에
 있습니다. -Djeus.deployhome 옵션을 사용하여
 %JEUS_HOME%\webhome\deploy로 배포합니다.

3.1.2.1 webhome

J2EE
J2EE, J2EE
.

- **webhome\admin_home** : WebManager
Serlver/JSP
- **webhome\<node_name>_<container_name>** : engine container
application
- **webhome\app_home**
- **webhome\deploy_home**

3.1.2.2 app_home

application archive (EAR, WAR, JAR, RAR) ,
jeus.apphome system property
webhome/app_home JEUSMain.xml

- app_home : JEUSMain.xml <node>/<engine-container>
 /<application-path> 가
 JEUS_HOME path
 element 가 , application
 element .

3.1.2.3 deploy_home

J2EE

JEUS

가

jeus.deployhome

system property

webhome/deploy_home

JEUSMain.xml

•

deploy_home

:

JEUSMain.xml

<node>/<engine-

container>/<auto-deploy>/<auto-deploy-path>

가

,

web_home

3.2 Deployment Directory

webhome

<node_name>_<container_name>

JEUSMain.xml

<application>

<deployment-target>

3.2.1 Deployment target

•

deployment-target

:

application

target

target

all-targets

가

,

target

가

■

target

:

application

target

■

all-targets

:

engine-container

application

JEUSMain.xml

node

node-name

element

element

<target>

element

<context-group-nam

e>

가

<target>

element

•

node-name or engine-container-name

:

application

node

name

<node_name>_<container_name>

node name

node

container

가

•

context-group-name

:

application

가

standalone

```

    .
    <target>
        .
        target
        .
        <deployment-target>
            component
        <client-component>
            target
        target
        .
        <connector-component>
            application
            , application
            <deployment-target>
                가
                .
                <application>
                    <application>
                        <ejb-component>, <web-component>,
                        EAR
                    <application>
                        resource

```


4 Deployment Tool

4.1

JEUS Server 가 deployment tool

4.2 JEUS Deployment tool

JEUS Server application application module deploy
가 (tool)

JEUS Server deployment tool

- Administration Console Tool : JEUS Server jeusadmin
Administration Console Tool JEUS
, J2EE application module deploy
- Jdeploy Ant Task : Ant buildfile
- WebManager : WebManager JEUS Server
GUI WebManager JEUS J2EE
application module deploy
- JEUS Builder : JEUS Builder J2EE /
(deployment descriptor) XML
GUI

4.3 Administration Console Tool

JEUS Server Administration Console Tool jeusadmin
runtime application module deploy

4.3.1 jeusadmin

```
jeusadmin . (jeusadmin
JEUS_HOME\bin .)
```

```
j eusadmin
([-verbose] nodename [-U<username> -P<password>] [command]) |
  -version | -licensedue | -licenseinfo | -modversion
```

nodename 가 JEUS jeusadmin .
가 , [-U<username> -P<password>]
.

4.3.2 Deployment

jeusadmin	deployment	application	deploy
. Deployment	deploy, undeploy, start, stop	가	.

```

deploy [-node node_name] [-con container_name] [-f] [-per]
          [-ex] [-isolated] [-keep] [-absolute-path path]
          [-localAppDD] [-writeAppDD] [-class-ftp-unit JAR|CLASS]
          [-auto] module_name

```

```

deploy                                container      node                                container
module_name      J2EE application    deploy      .
      archive file      directory 가      container      APP_HOME directory
      . (-absolute-path                                ) node
container      deploy                                container      APP_HOME directory
      module_name      archive 가      . Module_name
archive file      file name      directory      .

```

```
undeploy [-con container_name] [-mod module_type] [-per] [-a]
         module_name
```

undeploy	container_name	application
----------	----------------	-------------

```
reload module_name
```

```

                                deploy
                                .
application undeploy deploy
option      undeploy deploy      redeploy
.

```

```
start [-con container_name] [-mod module_type] [-a] module_name
```

```

start      container_name
application
.

```

```
stop [-con container_name] [-mod module_type] [-a] module_name
```

```

stop      container_name
application
.

```

4.4 JDeploy Ant Task

```

JDeploy Ant Task  JEUS  Ant  J2EE
.  Ant  task
buildfile  .  buildfile
,  Jdeploy Ant Task
.

```

```
Ant      http://ant.apache.org  .
```

4.4.1 build.xml - Task

```
build.xml  ant task  XML  ant buildfile  .
```

```

Buildfile      <project>
               .
               <target>
ant task      .  <target>
               <project>
               , ${property-name}
.

```

- JDeploy Ant Task
- task
- .
- distribute : deploy .
 - modulecommand : deploy administrative operation .

4.4.2 distribute

distribute task

J2EE

JEUS

.

distribute task

.

```
jeus.util.ant.AntJeusDeploy50
```

distribute

[1]

.

targetNames	<div> <div>deploy target</div> <div>.</div> <div>Yes</div> </div> <div> <div>Target</div> <div>가</div> <div>,</div> <div>target</div> <div>“()”</div> <div>.</div> </div>
deployURI	<div> <div>uri</div> <div>.</div> <div>Yes</div> </div> <div> <div>:</div> <div> <div>deployer:Jeus:\${node_name}::\${security_domain}</div> <div>:\${jndi_protocol}</div> </div> <div> <div>\${security_domain}</div> <div>JEUS</div> <div>,</div> <div>\${jndi_protocol}</div> </div> <div> <div>client</div> <div>가</div> <div>.</div> </div> <div>:</div> <div> <div>deployer:Jeus:node</div> <div>(*)security_domain</div> <div>jndi_protocol</div> <div>가</div> <div>.</div> </div> <div> <div>Default</div> <div>SYSTEM_DOMAIN</div> <div>client</div> <div>.</div> </div> <div> <div>deployer:Jeus:node:SYSTEM_DOMAIN:client</div> </div> </div>
modulePath	<div> <div>application()</div> <div>path</div> <div>.</div> <div>Yes</div> </div>

planPath	application() plan file path file .	. plan	No
User	JEUS username		Yes
password	JEUS user password		Yes
fastDeploy	fast deploy .		No
			Default : false
autoSourceDistribute	auto source distribution() .		No
			Default : false
twoPhase	2 .		No
			Default : false

1.distribute task

4.4.3 modulecommand task

deploy administrative operation task 3 가
target 가 .

- start :
- stop :
- undeploy :

modulecommand task .

jeus.util.ant.AntJeusStatus50

modulecommand task [2] .

command	status	target	command	Yes
		. start, stop, undeploy	3	
	가	command 가	.	
moduleName	command			Yes
	.			
moduleType	command			Yes
	.			
	가			
	.			
	J2EEApplication, EJBModule, Web Module, ResourceAdapterModule, AppClient Module			
targetNames	deploy target	.		Yes
deployURI	uri	.		Yes
user	JEUS username			Yes
password	JEUS user password			Yes

2. modulecommand task

4.4.4 build.xml

standard.war WebModule enrique2_container1 target
 deploy build.xml .

<<build.xml>>

```
<?xml version="1.0"?>

<project name="example" default="deploy" basedir=".">
```

```
<target name="init">
  <property environment="env" />
  <property name="jeus.home" value="${env.JEUS_HOME}" />
  <property name="jeus.baseport" value="${env.JEUS_BASEPORT}" />
  <property name="java.library.path"
value="${java.library.path};${jeus.home}/lib/system"/>
  <property name="node.name" value="enrique2" />
  <property name="target.name" value="enrique2_container1" />
  <property name="source.path" value="standard.war" />
  <property name="plan.path" value="standard_plan.jar" />
  <property name="module.name" value="standard" />

  <property name="module.type" value="WebModule" />
  <property name="uri" value="deployer:Jeus:${node.name}" />
  <property name="user" value="jeus" />
  <property name="password" value="jeus" />

  <path id="jeus.libraries">
    <pathelement location="${jeus.home}/lib/system/jeus.jar" />
    <pathelement location="${jeus.home}/lib/system/jxml-
impl.jar" />
    <pathelement location="${jeus.home}/lib/system/jmxri.jar" />
    <pathelement
location="${jeus.home}/lib/system/jmxremote.jar" />
    <pathelement
location="${jeus.home}/lib/system/jmxtools.jar" />
    <pathelement location="${jeus.home}/lib/system/jaxb-
api.jar" />
    <pathelement location="${jeus.home}/lib/system/jaxb-
libs.jar" />
    <pathelement location="${jeus.home}/lib/system/jaxb-
impl.jar" />
    <pathelement
location="${jeus.home}/lib/system/relaxngDatatype.jar" />
    <pathelement
location="${jeus.home}/lib/system/namespace.jar" />
    <pathelement
location="${jeus.home}/lib/system/xsdlib.jar" />
```

```
        <pathelement
location="${jeus.home}/lib/system/xml_resource.jar"/>
    </path>

    <taskdef name="distribute"
classname="jeus.util.ant.AntJeusDeploy50">
        <classpath>
            <path refid="jeus.libraries"/>
        </classpath>
    </taskdef>

    <taskdef name="modulecommand"
classname="jeus.util.ant.AntJeusStatus50">
        <classpath>
            <path refid="jeus.libraries"/>
        </classpath>
    </taskdef>
</target>

<target name="deploy" depends="init">
    <distribute targetNames="${target.name}"
        deployURI="${uri}"
        modulePath="${source.path}"
        planPath="${plan.path}"
        user="${user}"
        password="${password}"/>
</target>

<target name="start" depends="init">
    <modulecommand command="start"
        moduleName="${module.name}"
        moduleType="${module.type}"
        targetNames="${target.name}"
        deployURI="${uri}"
        user="${user}"
        password="${password}"/>
</target>

<target name="stop" depends="init">
```



```

    <modulecommand command="stop"
      moduleName="${module.name}"
      moduleType="${module.type}"
      targetNames="${target.name}"
      deployURI="${uri}"
      user="${user}"
      password="${password}" />
  </target>

  <target name="undeploy" depends="init">
    <modulecommand command="undeploy"
      moduleName="${module.name}"
      moduleType="${module.type}"
      targetNames="${target.name}"
      deployURI="${uri}"
      user="${user}"
      password="${password}" />
  </target>

</project>

```

4.4.5 Jdeploy Ant Task

1. J2EE (EJB, Servlet) .
2. J2EE build.xml .
(classpath librarypath) .
3. build.xml ant task .
ant <target_name(j deploy, start, stop, undepl oy)>
target name task 71 .

4.5

4.5.1

4.5.1.1

JEUSMain.xml <enable-webadmin>
 true . JEUS
 JEUSMain.xml .

<<JEUSMain.xml>>

```
<jeus-system>
  <node>
    <name>enrique</name>
    <class-ftp>true</class-ftp>
    <sequential-atart>false</sequential-atart>
    <enable-webadmin>true</enable-webadmin>
    ...
  </node>
  ...
</jeus-system>
```

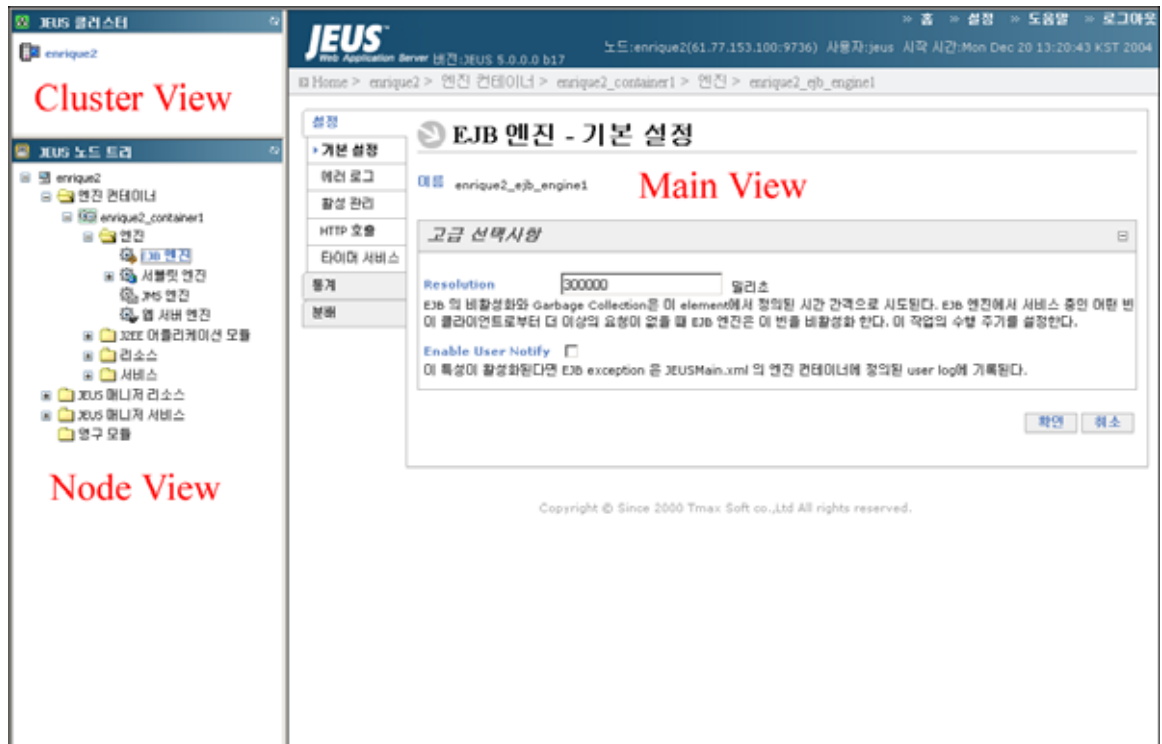
4.5.1.2

http://<IP>:<port>/webadmin
 가 . username
 password , OK .
 가 .

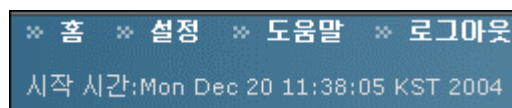
2.

4.5.1.3

가 .



3.



4. (WebManager)

4.5.2 (Deployment)

JEUS 3 가 , , 가 .

가 JEUSMain.xml 가 ,

가 가

JEUS 가

4.5.2.1

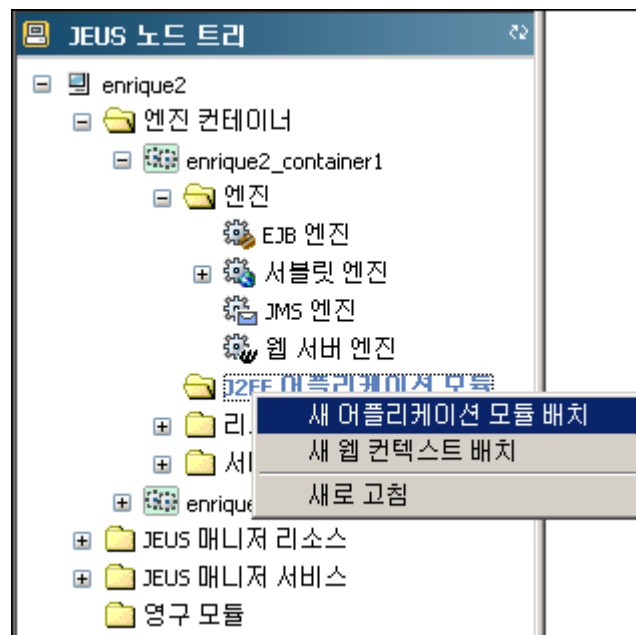
1) J2EE application module

가 가 EAR, JAR, WAR, RAR, CAR 5 가 가

가 가

[STEP 1]

JEUS J2EE



5.

[STEP 2]

3가

가

- : JEUS app_home
- :
- : app_home

1. 모듈 선택
2. 대상
3. 선택 사항
4. 배치
5. 결과

새 어플리케이션 모듈 배치 - 모듈 선택

첫 번째 단계인 모듈 선택 단계에서는 배치를 할 모듈을 선택합니다. 모듈을 선택하는 방법에는 3가지가 있습니다. 첫째는 어플리케이션 홈에 위치한 모듈 선택하는 것이고, 둘째는 임의의 경로에 위치한 모듈파일 혹은 디렉토리의 절대경로를 직접 입력하는 것입니다. 디렉토리를 입력한 경우에는 EXPLODED 모드로서 디렉토리가 존재하는 노드의 하나의 컨테이너에만 배치가 가능합니다. 마지막으로 로컬에 존재하는 파일을 서버로 업로드는 하는 것입니다.

모듈
절대 경로
파일 업로드

모듈 이름	경로	이미 배치됨
<input type="radio"/> cmpcustomerv5	C:\JEUS\webhome\app_home\cmpcustomerv5.ear	
<input type="radio"/> hello	C:\JEUS\webhome\app_home\hello.jar	
<input type="radio"/> helloworld	C:\JEUS\webhome\app_home\helloworld.war	
<input type="radio"/> product	C:\JEUS\webhome\app_home\product	
<input type="radio"/> product	C:\JEUS\webhome\app_home\product.jar	
<input type="radio"/> samples	C:\JEUS\webhome\app_home\samples.jar	
<input type="radio"/> v5	C:\JEUS\webhome\deploy_home\v5.ear	<input checked="" type="checkbox"/>

다음 >

6.

[STEP 3]

(Targets)

(EXPLODED_CONTEXT EXPLODED_EAR) 가

.

, A, B, C 가 A

J2EE A

WAR EAR WAR

.

가

1. 모듈 선택

2. 대상

3. 선택 사항

4. 배치

5. 결과

새 어플리케이션 모듈 배치 - 대상

이 단계에서는 모듈을 배치할 대상을 선택합니다. 모든 모듈은 엔진 컨테이너 단위로 배치가 되므로 모듈을 배치하고자 하는 엔진 컨테이너를 선택하시면 됩니다.

가능한 대상

☒ 모두

☒ enrique2

☒ enrique2_container1

컨텍스트 그룹

< 이전

다음 >

7. -

[STEP 4] (Options)

38 Tmax Soft

- **Classloading** : application classloading
jeus.classloading system property

고급 선택사항

Fast Deploy

☐

이 application 내의 EJB module에게 fast deploy를 적용한다. 즉, 이 application이 deploy과정에서 generated되어야 하는 클래스를 미리 포함하고 있다고 가정한다. 만약 설정이 되어 있지 않다면 engine의 기본 설정을 따른다. 이 설정은 jeus.application.fastdeploy system property를 설정한다.

Keep Generated

☐

이 application 내의 module들에 keep-generated를 적용한다. 즉, 이 application이 deploy과정에서 generated되어야 하는 클래스를 미리 포함하고 있다고 가정한다. 만약 설정이 되어 있지 않으면 jeus.application.keepgenerated system property에 지정된 값이 사용된다.

Description

이 security permission 설정에 대한 설명을 적을 수 있다.

Security Permission Spec

security permission을 기술한다. 형식은 Java policy file을 따른다.

Auto Deploy Check Interval

10000

초

application이 변경되었는지 check하는 주기를 설정할 수 있다.

Classloading

ISOLATED

이 application이 사용할 classloading 방식을 선택한다. 지정하지 않으면 jeus.classloading system property에 설정되어 있는 값을 사용한다.

9.

[STEP 6] 2

2

1. 모듈 선택	<h2>새 어플리케이션 모듈 - 배치</h2> <p>2 단계 배치 <input checked="" type="checkbox"/></p> <p>2 단계 배치는 모든 대상에 모듈이 성공적으로 배치되어야지 배치작업이 완료되는 선택 항목입니다. 만약 하나라도 실패하게되면 이미 배치된 다른 대상의 모듈들은 자동 제거됩니다.</p> <p>영구적인 배치 <input type="checkbox"/></p> <p>영구적인 배치를 선택하시면 JEUSMain.xml에 모듈정보가 등록되어 JEUS를 부트할 때 자동으로 부트가 되게됩니다. 주의하실 것은 이 값을 선택하시면 런타임 배치는 하지 않습니다. 영구 배치된 모듈은 노트르리의 영구모듈 노트에서 확인할 수 있습니다.</p> <p>< 이전 배치</p>
2. 대상	
3. 선택 사항	
4. 배치	
5. 결과	

10.

[STEP 7]

가

JEUS

J2EE

가

1. 모듈 선택	<h2>새 어플리케이션 모듈 배치 - 결과</h2> <p>실패한 대상 목록</p> <p>- Enrique2_container1 숨기기</p> <pre> javax.management.RuntimeMBeanException: RuntimeException thrown in operation deploy at com.sun.jmx.mbeanserver.StandardMetaDataImpl.invoke(StandardMetaDataImpl.java:424) at com.sun.jmx.mbeanserver.MetaDataImpl.invoke(MetaDataImpl.java:228) at com.sun.jmx.interceptor.DefaultMBeanServerInterceptor.invoke(DefaultMBeanServerInterceptor.java:822) at com.sun.jmx.mbeanserver.JmxMBeanServer.invoke(JmxMBeanServer.java:792) at jeus.management.JeusMBeanServerAccessController.invoke(JeusMBeanServerAccessController.java:654) at javax.management.remote.generic.ServerIntermediary.handleRequest(ServerIntermediary.java:280) at javax.management.remote.generic.ServerIntermediary\$PrivilegedRequestJob.run(ServerIntermediary.java:951) at java.security.AccessController.doPrivileged(Native Method) at javax.management.remote.generic.ServerIntermediary\$RequestHandler.handleMBSReqMessage(ServerIntermediary.java:727) at javax.management.remote.generic.ServerIntermediary\$RequestHandler.execute(ServerIntermediary.java:629) at jeus.management.remote.generic.ServerSynchroMessageNonblockingConnectionImpl.readMessage(ServerSynchroMessageNonblockingConnectionImpl.java:455) at jeus.management.remote.jeusmp.SocketNonblockingConnection.receiveObject(SocketNonblockingConnection.java:106) at jeus.util.selector.NonblockingObjectReader.run(NonblockingObjectReader.java:161) at jeus.util.concurrent.PooledExecutor\$Worker.run(PooledExecutor.java:748) </pre>
2. 대상	
3. 선택 사항	
4. 배치	
5. 결과	

11.

2)

,가 WAR
,
가
.

[STEP 1]

JEUS J2EE

[STEP 2]



[STEP 3]

:
)
)
(
(
WAR
:
.

3)

[STEP 1]

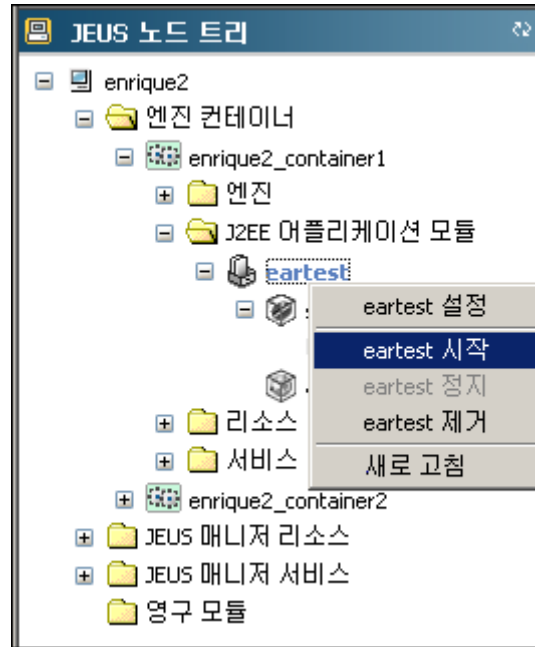
JEUS J2EE

[STEP 2]

가 stopped
.

[STEP 3]

가 . JEUS



12.

4)

[STEP 1]

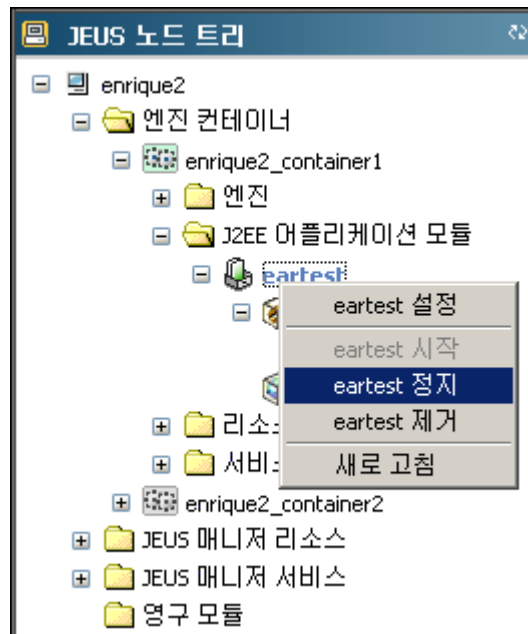
JEUS J2EE

[STEP 2]

가 running failed

[STEP 3]

가 . JEUS



13.

5)

WAR, CAR, RAR) . EAR (JAR,

[STEP 1]

JEUS J2EE

[STEP 2]

[STEP 3]

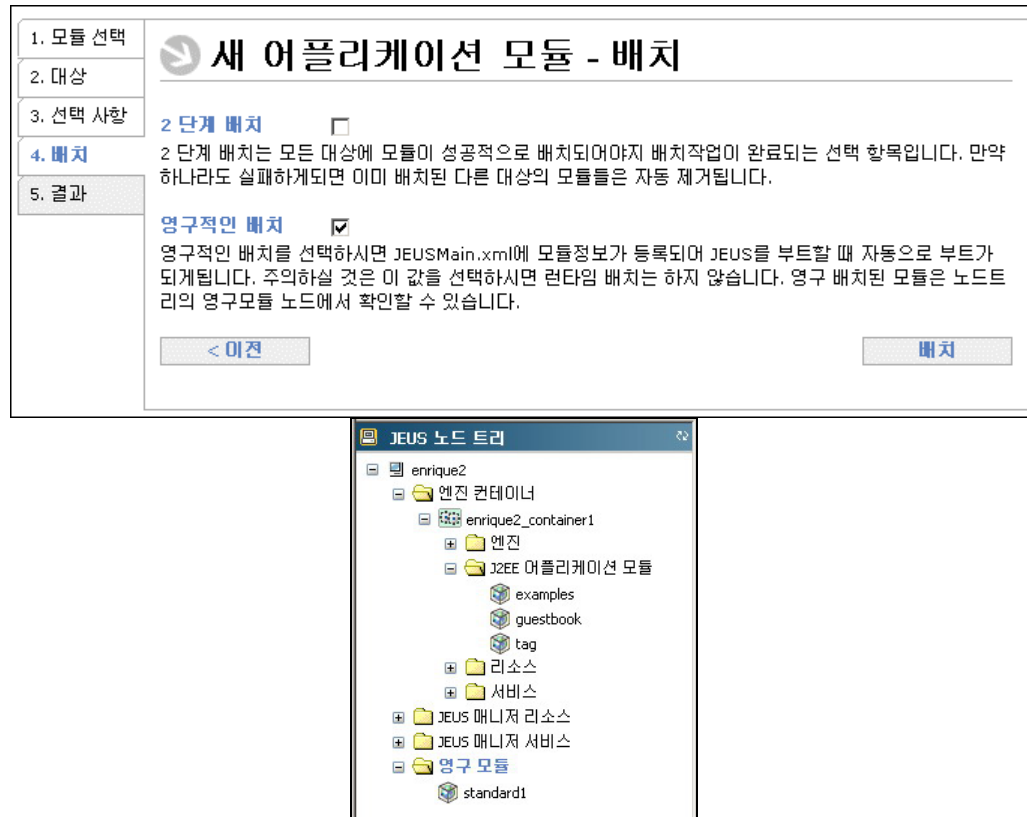
JEUS

4.5.2.2 (Permanent)

1)

가

가



14.

2) Application

가 JEUSMain.xml

XML

Application

[STEP 1]

JEUS

[STEP 2]



15. Application

3)

JEUSMain.xml

[STEP 1]

JEUS

[STEP 2]

4.5.2.3 (Auto Deploy)

[STEP 1]

JEUS

[STEP 2]

. Path Check Interval

JEUS

- Path: `가` .
`{APP_HOME}` .
- Check Interval : `가` millisecond

[STEP 3] /

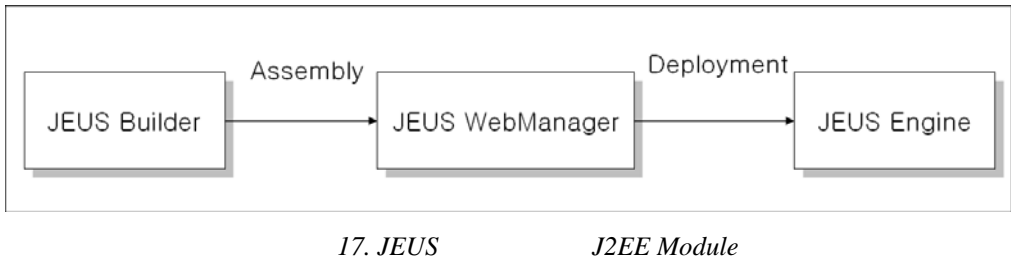
설정	엔진 컨테이너 - 자동 배치
기본 설정	
에러 로그	이 Engine Container의 auto-deploy에 대한 설정이다.
사용자 로그	
▶ 자동 배치	Auto Deploy Path <input type="text"/> Engine Container가 auto-deploy로 인식할 directory path를 설정한다. 설정하지 않으면 jeus.deployhome System property의 값이나 webhome/deploy_home이 사용된다.
상호운용	
라이프 사이클	
기타	Auto Deploy Check Interval <input type="text" value="10000"/> 밀리초 application이 변경되었는지 check하는 주기를 설정할 수 있다.
통계	<input type="button" value="확인"/> <input type="button" value="취소"/> <input type="button" value="재설정"/>

16.

4.6 JEUS Builder

JEUS (J2EE DD), JEUS () , XML J2EE (JEUS DD), . JEUS Builder J2EE J2EE / GUI .

JEUS JEUS J2EE , JEUS Builder 가 JEUS [17].



JEUS Builder .

5 Deployment API

5.1

Deployment API

Deployment API deploy
, API

5.2 DeploymentManager

DeploymentManager J2EE application J2EE platform product
product (deployment functionality) , DeploymentManager
access point (deployment tool)

5.2.1 DeploymentManager

DeploymentManager deploy

-
- (Distribution)
-
-
-

5.2.2 DeploymentManager

DeploymentManager

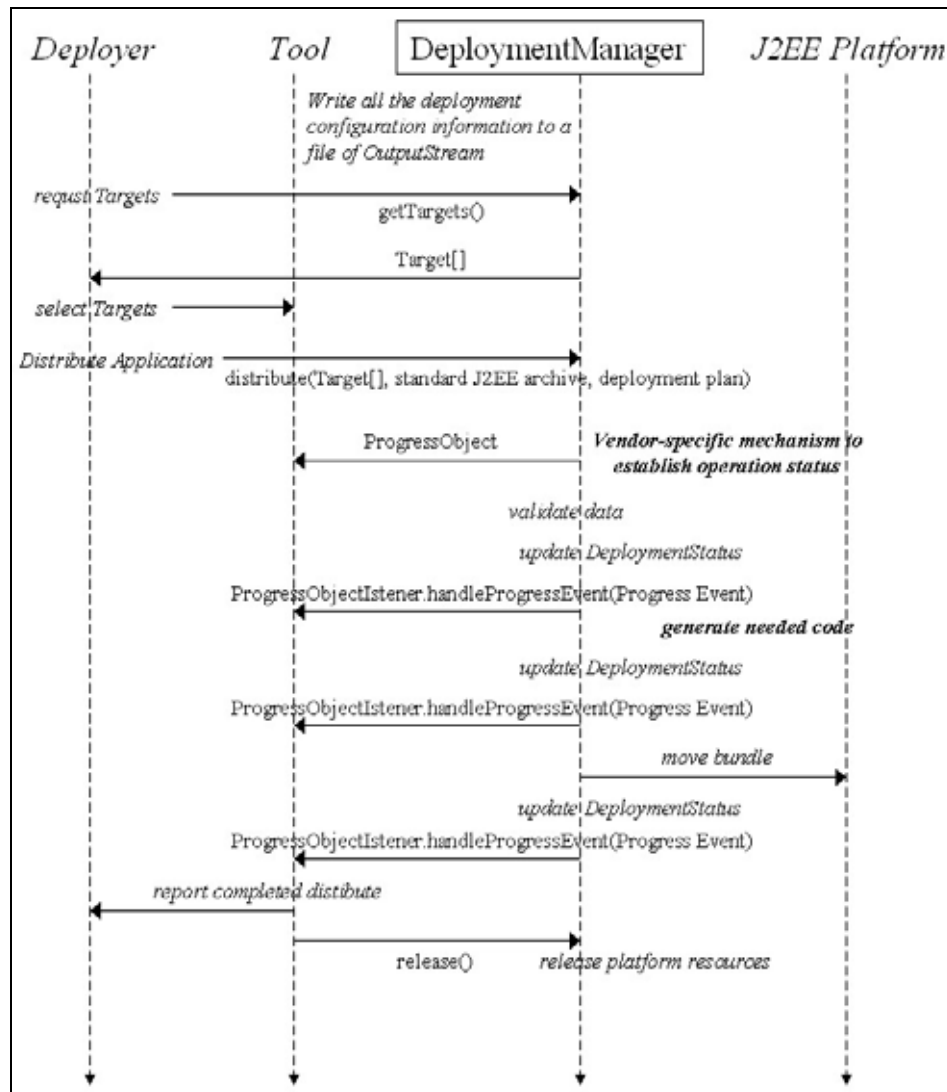
- J2EE product DeploymentManager Object

- DeploymentManager J2EE (distributed) .
- DeploymentManager J2EE product (connected) (disconnected) , 가 .
- DeploymentManager J2EE application stand-alone module archive (EAR, JAR, WAR and RAR) . DeploymentManager 가 pre-deployment .

5.3 DeploymentManager Deployment Operation

5.3.1 Distribute Application ()

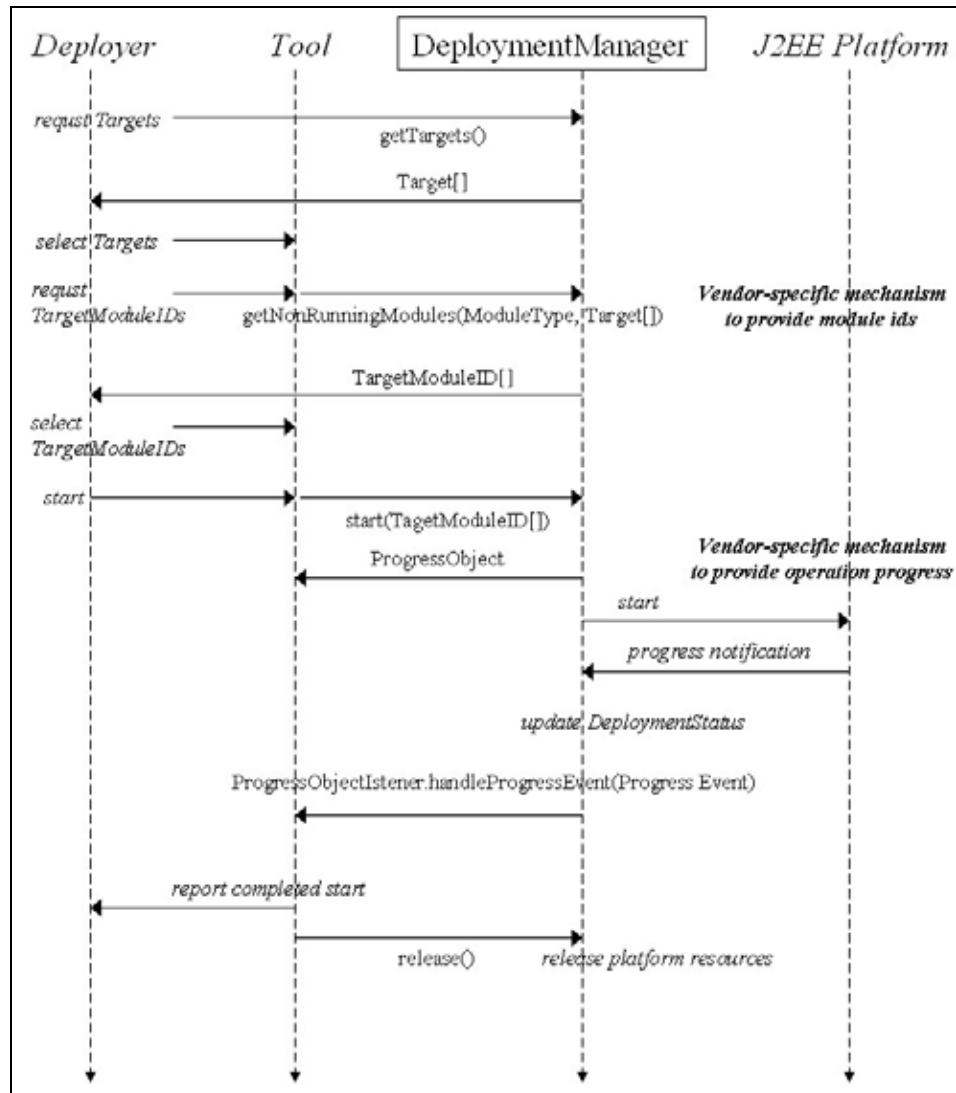
- 1) getTargets 가 가 가 () .
 - 2) distribute 가 application DeploymentManager distribution ProgressObject .
 - 3) DeploymentManager () .
 - 4) release() DeploymentManager J2EE .
- (18)



18. DeploymentManager

5.3.2 Start Application

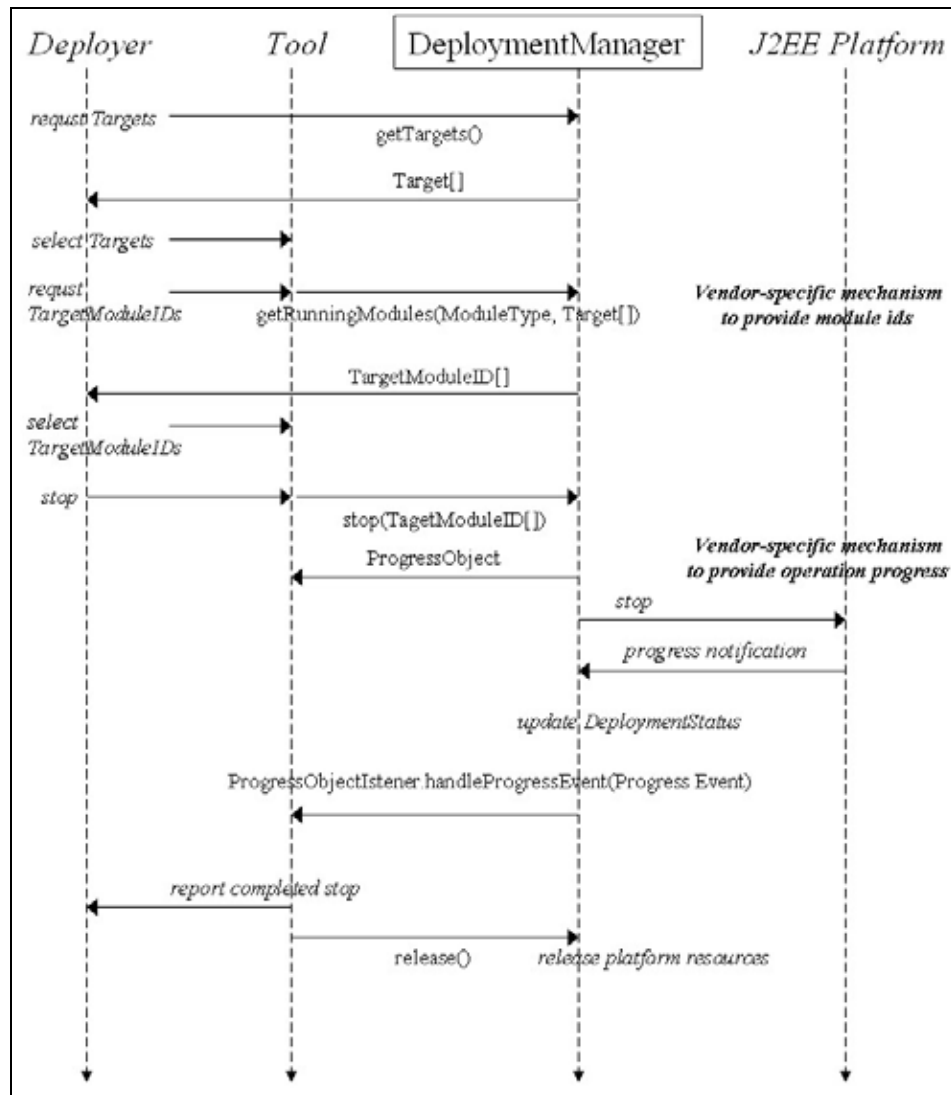
- 1) getTargets 가 () .
- 2) getNonRunningModules 가 가
(,) ID .
- 3) 2) start 가 .
- 4) release() DeploymentManager J2EE .
(19)



19. DeploymentManager

5.3.3 Stop Application

- 1) getTargets 가 () .
- 2) getRunningModules 가 가 가
(,) ID .
- 3) 2) stop 가 .
- 4) release() DeploymetManager J2EE .
(20)



20. DeploymentManager

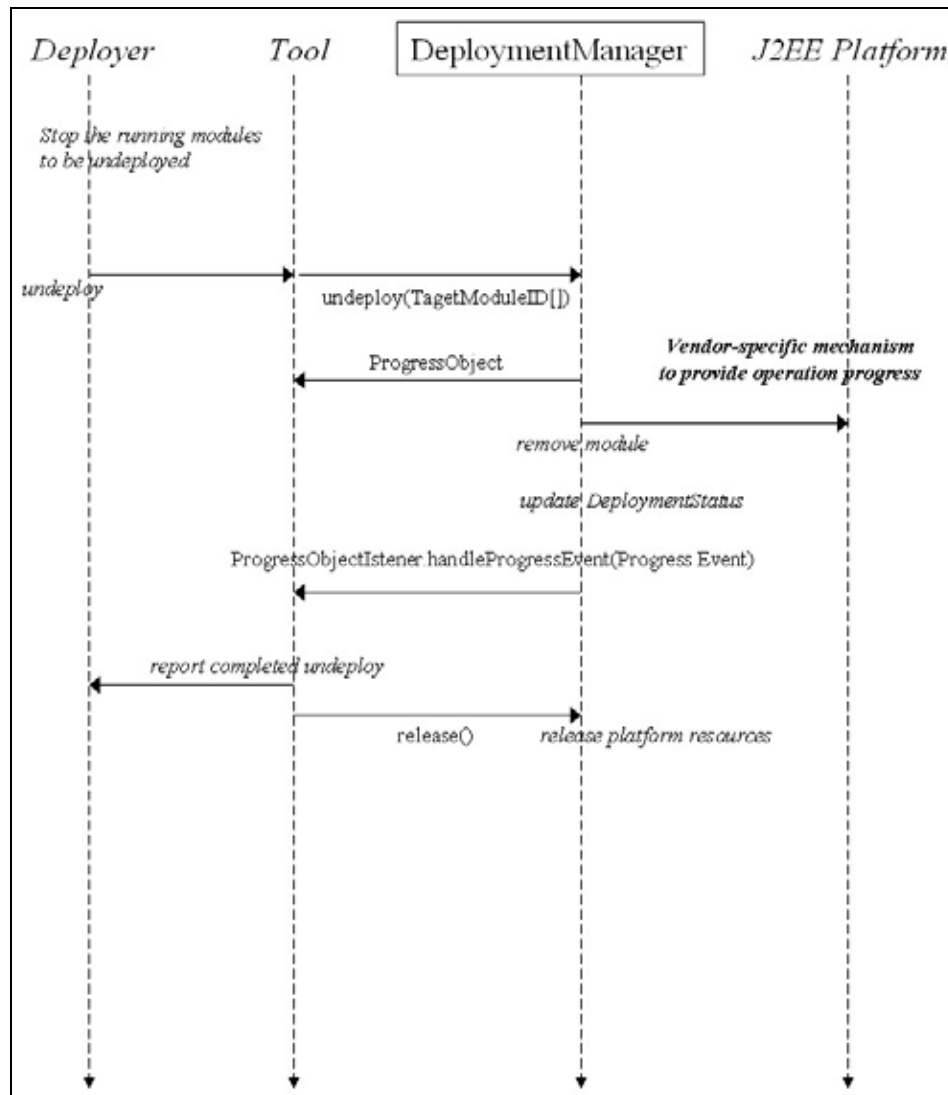
5.3.4 Undeploy Application

1) Undeploy application (4.3.3)
1)~4)

2) undeploy 가 ()

3) release() DeploymentManager J2EE

(21)



21. DeploymentManager

6

6.1

3 가

- Two-Phase Deployment (2)
- Auto Source Distribution ()
- Auto Deployment ()

6.2 Two-Phase Deployment (2)

JEUS Server application stand-alone module
2 (two-phase deployment protocol) ,
가
(consistency) .
가 .

6.2.1 1 (Phase 1) : (Prepare)

(prepare) .
application application module

6.2.2 2 (Phase 2) : (Activate)

(activate) .
applications application modules
가

6.3 Auto Source Distribution ()

EJB EJB
jeus-

application-dd fast-deploy true
 .
 target leader taget –
 가 target – target leader
 target
 .

Deployment Manager API distribute
 . A Deployment API Reference
 4.4 JDeploy Ant Task .
 : (auto source distribution) (fast-deploy)
 .

6.4 Auto Deployment ()

(Auto Deployment)

application 가 , application
 application
 .
 application

6.4.1 JEUSMain.xml auto-deploy

6.4.1.1 auto-deploy

JEUSMain.xml <engine-container> <auto-deploy>
 auto-deploy .

<auto-deploy> .

- **enable-auto-deploy** : auto-deploy
 boolean . “true” , auto-
 deploy .

- **auto-deploy-path** : 71 auto-deploy
path . jeus.deployhome system property
 , \${WEB_HOME}/\${DEPLOY_HOME} .
- **auto-deploy-check-interval** : application
 (:millisecond).

6.4.1.2

auto-deploy

auto-deploy <application>
<auto-deploy> .

<auto-deploy>

6.4.1.1

.

7 J2EE Application Deployment Descriptor

7.1

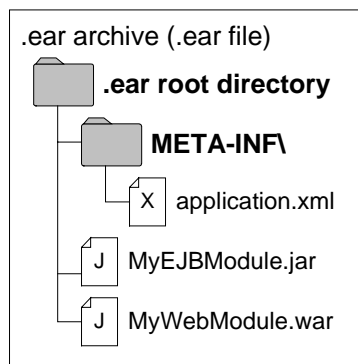
J2EE Application Deployment Descriptor

J2EE Application Deployment Descriptor J2EE Application
DD
.ear

7.2 J2EE Application

7.2.1 EAR

J2EE application EAR . EAR
jar archive J2EE DD
[22] EAR



22. EAR

7.2.2 application.xml

application.xml J2EE DD
URI UI
(JAR, WAR, RAR)

XML element content

case sensitive , <role-name>Manager</role-name> <role-name>manager</role-name>

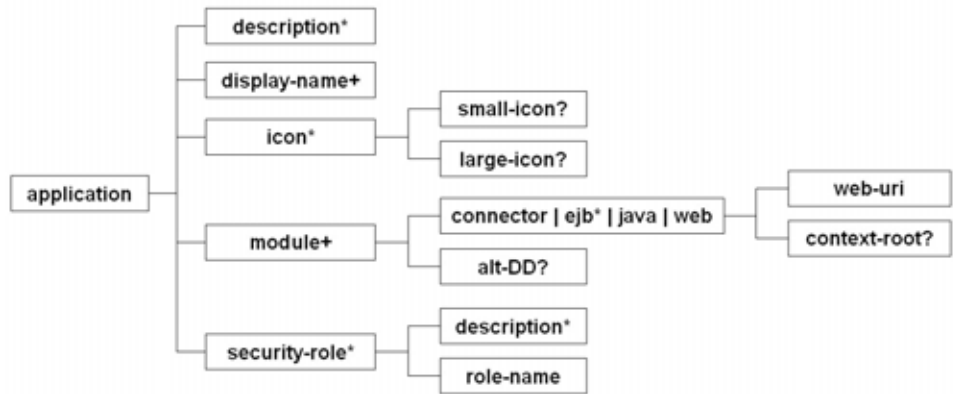
[22] application.xml META-INF

: META-INF 가

가

[23] J2EE application XML J2EE application , application DD

J2EE 1.4



23. J2EE Application XML

7.3 J2EE Application

7.3.1

J2EE

J2EE Application .ear , .ear EJB

.jar Web .war, Connector Resource Adapter .rar

7.3.2 J2EE Application

- EAR EJB
- MyApp.ear EAR

- MyApp.ear calc.jar EJB .
- Myapp.ear cookie.war .
- MyApp.ear “johan” deploy ,
 “johan_mycontainer” . EJB
 가 .

MyApp.ear .

1. MyApp.ear calc.jar(EJB) cookie.war()
 .

2. “META-INF”
 .

3. MyApp.ear application.xml (J2EE Application Deployment Descriptor)
 “META-INF” . application.xml
 .

<<application.xml>>

```
<?xml version="1.0"?>
<application xmlns="http://java.sun.com/xml/ns/j2ee
version="1.4" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee
http://java.sun.com/xml/ns/j2ee/application_1_4.xsd">
<display-name>MyApp</display-name>
  <module>
    <ejb>calc.jar</ejb>
  </module>
  <module>
    <web>
      <web-uri>cookie.war</web-uri>
      <context-root>/cookie.war</context-root>
    </web>
  </module>
</application>
```

4. 1~3 MyApp.ear

.

jar cf MyApp.ear calc.jar cookie.war META-INF

: META-INF 가 .
가 .

: MyApp.ear JEUS /samples
.

8

J2EE Deployment
 J2EE JEUS Deploy
 .
 J2EE ,
 JEUS deploy
 JEUS deployment .
 J2EE (EJB , Web)
 .

A Deployment API Reference

A.1

Deployment API

A.2 DeploymentManager API

API javax.enterprise.deploy.spi package

A.2.1 Method

```
public Target[] getTargets()
```

Description

- DeploymentManager 가 (server target) 가 .

Return Values

- 가 application “null” .

Throws

- IllegalStateException

```
public TargetModuleID[] getAvailableModules(ModuleType moduleType, Target[] targetList)
```

Description

- (target) J2EE application (running) , (not running) .

Arguments

- **moduleType** : J2EE moduleType (EAR, JAR, WAR, RAR)
- **targetList** :

Return Values

- TargetModuleID
.

Throws

- **IllegalStateException**
- **TargetException**

```
public TargetModuleID[] getRunningModules(ModuleType moduleType,  
Target[] targetList)
```

Description

- application (target) (running) J2EE
가 .

Arguments

- **moduleType** : J2EE moduleType (EAR, JAR, WAR, RAR)
- **targetList** : 가

Return Values

- TargetModuleID
.

Throws

- **IllegalStateException**
- **TargetException**

```
public TargetModuleID[] getNonRunningModules(ModuleType
moduleType, Target[] targetList)
```

Description

- (target) J2EE application (not running) 가 .

Arguments

- **moduleType** : J2EE moduleType (EAR, JAR, WAR, RAR)
- **targetList** : 가

Return Values

- TargetModuleID .

Throws

- **IllegalStateException**
- **TargetException**

```
public DeploymentConfiguration createConfiguration
(DeployableObject dObj)
```

Description

- 가 J2EE application module server-specific (deployment configuration information) 가 .

Arguments

- **dObj** : 가 (deployable) J2EE application module

Return Values

- J2EE application module server-specific (deployment configuration information).

Throws

- **InvalidModuleException**

```
public ProgressObject distribute(Target[] targetList, File
moduleArchive, File deploymentPlan)
```

Description

- 가 (deployment configuration data) container specific class interface (target) archive

Arguments

- **targetList** : 가 application
- **moduleArchive** : distribute application archive
- **deploymentPlan** : application archive
(runtime configuration information) XML

Return Values

- `distribution` (status) / `ProgressObject`

Throws

- **IllegalStateException**

```
public ProgressObject distribute(Target[] targetList, InputStream
moduleArchive, InputStream deploymentPlan)
```

Description

- 가 (deployment configuration data) container specific class interface archive (target)

Arguments

- targetList** : 가 application
- moduleArchive** : distribute application archive input stream
- deploymentPlan** : application archive (runtime configuration information) input stream

Return Values

- distribution (status) / ProgressObject

Throws

- IllegalStateException**

```
public ProgressObject start (TargetModuleID[] moduleIDList)
```

Description

- application (running) root TargetModuleID . Child

Arguments

- moduleIDList** : (roor) TargetModuleID

Return Values

- start operation (status) / ProgressObject

Throws

- **IllegalStateException**

```
public ProgressObject stop(TargetModuleID[] moduleIDList)
```

Description

- (running) application
 root TagetModuleID . Child

Arguments

- **moduleIDList** : (room TagetModuleID)

Return Values

- stop operation (status) / ProgressObject

Throws

- **IllegalStateException**

```
public ProgressObject undeploy (TargetModuleID[] moduleIDList)
```

Description

- (target) application
 - () root TagetModuleID
 - . Child

Arguments

- **moduleIDList** : (room TagetModuleID)

Return Values

- undeploy operation (status) / ProgressObject .

Throws

- **IllegalStateException**

```
public boolean isRedeploySupported()
```

Description

- J2EE platform 7+ redeployment .

Return Values

- boolean (true/false) . true redeployment , false .

```
public ProgressObject redeploy (TargetModuleID[] moduleIDList,
File moduleArchive, File deploymentPlan)
```

Description

- optional method .
- J2EE application . Redeploy J2EE application application (runtime configuration information) application .

Arguments

- **moduleIDList** : (roor) TargetModuleID

- **moduleArchive** : distribute application archive
- **deploymentPlan** : application archive
(runtime configuration information) XML

Return Values

- redeploy operation (status) / ProgressObject

Throws

- **IllegalStateException**
- **java.lang.UnsupportedOperationException**

```
public ProgressObject redeploy (TargetModuleID[] moduleIDList,  
InputStream moduleArchive, InputStream deploymentPlan)
```

Description

- optional method .
- J2EE application
 . Redeploy J2EE application
 . application
 (runtime configuration information) application

Arguments

- **moduleIDList** : (root)
 TargetModuleID
- **moduleArchive** : distribute application archive input stream
- **deploymentPlan** : application archive
(runtime configuration information) input stream

Return Values

- redeploy operation (status) / ProgressObject .

Throws

- **IllegalStateException**
- **java.lang.UnsupportedOperationException**

```
public void release()
```

Description

- DeploymetManager J2EE .

```
public Locale getDefaultLocale()
```

Description

- locale . locale .

Return Values

- Locale

```
public Locale getCurrentLocale()
```

Description

- active locale . Current locale .

Return Values

- Current active Locale

```
public void setLocale(Locale locale)
```

Description

- active locale . locale
locale optional .

Return Values

- **locale :** Locale

Throws

- **java.lang.UnsupportedOperationException**

```
public Locale[] getSupportedLocale()
```

Description

- locale locale .

Return Values

- locale

```
public boolean isLocaleSupported(Locale locale)
```

Description

- locale

Arguments

- **locale :** Locale

Return Values

- boolean (true/false) . True locale
, false .

```
public DconfigBeanVersionType getDconfigBeanVersion()
```

Description

- deployment configuration bean J2EE platform version .

Return Values

- deployment configuration bean J2EE platform version object .

```
public boolean DconfigBeanVersionSupported(DconfigBeanVersionType version)
```

Description

- J2EE platform version deployment configuration bean .

Arguments

- **version** : J2EE platform version

Return Values

- boolean (true/false) . True J2EE platform version , false .

```
public void setDconfigBeanVersion(DconfigBeanVersionType version)
```

Description

- deployment configuration bean J2EE platform version

Arguments

- **version** : J2EE platform version

Throws

- **java.lang.DconfigBeanVersionUnsupportedException**

JEUS deploy API 가 . API API
3 가 (Only Distribute, Auto Source Distribute, 2-Phase
Deployment) .

```
public ProgressObject deploy(Target[] atarget, File
moduleArchive, File deploymentPlan, boolean onlyDistribute,
boolean atomic, boolean autoSourceDistribute)
```

Description

- $$\bullet \quad \left(\frac{1}{2} + \frac{1}{2} \right) = 1. \quad (1)$$

Arguments

- **atarget** : 가 application
- **moduleArchive** : application archive
- **deploymentPlan** : application archive
(runtime configuration information) XML
- **onlyDistribute** :
- **atomic** : 2 .
- **autoSourceDistribute** :

Return Values

- `deploy` (status) / `ProgressObject`

Throws

- **IllegalStateException**

B Administration Console Tool (jeusadmin) Deployment Reference

B.1

application JEUS administration Console Tool “**jeusadmin**” J2EE
deployment

B.2

jeudadmin JEUS
JEUS start/stop, Engine start/stop, Engine Container start/stop
J2EE application deployment
JEUS Server

B.3

jeusadmin
j eusadmin ([-verbose] nodename
[-U<username> -P<password>] [command])
| -versi on | -l i censedue | -l i censei nfo | -modversi on

options:

nodename

nodename 가 JEUS jeusadmin 가

-verbose

가

-U<username> -P<password>

“command”

command

jeusadmin

-version

JEUS

.) JEUS 5.0

-license

0

JEUS

, TmaxSoft

-licenseinfo

-modversion

JEUS

jeusadmin

J2EE application

deployment

B.4 Deployment

B.4.1 deploy –

```

deploy    [-node node_name] [-con container_name] [-f] [-per]
             [-ex] [-isolated] [-keep] [-absolute-path path]
             [-local AppDD] [-writeAppDD] [-class-ftp-unit JAR|CLASS]
             [-auto] module_name
  
```


options:

-node node_name

```

jeusadmin node node deploy
deploy node name .

```

-con container_name

```

deploy container name . node
container deploy .

```

-f

```

application EJB fast deploy .
home remote stub skeleton .
deploy
. , appcompiler
(JEUS Server
).

```

-per

```

application permanent deploymet( )
. application JEUSMain.xml <application>
가 , application .

```

-ex

```

application .

```

-i sol ated

```

deploy J2EE application classloader application
.

```

-keep

```

application EJB stub class java source
file .

```

-absol ute-path path

```

    deploy      archive file      directory 가
    .           container    application      application
                                deploy      .
    path      jeusadmin      node      path 가      deploy
            node      path      .

-l ocal AppDD

    deploy      application archive      jeus-application-dd.xml
    . jeus-application-dd.xml      JEUS

Server      .

-wri teAppDD

    deploy      jeus-application-dd.xml      container
    application archive
    deploy      -absolute-path      -auto
    deploy      -localAppDD      .

-cl ass-ftp-uni t JAR|CLASS

    application      EJB      remote      JAR
    file      ,      CLASS      ..

-auto

    application      auto-deploy      .

-modul e_name

    deploy      application module name      .

```

B.4.2 undeploy –

```

undeploy [-con tainer_name] [-mod module_type] [-per] [-a]
        module_name

```

options:

```

-con tainer_name

```

```

    undeploy container name . node
    container undeploy .

-mod module_type

    module_type .

-per

    application permanent deployment(
    . application JEUSMain.xml <application>
    .

-a

    module_name
    application .

-module_name

    undeploy application module_name .

```

B.4.3 start –

```

start [-con container_name] [-mod module_type] [-a]
      module_name

```

options:

```

-con container_name

```

```

    container_name .

```

```

-mod module_type

```

```

    module_type .

```

```

-a

```

```

    module_name

```

```

    application .

```

-modul e_name

start application module name .

B.4.4 stop –

stop [-con container_name] [-mod module_type] [-a]
module_name

options:

-con container_name

container name .

-mod module_type

module type .

-a

module_name ,
application .

-modul e_name

stop application module name .

B.4.5 reload –

rel oad module_name

option application undeploy deploy ,
undeploy deploy redeploy .

options:

-modul e_name

reload application module name .

B.4.5 applist –

applist [-con container_name] [-mod module_type] [-a]
module_name

container node container deploy
application list .

options:

-con container_name

container name .

-mod module_type

module type .

-a

module_name

application .

-modul e_name

application module name .

C J2EE Application Deployment Descriptor Schema

C.1

J2EE Application Deployment Descriptor Schema

C.2 J2EE Application Deployment Descriptor Schema File

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://java.sun.com/xml/ns/j2ee"
  xmlns:j2ee="http://java.sun.com/xml/ns/j2ee"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:jaxb="http://java.sun.com/xml/ns/jaxb"
  xmlns:xjc="http://java.sun.com/xml/ns/jaxb/xjc"
  jaxb:extensionBindingPrefixes="xjc"
  jaxb:version="1.0"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  version="1.4">
  <xsd:annotation>
    <xsd:documentation>
      @(#)application_1_4.xsds      1.13 02/11/03
    </xsd:documentation>
    <xsd:appinfo>
      <jaxb:globalBindings generateIsSetMethod="true">
        <xjc:serializable/>
        <xjc:superClass name="jeus.xml.binding.util.JeusBinding"/>
      </jaxb:globalBindings>
    </xsd:appinfo>
  </xsd:annotation>
```

```
<xsd:annotation>
```

```
  <xsd:documentation>
```

Copyright 2003 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at <http://www.sun.com/patents> and one or more additional patents or pending patent applications in the U.S. and other countries.

This document and the technology which it describes are distributed under licenses restricting their use, copying, distribution, and decompilation. No part of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any.

Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Sun, Sun Microsystems, the Sun logo, Solaris, Java, J2EE, JavaServer Pages, Enterprise JavaBeans and the Java Coffee Cup logo are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

Federal Acquisitions: Commercial Software - Government Users
Subject to Standard License Terms and Conditions.

```
  </xsd:documentation>
```

```
</xsd:annotation>
```

```
<xsd:annotation>
```

```
  <xsd:documentation>
```

```
    <![CDATA[
```


This is the XML Schema for the application 1.4 deployment descriptor. The deployment descriptor must be named "META-INF/application.xml" in the application's ear file. All application deployment descriptors must indicate the application schema by using the J2EE namespace:

`http://java.sun.com/xml/ns/j2ee`

and indicate the version of the schema by using the version element as shown below:

```
<application xmlns="http://java.sun.com/xml/ns/j2ee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee
    http://java.sun.com/xml/ns/j2ee/application_1_4.xsd"
  version="1.4">
  ...
</application>
```

The instance documents may indicate the published version of the schema using the `xsi:schemaLocation` attribute for J2EE namespace with the following location:

`http://java.sun.com/xml/ns/j2ee/application_1_4.xsd`

```
]]>
</xsd:documentation>
</xsd:annotation>

<xsd:annotation>
  <xsd:documentation>
```

The following conventions apply to all J2EE deployment descriptor elements unless indicated otherwise.

- In elements that specify a pathname to a file within the same JAR file, relative filenames (i.e., those not starting with "/") are considered relative to the root of the JAR file's namespace. Absolute filenames (i.e., those

```
starting with "/" ) also specify names in the root of the
JAR file's namespace. In general, relative names are
preferred. The exception is .war files where absolute
names are preferred for consistency with the Servlet API.
```

```
    </xsd:documentation>
  </xsd:annotation>

  <xsd:include schemaLocation="j2ee_1_4.xsd"/>

<!-- ***** -->
  <xsd:element name="application" type="j2ee:applicationType">
    <xsd:annotation>
      <xsd:documentation>

        The application element is the root element of a J2EE
        application deployment descriptor.

      </xsd:documentation>
    </xsd:annotation>

    <xsd:unique name="context-root-uniqueness">
      <xsd:annotation>
        <xsd:documentation>

          The context-root element content must be unique
          in the ear.

        </xsd:documentation>
      </xsd:annotation>
      <xsd:selector xpath="j2ee:module/j2ee:web"/>
      <xsd:field xpath="j2ee:context-root"/>
    </xsd:unique>

    <xsd:unique name="security-role-uniqueness">
      <xsd:annotation>
        <xsd:documentation>

          The security-role-name element content
```

```

        must be unique in the ear.

</xsd:documentation>
</xsd:annotation>
<xsd:selector xpath="j2ee:security-role"/>
<xsd:field    xpath="j2ee:role-name"/>
</xsd:unique>

</xsd:element>

<!-- ***** -->
<xsd:complexType name="applicationType">
  <xsd:annotation>
    <xsd:documentation>

      The applicationType defines the structure of the
      application.

    </xsd:documentation>
  </xsd:annotation>

  <xsd:sequence>
    <xsd:group ref="j2ee:descriptionGroup"/>
    <xsd:element name="module"
      type="j2ee:moduleType"
      maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation>

          The application deployment descriptor must have one
          module element for each J2EE module in the
          application package. A module element is defined
          by moduleType definition.

        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="security-role"
      type="j2ee:security-roleType"

```

```

        minOccurs="0"
        maxOccurs="unbounded"/>
</xsd:sequence>
<xsd:attribute name="version"
        type="j2ee:dewey-versionType"
        fixed="1.4"
        use="required">
<xsd:annotation>
<xsd:documentation>

        The required value for the version is 1.4.

</xsd:documentation>
</xsd:annotation>
</xsd:attribute>

<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>

<!-- ***** -->
<xsd:complexType name="moduleType">
<xsd:annotation>
<xsd:documentation>

        The moduleType defines a single J2EE module and contains a
        connector, ejb, java, or web element, which indicates the
        module type and contains a path to the module file, and an
        optional alt-dd element, which specifies an optional URI to
        the post-assembly version of the deployment descriptor.

</xsd:documentation>
</xsd:annotation>

<xsd:sequence>
<xsd:choice>
<xsd:element name="connector"
        type="j2ee:pathType">
<xsd:annotation>
<xsd:documentation>

```

The connector element specifies the URI of a resource adapter archive file, relative to the top level of the application package.

```
</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="ejb"
              type="j2ee:pathType">
  <xsd:annotation>
    <xsd:documentation>
```

The ejb element specifies the URI of an ejb-jar, relative to the top level of the application package.

```
</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="java"
              type="j2ee:pathType">
  <xsd:annotation>
    <xsd:documentation>
```

The java element specifies the URI of a java application client module, relative to the top level of the application package.

```
</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="web"
              type="j2ee:webType"/>
</xsd:choice>
<xsd:element name="alt-dd"
              type="j2ee:pathType"
              minOccurs="0">
  <xsd:annotation>
    <xsd:documentation>
```

The alt-dd element specifies an optional URI to the post-assembly version of the deployment descriptor file for a particular J2EE module. The URI must specify the full pathname of the deployment descriptor file relative to the application's root directory. If alt-dd is not specified, the deployer must read the deployment descriptor from the default location and file name required by the respective component specification.

```
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>

<!-- ***** -->
<xsd:complexType name="webType">
    <xsd:annotation>
        <xsd:documentation>

            The webType defines the web-uri and context-root of
            a web application module.

        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="web-uri"
            type="j2ee:pathType">
            <xsd:annotation>
                <xsd:documentation>

                    The web-uri element specifies the URI of a web
                    application file, relative to the top level of the
                    application package.

                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
```

```
</xsd:element>
<xsd:element name="context-root"
              type="j2ee:string">

  <xsd:annotation>
    <xsd:documentation>

      The context-root element specifies the context root
      of a web application.

    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
</xsd:schema>
```


ㄱ

가 , 20

ㄴ

, 18, 19, 51, 52, 59, 65, 66, 67, 68, 69, 76

ㄷ

, 17

, 19, 20, 37, 42, 55

, 41, 65, 80

, 19, 49, 50, 51

ㅇ

, 10, 15, 18, 21, 22, 23, 27, 28, 29, 33,

36, 37, 38, 39, 40, 41, 42, 43, 44, 49, 51, 52, 53, 54,
57, 59, 60, 63, 76

, 19, 24, 28, 43, 46, 47, 56, 57, 61

, 45, 46

, 33, 34, 35, 48, 56

ㅈ

, 35, 36, 46, 47, 55, 56

ㅋ

, 20, 38, 42

ㅍ

, 26, 79

, 35, 36, 48

A

Activate, 55

Administration Console Tool, 11, 25, 26, 79

all-targets, 23

Ant Task, 25, 27, 28, 33, 56

app_home, 22, 37

application name, 19

application.xml, 59, 60, 61, 89

auto-deploy, 23, 56, 57, 82

auto-deploy-path, 23, 57

autoSourceDistribute, 29, 76

B

build.xml, 27, 30, 33

buildfile, 25, 27

C

CAR, 36, 44

Connector Resource Adapter, 60

container_name, 22, 23, 26, 27, 80, 81, 82, 83, 84, 85

D

Deployment, 2, 10, 11, 15, 19, 21, 23, 25, 26, 35, 49,
50, 55, 56, 63, 65, 76, 79, 80

Deployment API, 10, 11, 49, 56, 65

Deployment Operation, 50

Deployment Target, 19

Deployment Tool, 10, 25

DeploymentManager, 49, 50, 51, 52, 53, 54, 65

deployURI, 28, 30, 32, 33

E

EAR, 21, 22, 24, 36, 38, 44, 50, 59, 60, 66, 67

EJB , 17, 55, 60, 61, 63, 81, 82

enable-webadmin, 34

F

fastDeploy, 29

J

J2EE Application Deployment Descriptor, 10, 11, 59, 61, 87

J2EE platform product, 49

JAR, 22, 26, 36, 44, 50, 59, 66, 67, 80, 82, 89, 90

jeusadmin, 11, 12, 25, 26, 79, 80, 81, 82

M

META-INF, 60, 61, 62, 89

N

node_name, 22, 23, 26, 28, 80, 81

P

password, 26, 29, 30, 31, 32, 33, 34, 79, 80

Permanent, 44

planPath, 29, 32

Prepare, 55

R

RAR, 22, 36, 44, 50, 59, 66, 67

S

Security Permission, 39

stop, 26, 27, 29, 30, 32, 33, 52, 70, 79, 84

T

targetNames, 28, 30, 32, 33

Two-Phase Deployment, 55

U

user, 29, 30, 31, 32, 33

username, 26, 29, 30, 34, 79, 80

V

Virtual Host, 20