JEUS Deployment

Document info

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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.

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

```
public class myClass { }
```
Java

```
<system-config>
```
XML

: /   :

| **Configuration** | GUI |

| JEUS_HOME | JEUS |

| |)c:\jeus42 |

jeusadmin nodename

[   ]

| < xyz > | '<'   '>' |

| | | .) A|B: A   B |

…

| ?, +, * | XML   "   ,
", "   ", "   ,
"   . |

| . . . | XML |

<<FileName.ext>>

1.

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1

(Deployment)   ,
Application Server   .

JEUS   ,
.

2 Deployment

(deployment)   .

2.1   (Deployment Unit)

J2EE 1.4   J2EE   3   (deployment
unit)   .

- Stand-alone J2EE module

- J2EE module   J2EE application.   J2EE
  application   J2EE application   (deployment
  descriptor)   .

- Extension Mechanism Architecture   .jar

2.1.1 Stand-Alone J2EE Module

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

2.1.1.1   Enterprise JavaBeans(EJB)

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

EJB   JEUS EJB   .

2.1.1.2   Web Application

Web Application   (,

,

)

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
         .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

(distribute)   application

.

2.2.4 Stop

application

.   application   .   application
name   start   redeploy   .

2.2.5 Undeploy

application   ,   application

.

2.2.6 Redeploy

application   ,
application   .   application
,   application

.

2.3   (Deployment Target)

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

2.3.1

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

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

Engine container   JEUS Server   .

2.3.2   (Cluster)

JEUS   node   node   connection

.   ,   node   engine container   connection

.   ,   (deployment target)

.

JEUS   JEUS Server   .

2.3.3   (Virtual Host)

JEUS   virtual host   node

JEUS Manager

.   , node name   base port   identity

(virtual node name)   ,

.

engine container   engine   node

.   .

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
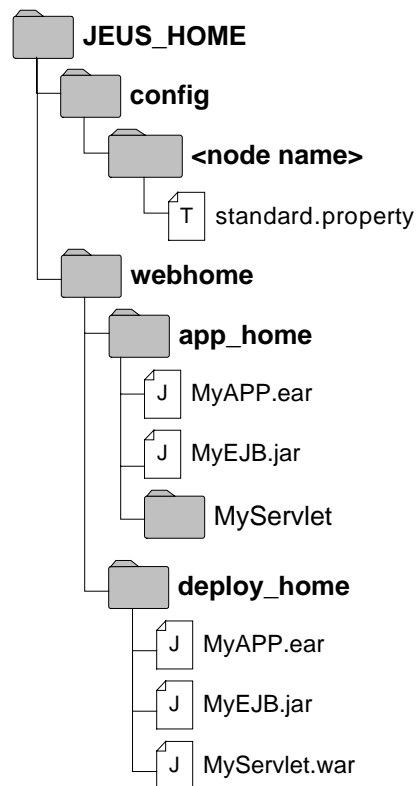
.

```
JEUS_HOME
  └── config
        └── <node name>
              └── [T] standard.property
  └── webhome
        └── app_home
              ├── [J] MyAPP.ear
              ├── [J] MyEJB.jar
              └── MyServlet
        └── deploy_home
              ├── [J] MyAPP.ear
              ├── [J] MyEJB.jar
              └── [J] MyServlet.war
```

1. JEUS EAR

- **JEUS_HOME** : JEUS   (: c:\jeus)

- **webhome** :   J2EE

- **app_home** : application archive   exploded directory
  .   JEUSMain.xml
  .

- **deploy_home** :   J2EE
  deploy   .   EAR_HOME
  ,   –Djeus.deployhome   .

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>`   .
                                    JEUS_HOME path   .
      element   ,   application
    element   .

3.1.2.3　deploy_home

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　.

　　　　J2EE　　　　　　　　　　　　　　JEUS
　　　　　　　　　　　　.　　　　　　　　　　　　　　　jeus.deployhome
system property　　　　　　　　　webhome/deploy_home
JEUSMain.xml　　　　　　　　　　　　　　　　　　.

- deploy_home　　　　　: JEUSMain.xml　　　　`<node>/<engine-`
  `container>/<auto-deploy>/<auto-deploy-path>`　　　　　.
  　　　　　　　　　　　　,　　　　　　　　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　　　　, target
  　.

  ■ **target** : application　　　　　　target　　　　.

  ■ **all-targets** :　　　engine-container　　application　　　.
  　　　　　JEUSMain.xml　　　　　node
  node-name　　　　　　　　　　　　　　. element
  　　element　`<target>`　　element　`<context-group-nam`
  `e>`　　　　.

`<target>`　　　element　　　　.

- **node-name or engine-container-name** :　application　　　node
  name　　`<node_name>_<container_name>`　　　　. node name
  　　　　　node　　container　　　　.

- **context-group-name** :　application
  standalone

.

<target>   .

target

.

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

target   .

<connector-component>   application   resource
,   application
<deployment-target>   .

4 Deployment Tool

4.1

JEUS Server   deployment tool
.

4.2 JEUS Deployment tool

JEUS Server   application   application module   deploy
(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   .

jeusadmin   jeusadmin   deployment   application
deploy   Administration Console Tool Reference
                    .

4.3.1 **jeusadmin**

            jeusadmin   . (jeusadmin
   JEUS_HOME\bin   .)

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

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

4.3.2 **Deployment**

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

```
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   container   APP_HOME directory
            . (-absolute-path   ) node
container   deploy   container   APP_HOME directory
   module_name   archive   . 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>   . <target>
ant task   .   <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	deploy target .	Yes
	Target , target	
	" ( )" .	
deployURI	uri .	Yes
	:	
	deployer:Jeus:${node_name}::${security_domain}:${jndi_protocol}	
	${security_domain} JEUS	
	, ${jndi_protocol}	
	client .	
	:	
	deployer:Jeus:node	
	(*)security_domain jndi_protocol .	
	Default SYSTEM_DOMAIN client .	
	deployer:Jeus:node:SYSTEM_DOMAIN:client	
modulePath	application( ) path .	Yes

planPath	application( ) plan file path . plan file .	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
target   .

- start :

- stop :

- undeploy :

modulecommand task   .

```
jeus.util.ant.AntJeusStatus50
```

modulecommand task   [2]   .

command	status target command	Yes
	. start, stop, undeploy 3	
	command .	
moduleName	command	Yes
	.	
moduleType	command	Yes
	.	
	.	
	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="distibute"
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">
    <distibute 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(jdeploy, start, stop, undeploy)>

    target name   task   .

4.5

4.5.1

4.5.1.1

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

<<JEUSMMain.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   >:9744/webadmin
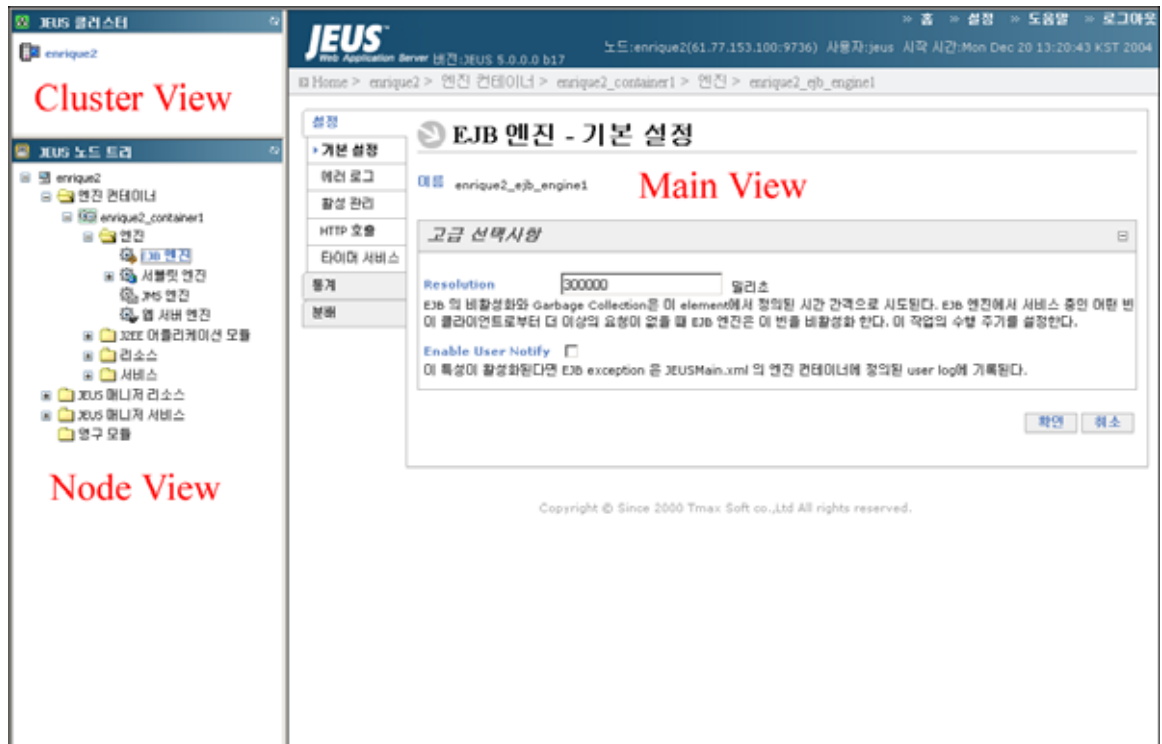   .   username
password   , OK   .
                                                              .

2.

4.5.1.3

　　　　　　　　　　　　　　　　　　.
　　　　　　　　　　　　　　　　.
　　　　　　　　　　　　　　　　.

Cluster View

Node View

Main View

3.

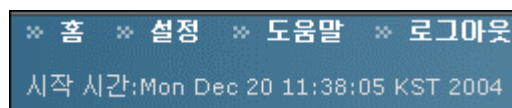*4.   (WebManager)*

4.5.2   (Deployment)

JEUS   3   ,   ,
　　.
　　　　　　　　　　　　　　.

JEUSMain.xml
,

.

JEUS

.

.

4.5.2.1

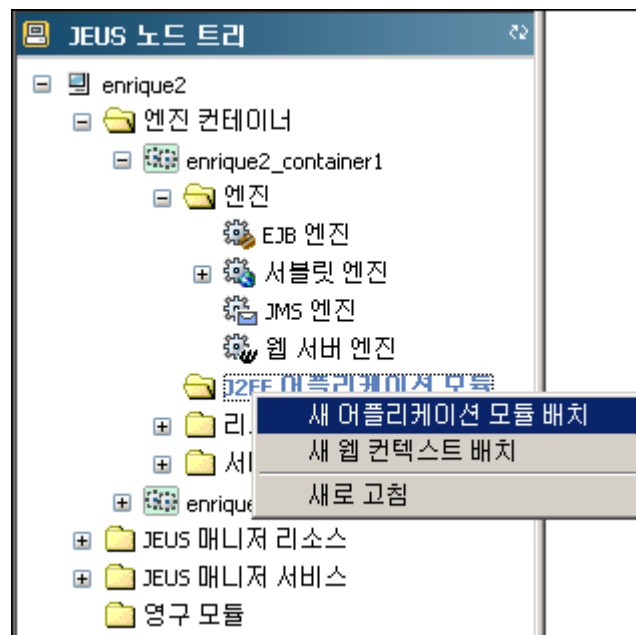**1) J2EE application module**

EAR, JAR, WAR, RAR, CAR 5

.

.

[STEP 1]

JEUS   **J2EE**

.

5.

[STEP 2]

3

.

.

- 　　　　　　　　　: 　　　　　　　　　　　JEUS　　app_home
　　　　　　　　　　.

- 　　　　　　　　:
　　　　　　　.
　　　　　　　　　　　　　.

- 　　　　　　: 　　　　　　　　　　app_home
　　　　　.

6. 　　　　　　　　　　　　　　–

[STEP 3] 　　　　　　　　**(Targets)**

.

.

(EXPLODED_CONTEXT   EXPLODED_EAR)

                                                        .

            ,   A, B, C   A
J2EE   A
            .   WAR   EAR   WAR
                                            .

                                    .   .

                    7.   –

[STEP 4]   (Options)

                                    .

8.　　　　　　　　　　　－

[STEP 5]

- Fast Deploy :　　application　　　EJB module　　　fast deploy
  　　　.　,　　application　　　　　EJB module compiler　　　　　stub
  　　　　　　　　　　　.　　　　　　　　　　　　　engine
  　　　　　.

- **Description** :　　security permission　　　　　　　　　　　.

- **Security Permission Spec** : security permission　　　　　.
  Java policy file　　　　　.

- **Auto Deploy Check Interval** : application　　　　　　　check
  　　　　　　.(　　:　)

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

        .

9.   –

[STEP 6] 2

2   .

10.   –

[STEP 7]

.

JEUS   J2EE

,   .

.

11.   –

2)

.

.

,   WAR   .

,

.

[STEP 1]

JEUS   **J2EE**

.

[STEP 2]

.

[STEP 3]   .

:   (

)   (

)   **WAR**

.

:   .

3)

.

[STEP 1]

JEUS   **J2EE**

,

.

[STEP 2]

stopped   .

.

[STEP 3]

.   JEUS

.
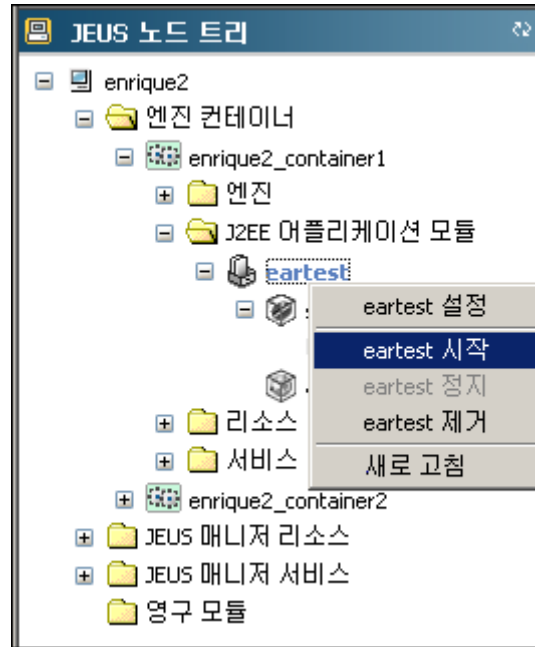
12.

4)

.

[STEP 1]

JEUS   **J2EE**

,

.

[STEP 2]

running   failed

.

.

[STEP 3]

.   JEUS

.

13.

5)
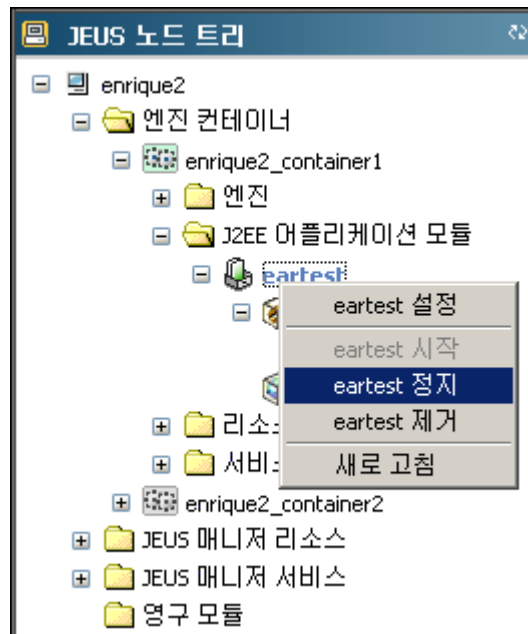
. EAR　　　　　　　　　　　　　　(JAR,
WAR, CAR, RAR)　　　　　　　　　　　　　　.

[STEP 1]

JEUS　　　　　　　　**J2EE**

　　　　　　　　　　　　　　　　　　,
　　　　　　　　　.

[STEP 2]

　　　　　　　　　　　　　　　　　.
　　　　　　　　　　　　　.

[STEP 3]

　　　　　　　.　　　　　　JEUS
　　　.

4.5.2.2　　　　　　(Permanent)

　　1)

.   .

.

14.
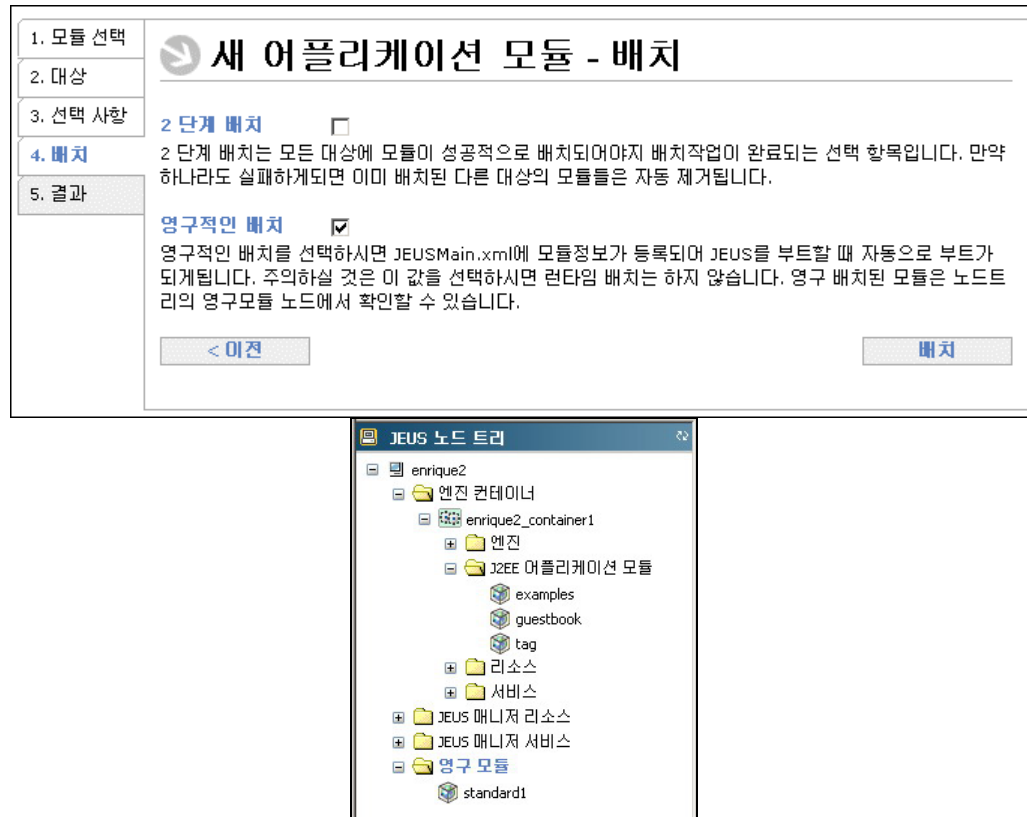
2) Application

JEUSMain.xml

.

XML   Application
.

[STEP 1]

JEUS

,

.

[STEP 2]

모듈을 설정한다.

15. Application

3)

JEUSMain.xml

적용한다.   .

[STEP 1]

JEUS

,   .

[STEP 2]

설정한다.

4.5.2.3   (Auto Deploy)

[STEP 1]

JEUS

,

.

[STEP 2]

. Path   Check Interval   .

JEUS   .

- Path:　　　　　　　　　　　　　　　　　.
  ${APP_HOME}　　　　　.

- Check Interval :　　　　　　　　　　　millisecond
  .

[STEP 3]　　　　　/

　　　　　　　　　　　　　　　.

　　　　　　　　　.

설정

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

16.　　　　　　　–

4.6 JEUS Builder

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

JEUS   J2EE   , JEUS Builder
            JEUS   JEUS   [17].

17. JEUS   J2EE Module
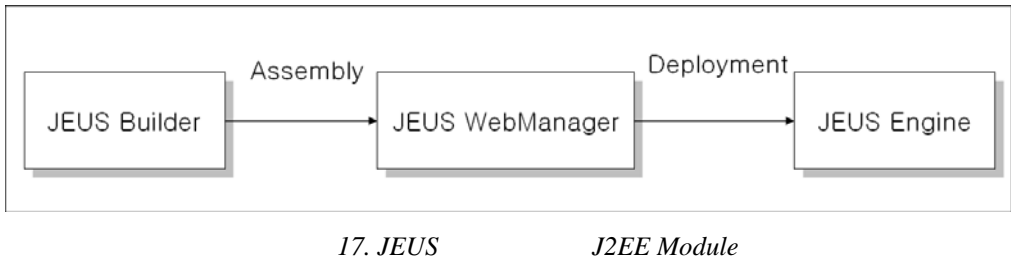
JEUS Builder   .

5 Deployment API

5.1

Deployment API   .

Deployment API   deploy
            , API
                        .

5.2 DeploymentManager

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

5.2.1 DeploymentManager

DeploymentManager   deploy   .

-
- (Distribution)
-
-
-

5.2.2 DeploymentManager

DeploymentManager   .

- J2EE product   DeploymentManager Object
              .

- DeploymentManager   J2EE
  (distribute)   .

- DeploymentManager   J2EE product   (connected)
                (disconnected)   ,
            .

- DeploymentManager   J2EE application
  stand-alone module archive (EAR, JAR, WAR and RAR)
              . DeploymentManager   pre-deployment
                        .

5.3 DeploymentManager   Deployment Operation

5.3.1 Distribute Application (   )

1) getTagets   (   )
        .

2) distribute   application   .
   DeploymetManager   distribution   ProgressObject
        .

3) DeploymetManager   (   )   .

4) release()   DeploymetManager J2EE   .

(18   )
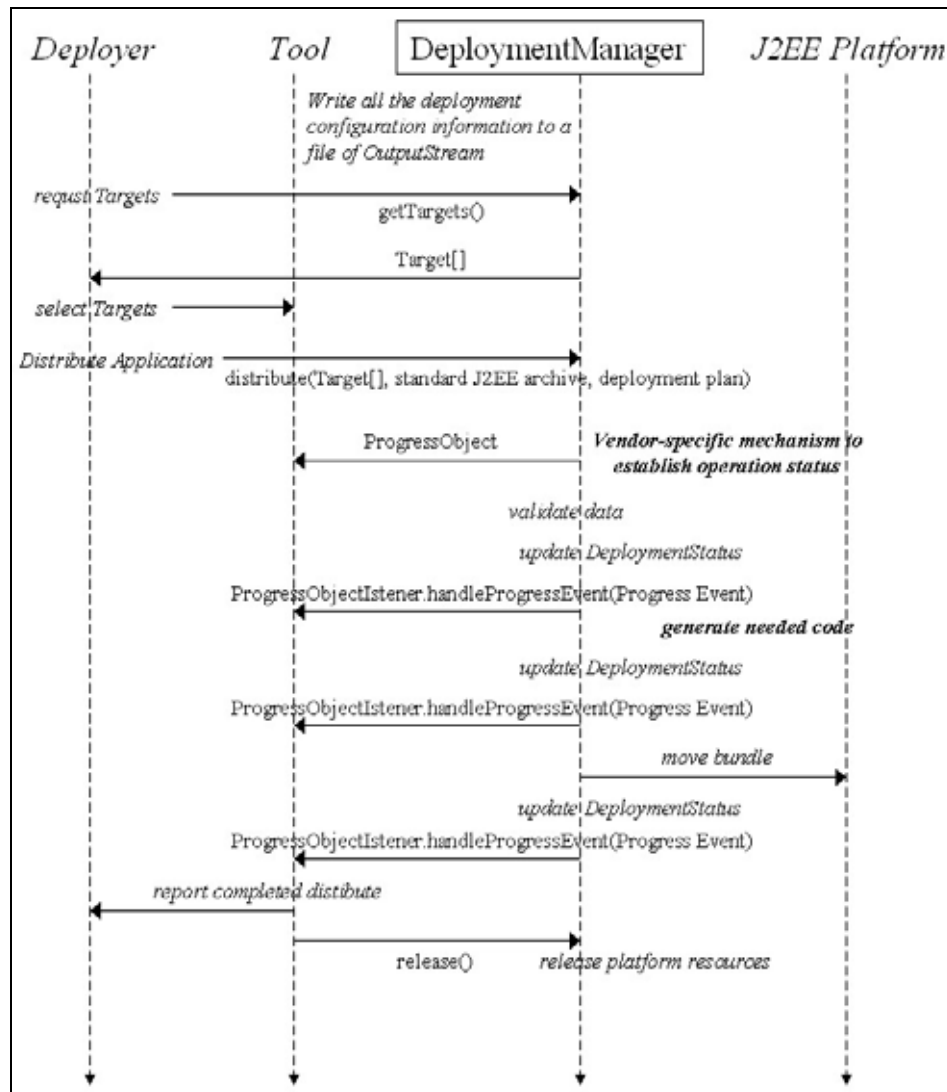
18. DeploymentManager

5.3.2 Start Application

1) getTagets   (   )   .

2) getNonRunningModules
            (,   ) ID   .

3) 2)   start   .

4) release()   DeploymetManager J2EE   .

(19   )
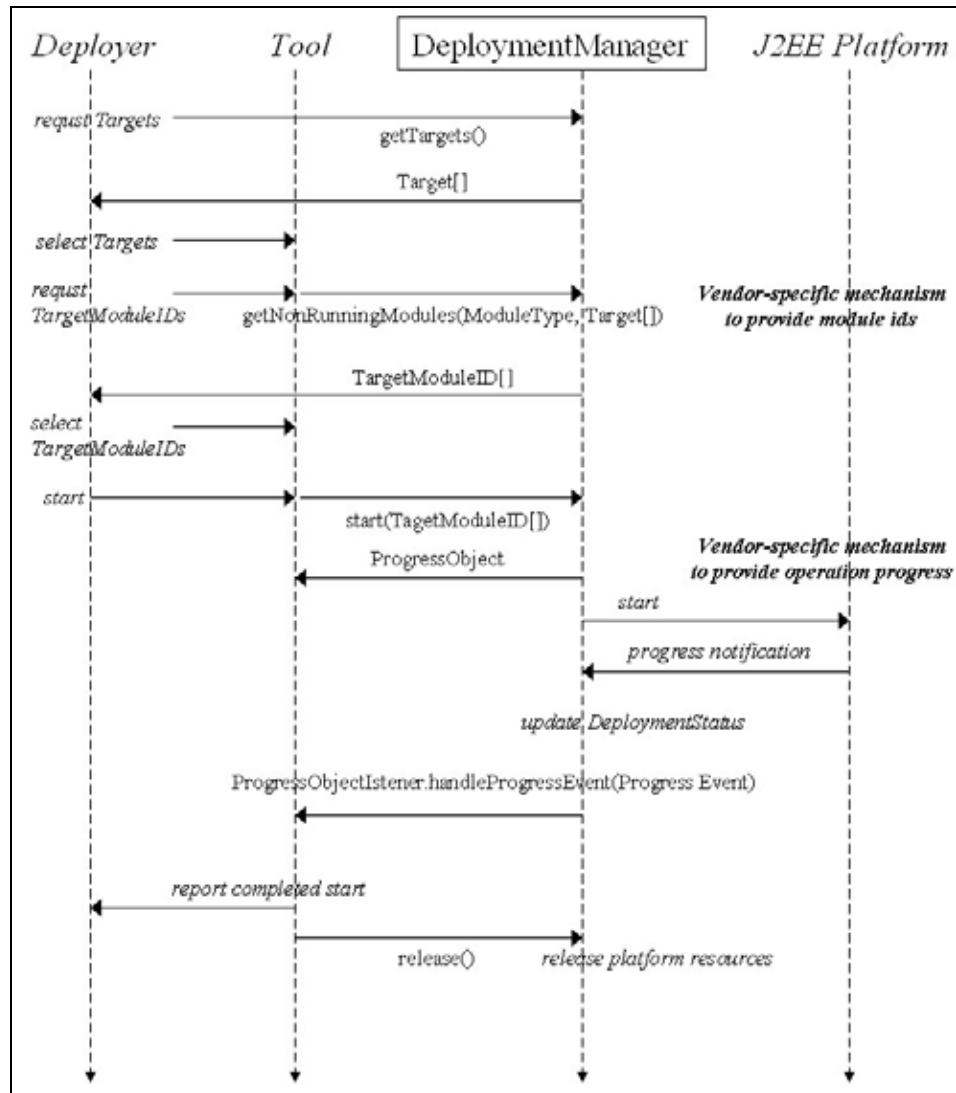
19. DeploymentManager

5.3.3 **Stop Application**

1) getTagets   (   )   .

2) getRunningModules
       (,   ) ID   .

3) 2)   stop   .

4) release()   DeploymetManager J2EE   .

(20   )
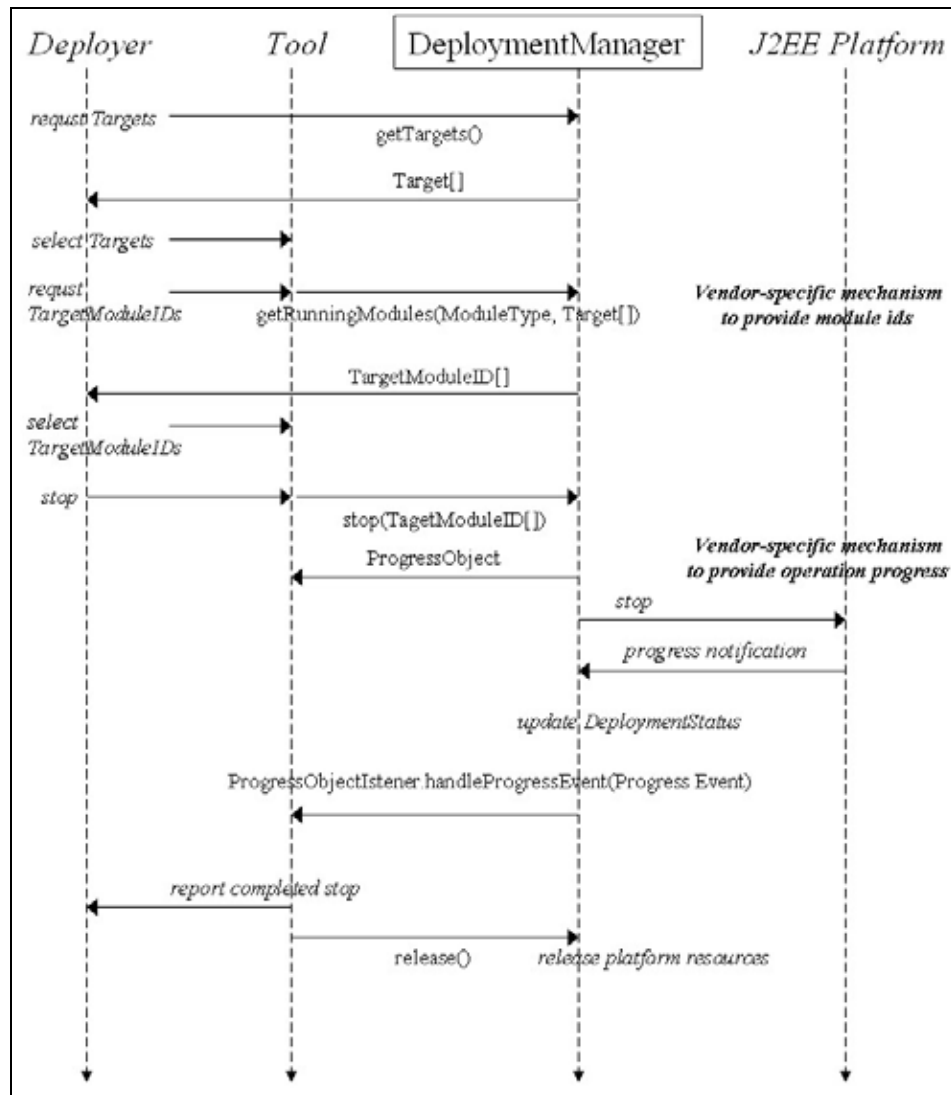
20. DeploymentManager

5.3.4 Undeploy Application

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

2)   undeploy   (   )
             .

3) release()   DeploymetManager J2EE   .

(21   )
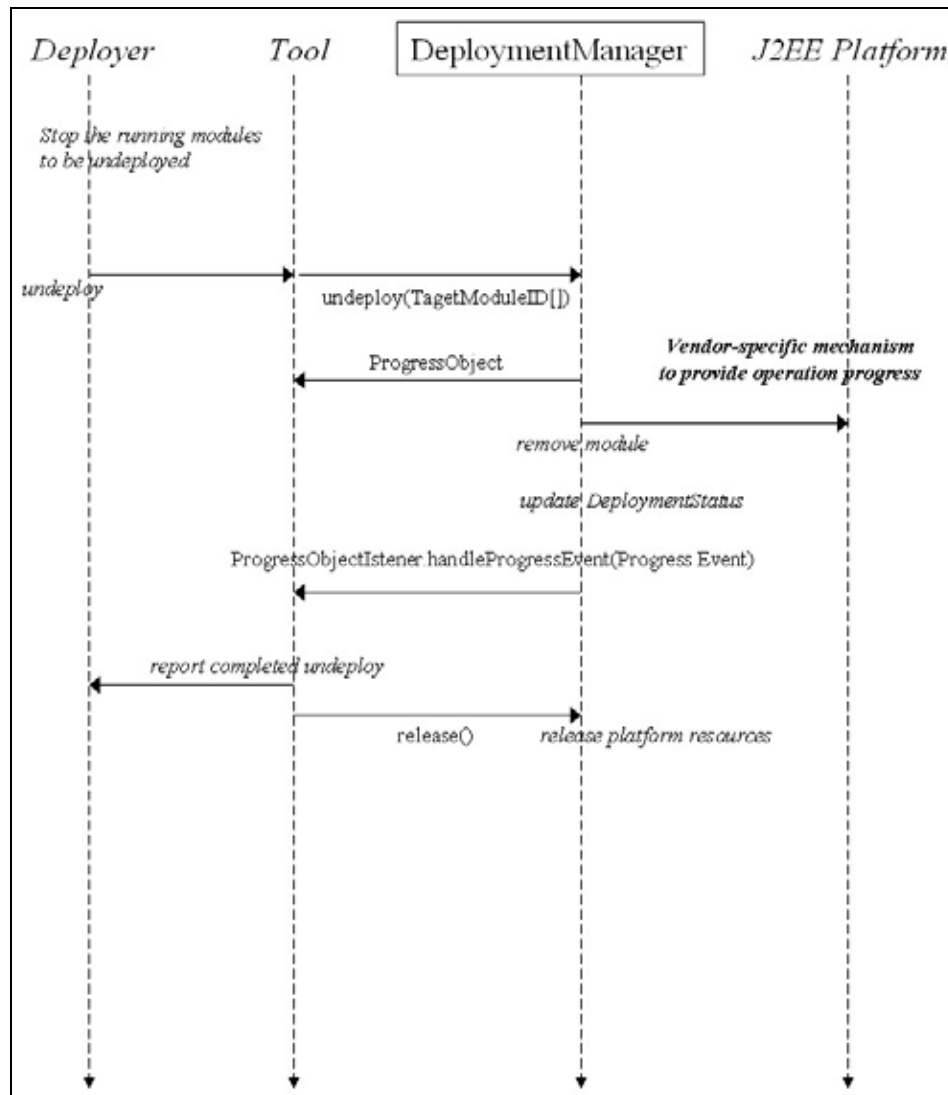
21. DeploymentManager

6

6.1

3   .

- 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)　　　　　　　.

　　　　　,　　　　　　　　(consistency)　　　　　　　　　　　.
　　　　　　　　　　　　　　　　　　.

6.2.1　1　　　(Phase 1) :　　　(Prepare)

　　　　　　　　　(prepare)　　　　　.
　　　application　　application module
　　　　　　　　　　　　.

6.2.2　2　　　(Phase 2) :　　　(Activate)

　　　　　　　　　(activate)　　　　　.
　　　　applications　　application modules
　　　　　.　　　　,　　　　　　　　　　　,
　　　　.

6.3 Auto Source Distribution (　　　　　　　)

EJB　　　　　　　　　EJB
　　　　.   jeus-

application-dd   fast-deploy   true

.

target   leader taget –
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   , 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** :　　　　　　　　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
.
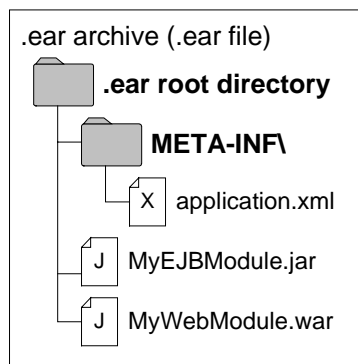
22. EAR

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   .

                    .

[**23**]   J2EE application XML   .   J2EE
application   , application DD
            J2EE 1.4   .
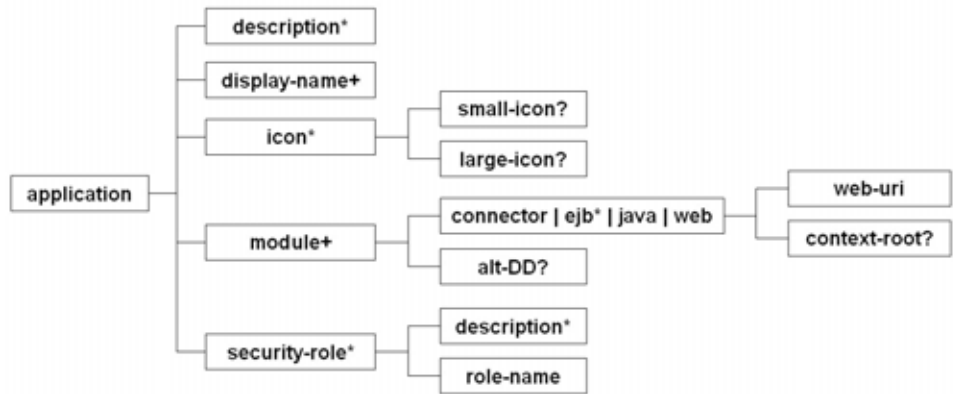
23. J2EE Application XML

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
                                    .

    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   .
            .

:   MyApp.ear   JEUS   **/samples**
    .

8

J2EE   Deployment
    J2EE   JEUS   Deploy
        .

J2EE   ,
                    deploy   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
  (server target)   .

Return Values

- 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

- 　　　　　　　　　　　(target)　　　　　　(running)　　　J2EE
application　　　　　　　　　　.

Arguments

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

- **targetList** :

Return Values

- 　　　　　　　　　　　　　　　　TargetModuleID
　　　.

Throws

- **IllegalStateException**

- **TargetException**

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

Description

- (target)   (not running)
  J2EE application   .

Arguments

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

- **targetList** :

Return Values

- TargetModuleID
  .

Throws

- **IllegalStateException**

- **TargetException**

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

Description

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

Arguments

- **dObj** :   (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

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

Arguments

- **targetList** :   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

- ●   .

    (deployment configuration data)   .   container
    specific class   interface   .   archive
              (target)   .

Arguments

- ● **targetList** :   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
                      TagetModuleID   . Child
                                                      .

Arguments

- ● **moduleIDList** :   (roor   )
        TagetModuleID

Return Values

- ● start operation   (status)   /   ProgressObject
              .

Throws

- **IllegalStateException**

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

Description

-                  (running)   application   .
         root   TagetModuleID   . Child

Arguments

- **moduleIDList** :   (roor   )
  TagetModuleID

Return Values

- stop operation   (status)   /   ProgressObject
           .

Throws

- **IllegalStateException**

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

Description

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

Arguments

- **moduleIDList** :   (roor   )
  TagetModuleID

Return Values

- undeploy operation   (status)   /   ProgressObject
  .

Throws

- **IllegalStateException**

```
public boolean isRedeploySupported()
```

Description

- J2EE platform   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   )
  TagetModuleID

- **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 moduleAchive, InputStream deploymentPlan)
```

Description

- optional method   .

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

Arguments

- **moduleIDList** :   (roor   )
  TagetModuleID

- **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   .   API   API
            3   (Only Distribute, Auto Source Distribute, 2-Phase
Deployment)   .

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

Description

-   (
      +   )   .

Arguments

- **atarget** :   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

JEUS   administration Console Tool   "**jeusadmin**"   J2EE
application   deployment
.

B.2

jeudadmin   JEUS   .
JEUS   start/stop, Engine   start/stop, Engine Container   start/stop
.

J2EE application   deployment
.

JEUS Server   .

B.3

jeusadmin   .

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

options:

nodename

nodename   **JEUS**   **jeusadmin**   .
.

　　　　　　　　　　　　–verbose　　　　　　　　　　　　　　　　　　　　　　　　　　．

　　　-U<username> -P<password>

　　．

　　　　　"**command**"　　　　　　　　　　　　　　　　　　　　　　　　　　　　　．

　　command

　　　　　　jeusadmin　　　　　　　　　　　　　．

　　　　　　　　　．

　　　-version

　　　　　　JEUS　　　　　　　　　　　　．　　) JEUS 5.0

　　　-licensedue

　　　　　　　　　　　　　　　　　　　　　　．　　　　　　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]
         [-localAppDD] [-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>`
,   application   .

`-ex`

application   .

`-isolated`

deploy   J2EE application   classloader   application
.

`-keep`

application   EJB   stub class   java source
file   .

`-absolute-path path`

deploy   archive file   directory

.   container   application   application

deploy   .

path   jeusadmin   node   path   deploy

node   path   .

-local AppDD

deploy   application archive   jeus-application-dd.xml

. jeus-application-dd.xml   JEUS

Server   .

-writeAppDD

deploy   jeus-application-dd.xml   container

application archive   .

deploy   -absolute-path   -auto

deploy   -localAppDD   .

-class-ftp-unit JAR|CLASS

application   EJB   remote   JAR

file   ,   CLASS   ..

-auto

application   auto-deploy   .

-module_name

deploy   application module name   .

B.4.2 undeploy –

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

options:

-con container_name

undeploy   container name   .   node
container   undeploy   .

`-mod module_type`

module type   .

`-per`

application   permanent deploymet(   )
.   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   .

`-module_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   .

`-module_name`

    stop   application module name   .

B.4.5 reload –

`reload`   `module_name`

                        .   deploy   ,
          application   undeploy   deploy   .
  option   undeploy   deploy   redeploy
          .

options:

-module_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   .

-module_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>

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  </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: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>
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