

9.6. Geronimo 2.0 JNDI

9.5. EJB



9.7. JCA

Java Naming and Directory Interface (JNDI) Apache GeronimoEnterprise Java Beans (EJBs)Java

Apache Geronimo JNDI naming and Java resource connection pools, Part 1: Data source connections. URL: <http://www-128.ibm.com/developerworks/opensource/library/os-ag-jndi1>JNDIJava Messaging Services (JMS)URL

Geronimo 2.0JNDI

Geronimo 1.xGeronimo 2.0

J2EE

Windows XP Professional, Version 5.1.2600 Service Pack 2 Build 2600

Customer Service J2EE

<http://www.ibm.com/developerworks/views/download.jsp?contentid=175237&filename=CustomerService-part1.zip&method=http&locale=worldwide>

1) j2ee.jarclasspath

WebSphere WebLogiclibj2ee.jar classpathant

```
compile:
[javac] Compiling 9 source files to E:\DOWNLOADS\GERONIMO\CustomerService\build\class
[javac] E:\DOWNLOADS\GERONIMO\CustomerService\src\com\service\customer\ejb\Customer.java:6: package javax.ejb
does not exist
[javac] import javax.ejb.EJBObject;
[javac] ^
```

2) Geronimo/Tomcat

TomcatJetty(geronimo-jetty6-jee5-2.0-M1)Geronimo Server Console | Services | Database Pools | Database "Database Types"

3) (CustomerServicePool)

Tomcat"Derby embedded"<GERONIMO_HOME>\var\log\geronimo.log

```

14:20:19,687 ERROR [DatabasePoolPortlet] Unable to save connection pool
javax.enterprise.deploy.spi.exceptions.InvalidModuleException: Not supported
at org.apache.geronimo.deployment.plugin.jmx.JMXDeploymentManager.createConfiguration(JMXDeploymentManager.java:
297)
at org.apache.geronimo.console.databasesmanager.wizard.DatabasePoolPortlet.save(DatabasePoolPortlet.java:880)
at org.apache.geronimo.console.databasesmanager.wizard.DatabasePoolPortlet.processAction(DatabasePoolPortlet.
java:341)
at org.apache.pluto.core.PortletServlet.dispatch(PortletServlet.java:229)
at org.apache.pluto.core.PortletServlet.doPost(PortletServlet.java:163)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:713)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:806)
at org.apache.pluto.core.PortletServlet.service(PortletServlet.java:153)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:290)
at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:206)
at org.apache.catalina.core.ApplicationDispatcher.invoke(ApplicationDispatcher.java:683)
at org.apache.catalina.core.ApplicationDispatcher.doInclude(ApplicationDispatcher.java:585)
at org.apache.catalina.core.ApplicationDispatcher.include(ApplicationDispatcher.java:505)
at org.apache.pluto.invoker.impl.PortletInvokerImpl.invoke(PortletInvokerImpl.java:120)
at org.apache.pluto.invoker.impl.PortletInvokerImpl.action(PortletInvokerImpl.java:68)
at org.apache.pluto.PortletContainerImpl.processPortletAction(PortletContainerImpl.java:164)
at org.apache.pluto.portalImpl.core.PortletContainerWrapperImpl.processPortletAction
(PortletContainerWrapperImpl.java:82)
at org.apache.pluto.portalImpl.Servlet.doGet(Servlet.java:227)
at org.apache.pluto.portalImpl.Servlet.doPost(Servlet.java:267)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:713)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:806)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:290)
at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:206)
at org.apache.catalina.core.StandardWrapperValve.invoke(StandardWrapperValve.java:228)
at org.apache.catalina.core.StandardContextValve.invoke(StandardContextValve.java:175)
at org.apache.geronimo.tomcat.valve.DefaultSubjectValve.invoke(DefaultSubjectValve.java:56)
at org.apache.catalina.authenticator.AuthenticatorBase.invoke(AuthenticatorBase.java:525)
at org.apache.geronimo.tomcat.GeronimoStandardContext$SystemMethodValve.invoke(GeronimoStandardContext.java:325)
at org.apache.geronimo.tomcat.valve.GeronimoBeforeAfterValve.invoke(GeronimoBeforeAfterValve.java:47)
at org.apache.catalina.core.StandardHostValve.invoke(StandardHostValve.java:128)
at org.apache.catalina.valves.ErrorReportValve.invoke(ErrorReportValve.java:105)
at org.apache.catalina.core.StandardEngineValve.invoke(StandardEngineValve.java:109)
at org.apache.catalina.valves.AccessLogValve.invoke(AccessLogValve.java:542)
at org.apache.catalina.connector.CoyoteAdapter.service(CoyoteAdapter.java:212)
at org.apache.coyote.http11.Http11Processor.process(Http11Processor.java:818)
at org.apache.coyote.http11.Http11Protocol$Http11ConnectionHandler.process(Http11Protocol.java:624)
at org.apache.tomcat.util.net.JIoEndpoint$Worker.run(JIoEndpoint.java:445)
at java.lang.Thread.run(Thread.java:595)

```

3.a)

Geronimo"Derby embedded"

(CustomerServicePool_test_plan.xml)

```

<?xml version="1.0" encoding="UTF-8"?>
<connector xmlns="http://geronimo.apache.org/xml/ns/j2ee/connector-1.2">
  <dep:environment xmlns:dep="http://geronimo.apache.org/xml/ns/deployment-1.2">
    <dep:moduleId>
      <dep:groupId>console.dbpool</dep:groupId>
      <dep:artifactId>CustomerServicePool</dep:artifactId>
      <dep:version>2.0</dep:version>
      <dep:type>rar</dep:type>
    </dep:moduleId>
    <dep:dependencies>
      <dep:dependency>
        <dep:groupId>org.apache.derby</dep:groupId>
        <dep:artifactId>derby</dep:artifactId>
        <dep:version>10.1.3.1</dep:version>
        <dep:type>jar</dep:type>
      </dep:dependency>
    </dep:dependencies>
  </dep:environment>
  <resourceadapter>
    <outbound-resourceadapter>
      <connection-definition>
        <connectionfactory-interface>javax.sql.DataSource</connectionfactory-interface>
        <connectiondefinition-instance>
          <name>CustomerServicePool</name>
          <config-property-setting name="Driver">org.apache.derby.jdbc.EmbeddedDriver</config-
property-setting>
          <config-property-setting name="ConnectionURL">jdbc:derby:CustomerServiceDatabase</config-
property-setting>
          <connectionmanager>
            <local-transaction/>
            <single-pool>
              <max-size>10</max-size>
              <min-size>0</min-size>
              <match-one/>
            </single-pool>
          </connectionmanager>
        </connectiondefinition-instance>
      </connection-definition>
    </outbound-resourceadapter>
  </resourceadapter>
</connector>

```

<GERONIMO_HOME>\bin

deploy --verbose --user system --password manager deploy D:\appsData\GERONIMO\JNDIApp\CustomerService.ear

3.b) CustomerServicePool

deploy

```

Using GERONIMO_BASE:  C:\GERONIMO
Using GERONIMO_HOME:  C:\GERONIMO
Using GERONIMO_TMPDIR: C:\GERONIMO\var\temp
Using JRE_HOME:        C:\Java\Java150_10\jre
Error: Unable to distribute CustomerService.ear: Unable to create
configuration for deployment

org.apache.geronimo.common.DeploymentException: Unable to create
configuration for deployment

    at
org.apache.geronimo.deployment.DeploymentContext.createTempConfiguration(DeploymentContext.java:121)

    at
org.apache.geronimo.deployment.DeploymentContext.<init>(DeploymentContext.java:101)

    at
org.apache.geronimo.deployment.DeploymentContext.<init>(DeploymentContext.java:81)

```

```
        at
org.apache.geronimo.j2ee.deployment.EARContext.<init>(EARContext.java:65)

        at
org.apache.geronimo.j2ee.deployment.EARConfigBuilder.buildConfiguration(EARConfigBuilder.java:475)

        at
org.apache.geronimo.j2ee.deployment.EARConfigBuilder$$FastClassByCGLIB$$38e56ec6.invoke(<generated>)

        at net.sf.cglib.reflect.FastMethod.invoke(FastMethod.java:53)

        at
org.apache.geronimo.gbean.runtime.FastMethodInvoker.invoke(FastMethodInvoker.java:38)

        at
org.apache.geronimo.gbean.runtime.GBeanOperation.invoke(GBeanOperation.java:124)

        at
org.apache.geronimo.gbean.runtime.GBeanInstance.invoke(GBeanInstance.java:820)

        at
org.apache.geronimo.gbean.runtime.RawInvoker.invoke(RawInvoker.java:57)

        at
org.apache.geronimo.kernel.basic.RawOperationInvoker.invoke(RawOperationInvoker.java:35)

        at
org.apache.geronimo.kernel.basic.ProxyMethodInterceptor.intercept(ProxyMethodInterceptor.java:96)

        at
org.apache.geronimo.j2ee.deployment.CorbaGBeanNameSource$$EnhancerByCGLIB$$44342279.buildConfiguration
(<generated>)

        at
org.apache.geronimo.deployment.Deployer.deploy(Deployer.java:302)

        at
org.apache.geronimo.deployment.Deployer.deploy(Deployer.java:124)

        at
org.apache.geronimo.deployment.Deployer$$FastClassByCGLIB$$734a235d.invoke(<generated>)

        at net.sf.cglib.reflect.FastMethod.invoke(FastMethod.java:53)

        at
org.apache.geronimo.gbean.runtime.FastMethodInvoker.invoke(FastMethodInvoker.java:38)

        at
org.apache.geronimo.gbean.runtime.GBeanOperation.invoke(GBeanOperation.java:124)

        at
org.apache.geronimo.gbean.runtime.GBeanInstance.invoke(GBeanInstance.java:855)

        at
org.apache.geronimo.kernel.basic.BasicKernel.invoke(BasicKernel.java:239)

        at
org.apache.geronimo.kernel.KernelGBean.invoke(KernelGBean.java:338)

        at
org.apache.geronimo.kernel.KernelGBean$$FastClassByCGLIB$$1cccefc9.invoke(<generated>)

        at net.sf.cglib.reflect.FastMethod.invoke(FastMethod.java:53)

        at
org.apache.geronimo.gbean.runtime.FastMethodInvoker.invoke(FastMethodInvoker.java:38)

        at
org.apache.geronimo.gbean.runtime.GBeanOperation.invoke(GBeanOperation.java:124)
```

```
    at
org.apache.geronimo.gbean.runtime.GBeanInstance.invoke(GBeanInstance.java:855)

    at
org.apache.geronimo.kernel.basic.BasicKernel.invoke(BasicKernel.java:239)

    at
org.apache.geronimo.system.jmx.MBeanGBeanBridge.invoke(MBeanGBeanBridge.java:168)

    at
com.sun.jmx.mbeanserver.DynamicMetaDataImpl.invoke(DynamicMetaDataImpl.java:213)

    at
com.sun.jmx.mbeanserver.MetaDataImpl.invoke(MetaDataImpl.java:220)

    at
com.sun.jmx.interceptor.DefaultMBeanServerInterceptor.invoke(DefaultMBeanServerInterceptor.java:815)

    at
com.sun.jmx.mbeanserver.JmxMBeanServer.invoke(JmxMBeanServer.java:784)

    at
javax.management.remote.rmi.RMIConnectionImpl.doOperation(RMIConnectionImpl.java:1408)

    at
javax.management.remote.rmi.RMIConnectionImpl.access$100(RMIConnectionImpl.java:81)

    at
javax.management.remote.rmi.RMIConnectionImpl$PrivilegedOperation.run(RMIConnectionImpl.java:1245)

    at java.security.AccessController.doPrivileged(Native Method)

    at
javax.management.remote.rmi.RMIConnectionImpl.doPrivilegedOperation(RMIConnectionImpl.java:1348)

    at
javax.management.remote.rmi.RMIConnectionImpl.invoke(RMIConnectionImpl.java:782)

    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)

    at
sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:39)

    at
sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:25)

    at java.lang.reflect.Method.invoke(Method.java:585)

    at
sun.rmi.server.UnicastServerRef.dispatch(UnicastServerRef.java:294)

    at sun.rmi.transport.Transport$1.run(Transport.java:153)

    at java.security.AccessController.doPrivileged(Native Method)

    at sun.rmi.transport.Transport.serviceCall(Transport.java:149)

    at
sun.rmi.transport.tcp.TCPTransport.handleMessages(TCPTransport.java:466)

    at
sun.rmi.transport.tcp.TCPTransport$ConnectionHandler.run(TCPTransport.java:707)

    at java.lang.Thread.run(Thread.java:595)
```

Caused by: org.apache.geronimo.kernel.config.LifecycleException:
load of default/CustomerService/1.0/ear failed

```
    at
org.apache.geronimo.kernel.config.SimpleConfigurationManager.loadConfiguration(SimpleConfigurationManager.
java:322)
```

```

        at
        org.apache.geronimo.deployment.DeploymentConfigurationManager.loadConfiguration
(DeploymentConfigurationManager.java:115)

        at
        org.apache.geronimo.kernel.config.SimpleConfigurationManager.loadConfiguration(SimpleConfigurationManager.
java:281)

        at
        org.apache.geronimo.deployment.DeploymentConfigurationManager.loadConfiguration
(DeploymentConfigurationManager.java:111)

        at
        org.apache.geronimo.deployment.DeploymentContext.createTempConfiguration(DeploymentContext.java:118)

        ... 50 more

Caused by: org.apache.geronimo.kernel.config.InvalidConfigException:
Error starting configuration gbean default/CustomerService/1.0/ear

        at
        org.apache.geronimo.kernel.config.SimpleConfigurationManager.load(SimpleConfigurationManager.java:347)

        at
        org.apache.geronimo.deployment.DeploymentConfigurationManager.load(DeploymentConfigurationManager.java:119)

        at
        org.apache.geronimo.kernel.config.SimpleConfigurationManager.loadConfiguration(SimpleConfigurationManager.
java:307)

        ... 54 more

Caused by:
org.apache.geronimo.kernel.repository.MissingDependencyException:
Unable to resolve dependency
console.dbpool/CustomerServicePool/1.0/rar

        at
        org.apache.geronimo.kernel.config.ConfigurationResolver.resolve(ConfigurationResolver.java:112)

        at
        org.apache.geronimo.kernel.config.Configuration.buildClassPath(Configuration.java:402)

        at
        org.apache.geronimo.kernel.config.Configuration.createConfigurationClassssLoader(Configuration.java:324)

        at
        org.apache.geronimo.kernel.config.Configuration.<init>(Configuration.java:268)

        at
        org.apache.geronimo.kernel.config.SimpleConfigurationManager.load(SimpleConfigurationManager.java:343)

        ... 56 more

```

```

Caused by:
org.apache.geronimo.kernel.repository.MissingDependencyException:
Unable to resolve dependency
console.dbpool/CustomerServicePool/1.0/rar

```

(1.0)the CustomerServicePool (a Derby embedded database pool)

3.c) Dependency

CustomerEJB-openejb.xmldependencies"dep:version""1.0" "2.0"

```
<?xml version="1.0" encoding="UTF-8"?>

<openejb-jar xmlns="http://www.openejb.org/xml/ns/openejb-jar-2.1"
             xmlns:naming="http://geronimo.apache.org/xml/ns/naming-1.1">

  <dep:environment xmlns:dep="http://geronimo.apache.org/xml/ns/deployment-1.1">
    <dep:moduleId>
      <dep:groupId>default</dep:groupId>
      <dep:artifactId>CustomerEJB</dep:artifactId>
      <dep:version>1.0</dep:version>
      <dep:type>jar</dep:type>
    </dep:moduleId>

    <dep:dependencies>
      <dep:dependency>
        <dep:groupId>console.dbpool</dep:groupId>
        <dep:artifactId>CustomerServicePool</dep:artifactId>
        <dep:version>2.0</dep:version>
        <dep:type>rar</dep:type>
      </dep:dependency>
    </dep:dependencies>
    . . .
  </dep:environment>
</openejb-jar>
```



Apache Derby

```
<?xml version="1.0" encoding="UTF-8"?>
<connector xmlns="http://geronimo.apache.org/xml/ns/j2ee/connector-1.2">
  <dep:environment xmlns:dep="http://geronimo.apache.org/xml/ns/deployment-1.2">
    <dep:dependencies>
      <dep:dependency>
        <dep:groupId>org.apache.derby</dep:groupId>
        <dep:artifactId>derby</dep:artifactId>
        <dep:version>10.1.3.1</dep:version>
        <dep:type>jar</dep:type>
      </dep:dependency>
    </dep:dependencies>
  </dep:environment>
  ...
</connector>
```

```
<?xml version="1.0" encoding="UTF-8"?>
<connector xmlns="http://geronimo.apache.org/xml/ns/j2ee/connector-1.2">
  <dep:environment xmlns:dep="http://geronimo.apache.org/xml/ns/deployment-1.2">
    <dep:dependencies>
      <dep:dependency>
        <dep:groupId>org.apache.geronimo.configs</dep:groupId>
        <dep:artifactId>system-database</dep:artifactId>
        <dep:type>car</dep:type>
      </dep:dependency>
    </dep:dependencies>
  </dep:environment>
  ...
</connector>
```

<GERONIMO_HOME>\bin

```
deploy --verbose --user system --password manager deploy D:\appsData\GERONIMO\JNDIApp\CustomerService.ear
```

3.d)

application.xmlGeronimo 2.0

delploy geronimo.log

```
Deployer operation failed: Could not parse application.xml
org.apache.geronimo.common.DeploymentException: Could not parse application.xml
    at org.apache.geronimo.j2ee.deployment.EARConfigBuilder.getEarPlan(EARConfigBuilder.java:314)
    at org.apache.geronimo.j2ee.deployment.EARConfigBuilder.getDeploymentPlan(EARConfigBuilder.java:261)
    at org.apache.geronimo.j2ee.deployment.EARConfigBuilder$$FastClassByCGLIB$$38e56ec6.invoke(<generated>)
    at net.sf.cglib.reflect.FastMethod.invoke(FastMethod.java:53)
    at org.apache.geronimo.gbean.runtime.FastMethodInvoker.invoke(FastMethodInvoker.java:38)
    at org.apache.geronimo.gbean.runtime.GBeanOperation.invoke(GBeanOperation.java:124)
    at org.apache.geronimo.gbean.runtime.GBeanInstance.invoke(GBeanInstance.java:820)
    at org.apache.geronimo.gbean.runtime.RawInvoker.invoke(RawInvoker.java:57)
    at org.apache.geronimo.kernel.basic.RawOperationInvoker.invoke(RawOperationInvoker.java:35)
    at org.apache.geronimo.kernel.basic.ProxyMethodInterceptor.intercept(ProxyMethodInterceptor.java:96)
    at org.apache.geronimo.j2ee.deployment.CorbaGBeanNameSource$$EnhancerByCGLIB$$44342279.getDeploymentPlan
(<generated>)
    at org.apache.geronimo.deployment.Deployer.deploy(Deployer.java:232)
    at org.apache.geronimo.deployment.Deployer.deploy(Deployer.java:124)
    at org.apache.geronimo.deployment.Deployer$$FastClassByCGLIB$$734a235d.invoke(<generated>)
    at net.sf.cglib.reflect.FastMethod.invoke(FastMethod.java:53)
    at org.apache.geronimo.gbean.runtime.FastMethodInvoker.invoke(FastMethodInvoker.java:38)
    at org.apache.geronimo.gbean.runtime.GBeanOperation.invoke(GBeanOperation.java:124)
    at org.apache.geronimo.gbean.runtime.GBeanInstance.invoke(GBeanInstance.java:855)
    at org.apache.geronimo.kernel.basic.BasicKernel.invoke(BasicKernel.java:239)
    at org.apache.geronimo.deployment.plugin.local.AbstractDeployCommand.doDeploy(AbstractDeployCommand.
java:114)
    at org.apache.geronimo.deployment.plugin.local.DistributeCommand.run(DistributeCommand.java:60)
    at java.lang.Thread.run(Thread.java:595)
Caused by: org.apache.xmlbeans.XmlException: Invalid deployment descriptor: [error: cvc-complex-type.2.4a:
Expected element 'module@http://java.sun.co
m/xml/ns/j2ee' instead of 'description@http://java.sun.com/xml/ns/j2ee' here in element application@http://java.
sun.com/xml/ns/j2ee]
Descriptor: <application xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee http://java.sun.com/xml/ns/j2ee
/application_1_4.xsd" version="1.4" xmlns=
"http://java.sun.com/xml/ns/j2ee" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <display-name>Customer Service utility</display-name>
  <description>Customer Service utility</description>
  <module>
    <web>
      <web-uri>CustomerService-web.war</web-uri>
      <context-root>/service</context-root>
    </web>
  </module>
  <module>
    <ejb>CustomerEJB.jar</ejb>
  </module>
  <module>
    <ejb>ProcessCustomerEJB.jar</ejb>
  </module>
</application>
    at org.apache.geronimo.deployment.xmlbeans.XmlBeansUtil.validateDD(XmlBeansUtil.java:213)
    at org.apache.geronimo.j2ee.deployment.EARConfigBuilder.convertToApplicationSchema(EARConfigBuilder.
java:420)
    at org.apache.geronimo.j2ee.deployment.EARConfigBuilder.getEarPlan(EARConfigBuilder.java:312)
    ... 21 more
```

application.xml" description="" display-name"CustomerService.ear application.xml


```

<?xml version="1.0" ?>
<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">
    <display-name>Customer Service utility</display-name>

    <module>
        <web>
            <web-uri>CustomerService-web.war</web-uri>
            <context-root>/service</context-root>
        </web>
    </module>

    <module>
        <ejb>CustomerEJB.jar</ejb>
    </module>

    <module>
        <ejb>ProcessCustomerEJB.jar</ejb>
    </module>
</application>

```

CustomerService.ear

deploy --verbose --user system --password manager deploy D:\appsData\GERONIMO\JNDIApp\CustomerService.ear

4)

- Geronimo Server Console | Applications | Deploy New
- <Browse>CustomerService.ear
- <Install>
- <http://localhost:8080/service/customers/>

Geronimo 2.0J2EE

- 1) j2ee.jarclasspath
- 2) Geronimo/Tomcat
- 3) (CustomerServicePool)
 - a.
 - b. CustomerServicePool
 - c. Dependency
 - d.
- 4)