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# JBoss EAP 6.x - Standalone Session Clustering

: <http://blog.beany.co.kr/archives/3971>

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- CentOS 6.5
- JBoss EAP 6.2.0
- Sun JDK 7

## Kernel/TCP Parameter

OS	JBoss	Socket Buffer	WARN	가
----	-------	---------------	------	---

TCP Parameter

Parameter

```
sysctl -w net.core.rmem_default=26214400
sysctl -w net.core.wmem_default=1048576
sysctl -w net.core.rmem_max=26214400
sysctl -w net.core.wmem_max=1048576
```

TCP Parameter

```
net.core.wmem_max = 1048576
net.core.rmem_max = 26214400
net.core.rmem_default = 26214400
net.core.wmem_default = 1048576
```

```
yum -y install unzip
```

JBoss (wasadmin) (wasadmin)

```
groupadd wasadmin  
useradd -M -g wasadmin wasadmin
```

JBoss (<http://www.jboss.org/jbossas/downloads>) JBoss EAP 6.2.0 GA

JBoss

```
/app/jboss-as └─ jboss-eap-6.2  
                └─ nodes └─ node01  
                            └─ node02  
                              ...  
/app/webapps/deployments  
/var/log/jboss-as
```

Standalone

```
mkdir -p /app/jboss-as/nodes
```

Web Application

```
mkdir -p /app/webapps/deployments
```

# JBoss

## JBoss Server

JBoss

```
cp jboss-eap-6.2.0.zip /app/jboss-as
cd /app/jboss-as
unzip jboss-eap-6.2.0.zip
```

JBoss

```
rm -f /app/jboss-as/jboss-eap-6.2.0.zip
```

## JBoss Clustering Node

Node

```
mkdir -p /var/log/jboss-as
```

## Standalone Node

JBoss

standalone

```
cp -R /app/jboss-as/jboss-eap-6.2/standalone /app/jboss-as/nodes
mv /app/jboss-as/nodes/standalone /app/jboss-as/nodes/node01
```

## Shell Script

JBoss Clustering Node

**jboss-env.conf -**

JBoss Node

jboss-env.conf

```
vi /app/jboss-as/nodes/node01/jboss-env.conf
```

```
JAVA_HOME=/opt/jdk1.7.0_55

JBOSS_NODE_NAME=node01
JBOSS_PORT_OFFSET=100

JBOSS_USER=wasadmin
JBOSS_HOME=/app/jboss-as/jboss-eap-6.2
JBOSS_NODE_BASE_DIR=/app/jboss-as/nodes

JBOSS_PIDFILE=/var/run/jboss-as/jboss-as- $\$$ JBOSS_NODE_NAME.pid
JBOSS_CONFIG=standalone-ha.xml
JBOSS_BASE_LOG_DIR=/var/log/jboss-as
JBOSS_CONSOLE_LOG= $\$$ JBOSS_BASE_LOG_DIR/ $\$$ JBOSS_NODE_NAME-console.log
JBOSS_GC_LOG= $\$$ JBOSS_BASE_LOG_DIR/ $\$$ JBOSS_NODE_NAME-gc.log

JBOSS_BIND_ADDR=0.0.0.0
JBOSS_MANAGEMENT_ADDR=127.0.0.1
JBOSS_CONTROLLER_IP= $\$$ JBOSS_MANAGEMENT_ADDR
JBOSS_MULTICAST_ADDR=230.0.0.4
JBOSS_JMS_MULTICAST_ADDR=231.7.0.1
JBOSS_MODCLUSTER_MULTICAST_ADDR=224.0.1.105

LAUNCH_JBOSS_IN_BACKGROUND=true

STARTUP_WAIT=30
SHUTDOWN_WAIT=30
```

## **jboss-env.sh -**

```
vi /app/jboss-as/nodes/node01/jboss-env.sh
```

```
#!/bin/sh

DATE=`date +%Y%m%d%H%M%S`
BASE_DIR=$(dirname $0)

export JBOSS_CONF= $\$$ BASE_DIR/jboss-env.conf
```

```
[ -r "$JBASS_CONF" ] && . "${JBASS_CONF}"

let JBASS_CONTROLLER_PORT=9999+$JBASS_PORT_OFFSET
export JBASS_CONTROLLER_PORT

##### JBoss System module and User module directory #####
export JBASS_MODULEPATH=$JBASS_HOME/modules:$JBASS_HOME/modules/ext

# JVM Options : Server
export JAVA_OPTS="-server $JAVA_OPTS"

# JVM Options : Memory
export JAVA_OPTS=" $JAVA_OPTS -Xms1024m -Xmx1024m -XX:MaxPermSize=256m"
export JAVA_OPTS=" $JAVA_OPTS -XX:+PrintGCTimeStamps "
export JAVA_OPTS=" $JAVA_OPTS -XX:+PrintGCDetails "
export JAVA_OPTS=" $JAVA_OPTS -Xloggc:$JBASS_GC_LOG"
export JAVA_OPTS=" $JAVA_OPTS -XX:+UseParallelGC "
#export JAVA_OPTS=" $JAVA_OPTS -XX:+UseConcMarkSweepGC "
export JAVA_OPTS=" $JAVA_OPTS -XX:+ExplicitGCInvokesConcurrent "
export JAVA_OPTS=" $JAVA_OPTS -XX:-HeapDumpOnOutOfMemoryError "

# Linux Large Page Setting
#export JAVA_OPTS=" $JAVA_OPTS -XX:+UseLargePages "
export JAVA_OPTS=" $JAVA_OPTS -verbose:gc"
export JAVA_OPTS=" $JAVA_OPTS -Djava.net.preferIPv4Stack=true"
export JAVA_OPTS=" $JAVA_OPTS -Dorg.jboss.resolver.warning=true"
export JAVA_OPTS=" $JAVA_OPTS -Dsun.rmi.dgc.client.gcInterval=3600000 "
export JAVA_OPTS=" $JAVA_OPTS -Dsun.rmi.dgc.server.gcInterval=3600000"
export JAVA_OPTS=" $JAVA_OPTS -Djboss.modules.system.pkgs=org.jboss.byteman"
export JAVA_OPTS=" $JAVA_OPTS -Djava.awt.headless=true"
export JAVA_OPTS=" $JAVA_OPTS -
Djboss.server.base.dir=$JBASS_NODE_BASE_DIR/$JBASS_NODE_NAME"
export JAVA_OPTS=" $JAVA_OPTS -Djboss.server.log.dir=$JBASS_BASE_LOG_DIR"
export JAVA_OPTS=" $JAVA_OPTS -Djboss.socket.binding.port-
offset=$JBASS_PORT_OFFSET"
export JAVA_OPTS=" $JAVA_OPTS -Djboss.node.name=$JBASS_NODE_NAME"

export JAVA_OPTS=" $JAVA_OPTS -
Djboss.bind.address.management=$JBASS_MANAGEMENT_ADDR"
export JAVA_OPTS=" $JAVA_OPTS -Djboss.bind.address=$JBASS_BIND_ADDR"
#export JAVA_OPTS=" $JAVA_OPTS -Djboss.bind_addr=$JBASS_MULTICAST_ADDR"
#export JAVA_OPTS=" $JAVA_OPTS -Djboss.default.jgroups.stack=tcp"
export JAVA_OPTS=" $JAVA_OPTS -
Djboss.default.multicast.address=$JBASS_MULTICAST_ADDR"
export JAVA_OPTS=" $JAVA_OPTS -
Djboss.messaging.group.address=$JBASS_JMS_MULTICAST_ADDR"
export JAVA_OPTS=" $JAVA_OPTS -
Djboss.modcluster.multicast.address=$JBASS_MODCLUSTER_MULTICAST_ADDR"
export JAVA_OPTS=" $JAVA_OPTS -Dorg.jboss.as.logging.per-deployment=false"
export JAVA_OPTS=" $JAVA_OPTS -Dserver.mode=local"
```

```
export JAVA_OPTS=" $JAVA_OPTS -
Djboss.server.config.user.dir=$JBOSS_DOMAIN_BASE_DIR/$JBOSS_DOMAIN_NAME/conf
figuration"
export JAVA_OPTS=" $JAVA_OPTS -
Djboss.domain.config.user.dir=$JBOSS_DOMAIN_BASE_DIR/$JBOSS_DOMAIN_NAME/conf
figuration"

export LD_LIBRARY_PATH=$LD_LIBRARY_PATH

echo "=====
echo "JAVA_HOME=$JAVA_HOME"
echo "JBOSS_HOME=$JBOSS_HOME"
echo "JBOSS_NODE_NAME=$JBOSS_NODE_NAME"
echo "JBOSS_NODE_BASE_DIR=$JBOSS_NODE_BASE_DIR"
echo "JBOSS_CONFIG=$JBOSS_CONFIG"

echo "JBOSS_BIND_ADDR=$JBOSS_BIND_ADDR"
echo "JBOSS_PORT_OFFSET=$JBOSS_PORT_OFFSET"
echo "JBOSS_MULTICAST_ADDR=$JBOSS_MULTICAST_ADDR"
echo "JBOSS_CONTROLLER=$JBOSS_CONTROLLER_IP:$JBOSS_CONTROLLER_PORT"

echo "JBOSS_PIDFILE=$JBOSS_PIDFILE"
echo "JBOSS_CONSOLE_LOG=$JBOSS_CONSOLE_LOG"
echo "JBOSS_GC_LOG=$JBOSS_GC_LOG"
echo "=====
```

**jboss-run.sh -** ( & )

JBoss Node

```
vi /app/jboss-as/nodes/node01/jboss-run.sh
```

```
#!/bin/sh

BASE_DIR=$(dirname $0)

. $BASE_DIR/jboss-env.sh

if [ "$1" == "xstart" ]; then
  if [ -e $JBOSS_CONSOLE_LOG ]; then
    mv $JBOSS_CONSOLE_LOG $JBOSS_CONSOLE_LOG.$DATE
  fi

  if [ -e $JBOSS_GC_LOG ]; then
```



```
mv $JBASS_GC_LOG $JBASS_GC_LOG.$DATE
fi
fi

$JBASS_HOME/bin/init.d/jboss-as-standalone.sh $1

#tail -f $JBASS_CONSOLE_LOG
```

## **jboss-jconsole.sh - JConsole**

JConsole

```
vi /app/jboss-as/nodes/node01/jboss-jconsole.sh
```

JConsole

```
#!/bin/sh

BASE_DIR=$(dirname $0)

. $BASE_DIR/jboss-env.sh

echo "=====
echo " JMX URL : service:jmx:remoting-
jmx://$JBASS_MANAGEMENT_ADDR:$JBASS_CONTROLLER_PORT"
echo "=====

$JBASS_HOME/bin/jconsole.sh
```

## **jboss-cli.sh - CLI**

CLI

```
vi /app/jboss-as/nodes/node01/jboss-cli.sh
```

CLI

```
#!/bin/sh

BASE_DIR=$(dirname $0)

. $BASE_DIR/jboss-env.sh
```

```
export JAVA_OPTS=" -Djava.awt.headless=false $JAVA_OPTS"

$JBOSS_HOME/bin/jboss-cli.sh --
controller=$JBOSS_CONTROLLER_IP:$JBOSS_CONTROLLER_PORT --connect @$
```

```
chmod 755 /app/jboss-as/nodes/node01/*.sh
```

Standalone          Clustering          standalone-ha.xml

```
vi /app/jboss-as/nodes/node01/configuration/standalone-ha.xml
```

가

- deployment-scanner → path : Web Application
- deployment-scanner → scan-interval : path (Web Application ) (1/1000 ) 0
- deployment-scanner → auto-deploy-exploded : true war
- instance-id : jvmRoute , \${jboss.node.name}
- enable-welcome-root : ROOT Context false . true  
Root Context JBoss Content

```
<?xml version='1.0' encoding='UTF-8'?>
<server xmlns="urn:jboss:domain:1.5">
~~~~~
<profile>
~~~~~
<subsystem xmlns="urn:jboss:domain:deployment-scanner:1.1">
  <!--
    <deployment-scanner path="deployments" relative-
to="jboss.server.base.dir" scan-interval="5000"/>
  -->
  <deployment-scanner path="/app/webapps/deployments" scan-
```

```

interval="0" auto-deploy-exploded="true" />

    </subsystem>

    <subsystem xmlns="urn:jboss:domain:web:1.5" default-virtual-
server="default-host" instance-id="{jboss.node.name}" native="false">
        <connector name="http" protocol="HTTP/1.1" scheme="http" socket-
binding="http"/>
        <connector name="ajp" protocol="AJP/1.3" scheme="http" socket-
binding="ajp"/>
        <virtual-server name="default-host" enable-welcome-root="false">
            <alias name="localhost"/>
            <alias name="example.com"/>
        </virtual-server>
    </subsystem>

    ~~~~~

</profile>

~~~~~

</server>

```

## JBoss Clustering Node 가

Clustering Node 가

### Standalone Node

JBoss Home standalone Node

/app/jboss-as/nodes/node01 가 /app/jboss-  
as/nodes/node02

```

cp -R /app/jboss-as/jboss-eap-6.2/standalone /app/jboss-as/nodes
mv /app/jboss-as/nodes/standalone /app/jboss-as/nodes/node02

```

/app/jboss-as/nodes/node01

Node

```

cp /app/jboss-as/nodes/node01/*.sh /app/jboss-as/nodes/node01/*.conf
/app/jboss-as/nodes/node02

```

## jboss-env.conf

```
vi /app/jboss-as/nodes/node02/jboss-env.conf
```

```
JAVA_HOME=/opt/jdk1.7.0_55

JBOSS_NODE_NAME=node02
JBOSS_PORT_OFFSET=200

JBOSS_USER=wasadmin
JBOSS_HOME=/app/jboss-as/jboss-eap-6.2
JBOSS_NODE_BASE_DIR=/app/jboss-as/nodes

JBOSS_PIDFILE=/var/run/jboss-as/jboss-as- $\$$ JBOSS_NODE_NAME.pid
JBOSS_CONFIG=standalone-ha.xml
JBOSS_BASE_LOG_DIR=/var/log/jboss-as
JBOSS_CONSOLE_LOG= $\$$ JBOSS_BASE_LOG_DIR/ $\$$ JBOSS_NODE_NAME-console.log
JBOSS_GC_LOG= $\$$ JBOSS_BASE_LOG_DIR/ $\$$ JBOSS_NODE_NAME-gc.log

JBOSS_BIND_ADDR=0.0.0.0
JBOSS_MANAGEMENT_ADDR=127.0.0.1
JBOSS_CONTROLLER_IP= $\$$ JBOSS_MANAGEMENT_ADDR
JBOSS_MULTICAST_ADDR=230.0.0.4
JBOSS_JMS_MULTICAST_ADDR=231.7.0.1
JBOSS_MODCLUSTER_MULTICAST_ADDR=224.0.1.105

LAUNCH_JBOSS_IN_BACKGROUND=true

STARTUP_WAIT=30
SHUTDOWN_WAIT=30
```

```
Node    standalone-ha.xml
```

```
cp /app/jboss-as/nodes/node01/configuration/standalone-ha.xml /app/jboss-as/nodes/node02/configuration/
```

## Node Shell Script

JBoss Node

```
cd /app/jboss-as/nodes
```

### all-run.sh -

run-all.sh

```
vi /app/jboss-as/nodes/all-run.sh
```

Shell Script

```
#!/bin/sh

if [ "x$1" == "x" ]; then
    exit 0
fi

BAKIFS=$IFS;
IFS=' , ';

BASE_NODE_DIR=$(dirname $0)
WAIT=3

nodes="node01,node02";
nodeArray=( $nodes );

for ((i=0; i<${#nodeArray[@]}; ++i));
do
    echo ">>> Run Node : ${nodeArray[$i]}";

    runScript="${BASE_NODE_DIR}/${nodeArray[$i]}/jboss-run.sh $1";
    eval $runScript

    sleep $WAIT
done

IFS=$BAKIFS;
```

### all-start.sh -

Shell Script

```
vi /app/jboss-as/nodes/all-start.sh
```

Shell Script

```
#!/bin/sh  
  
BASE_NODE_DIR=$(dirname $0)  
  
$BASE_NODE_DIR/all-run.sh start
```

### **all-stop.sh -**

Shell Script

```
vi /app/jboss-as/nodes/all-stop.sh
```

Shell Script

```
#!/bin/sh  
  
BASE_NODE_DIR=$(dirname $0)  
  
$BASE_NODE_DIR/all-run.sh stop
```

### **all-restart.sh -**

Shell Script

```
vi /app/jboss-as/nodes/all-restart.sh
```

Shell Script

```
#!/bin/sh  
  
BASE_NODE_DIR=$(dirname $0)  
  
$BASE_NODE_DIR/all-run.sh restart
```

## all-log.sh -

Shell Script

```
vi /app/jboss-as/nodes/all-log.sh
```

Shell Script

```
#!/bin/sh  
tail -n 50 -f /var/log/jboss-as/node*-console.log
```

```
chmod 755 /app/jboss-as/nodes/*.sh
```

JBoss

```
chown -R wasadmin:wasadmin /app/jboss-as /app/webapps /var/log/jboss-as
```

# Clustering Sample Application

Sample Application

```
mkdir -p /app/webapps/deployments/clustering.war/WEB-INF
```

## web.xml

web.xml

```
vi /app/webapps/deployments/clustering.war/WEB-INF/web.xml
```

## web.xml

- `<distributable/>` : Web Application Session Clustering

```
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd"
version="3.0">

  <display-name>JBoss Sample Web App</display-name>
  <welcome-file-list>
    <welcome-file>/index.jsp</welcome-file>
  </welcome-file-list>

  <distributable/>

</web-app>
```

## jboss-web.xml

### jboss-web.xml

```
vi /app/webapps/deployments/clustering.war/WEB-INF/jboss-web.xml
```

### jboss-web.xml

- `<context-root>` : Context Path

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

<jboss-web>
  <context-root>clustering</context-root>
</jboss-web>
```

## index.jsp

### index.jsp

```
vi /app/webapps/deployments/clustering.war/index.jsp
```



```
<%@ page session="true" %>

<html>
<head>
  <title>Session Tracking Test</title>
</head>
<body>
<h1>Session Tracking Test</h1>
Session tracking with JSP is easy
<p>
<%
// Get the session data value
Integer ival = (Integer) session.getValue ("counter");

if (ival == null) ival = new Integer (1);
else ival = new Integer (ival.intValue() + 1);
session.putValue ("counter", ival);
%>
<h4>Server Name : <%=session.getId().substring(session.getId().indexOf(".")
+ 1) %></h4>
You have hit this page <%= ival %> times.<br>
<%
out.println("Your Session ID is " + session.getId() + "<br>");
System.out.println("session=" + session.getId() + ", counter=" + ival);
%>
</body>
</html>
```

```
vi /etc/sysconfig/iptables
```

JBoss 가

```
-A INPUT -m state --state NEW -m tcp -p tcp --dport 8180 -j ACCEPT
-A INPUT -m state --state NEW -m tcp -p tcp --dport 8280 -j ACCEPT

-A INPUT -m iprange --src-range 192.168.122.21-192.168.122.23 -p tcp -m tcp
--dport 7600 -j ACCEPT
-A INPUT -m iprange --src-range 192.168.122.21-192.168.122.23 -p tcp -m tcp
--dport 54200 -j ACCEPT
-A INPUT -m iprange --src-range 192.168.122.21-192.168.122.23 -p tcp -m tcp
--dport 57600 -j ACCEPT
```

```
-A INPUT -s 230.0.0.4/32 -p udp -m udp --dport 45688 -j ACCEPT
-A INPUT -s 230.0.0.4/32 -p udp -m udp --dport 45700 -j ACCEPT
-A INPUT -s 224.0.1.105/32 -p udp -m udp --dport 23364 -j ACCEPT
-A INPUT -m iprange --src-range 192.168.122.21-192.168.122.23 -p udp -j
ACCEPT
#-A INPUT -s 192.168.122.0/24 -p udp -j ACCEPT
```

```
service iptables restart
```

## JBoss Cluster Node

JBoss Cluster Node

```
/app/jboss-as/nodes/all-start.sh
```

가

```
>>> Run Node : node01
=====
JAVA_HOME=/opt/jdk1.7.0_55
JBOSS_HOME=/app/jboss-as/jboss-eap-6.2
JBOSS_NODE_NAME=node01
JBOSS_NODE_BASE_DIR=/app/jboss-as/nodes
JBOSS_CONFIG=standalone-ha.xml
JBOSS_BIND_ADDR=0.0.0.0
JBOSS_PORT_OFFSET=100
JBOSS_MULTICAST_ADDR=230.0.0.4
JBOSS_CONTROLLER=127.0.0.1:10099
JBOSS_PIDFILE=/var/run/jboss-as/jboss-as-node01.pid
JBOSS_CONSOLE_LOG=/var/log/jboss-as/node01-console.log
JBOSS_GC_LOG=/var/log/jboss-as/node01-gc.log
=====
Starting jboss-as: [ OK ]
>>> Run Node : node02
=====
JAVA_HOME=/opt/jdk1.7.0_55
JBOSS_HOME=/app/jboss-as/jboss-eap-6.2
JBOSS_NODE_NAME=node02
JBOSS_NODE_BASE_DIR=/app/jboss-as/nodes
```

```

JBOSS_CONFIG=standalone-ha.xml
JBOSS_BIND_ADDR=0.0.0.0
JBOSS_PORT_OFFSET=200
JBOSS_MULTICAST_ADDR=230.0.0.4
JBOSS_CONTROLLER=127.0.0.1:10199
JBOSS_PIDFILE=/var/run/jboss-as/jboss-as-node02.pid
JBOSS_CONSOLE_LOG=/var/log/jboss-as/node02-console.log
JBOSS_GC_LOG=/var/log/jboss-as/node02-gc.log
=====
Starting jboss-as: [ OK ]

```

# Clustering

“node01”

```
tail -n 100 /var/log/jboss-as/node01-console.log
```

Cluster member	node02 가
Cluster member 가 1	node01
Cluster member 가	.

```

17:16:06,477 INFO [org.infinispan.factories.GlobalComponentRegistry]
(ServerService Thread Pool -- 53) ISPN000128: Infinispan version: Infinispan
'Delirium' 5.2.7.Final
17:16:06,507 INFO [org.jboss.as.clustering] (MSC service thread 1-3)
JBAS010238: Number of cluster members: 1
17:16:06,525 INFO [org.infinispan.factories.TransactionManagerFactory]
(ServerService Thread Pool -- 54) ISPN000161: Using a batchMode transaction
manager

~~~~~
~~~~~

17:16:06,972 INFO [org.jboss.as] (Controller Boot Thread) JBAS015961: Http
management interface listening on http://127.0.0.1:10090/management
17:16:06,973 INFO [org.jboss.as] (Controller Boot Thread) JBAS015951: Admin
console listening on http://127.0.0.1:10090
17:16:06,973 INFO [org.jboss.as] (Controller Boot Thread) JBAS015874: JBoss
EAP 6.2.0.GA (AS 7.3.0.Final-redhat-14) started in 7154ms - Started 218 of
348 services (129 services are passive or on-demand)
17:16:15,553 INFO [org.jboss.as.clustering] (Incoming-1,shared=udp)
JBAS010225: New cluster view for partition web (id: 1, delta: 1, merge:
false) : [node01/web, node02/web]
17:16:15,553 INFO
[org.infinispan.remoting.transport.jgroups.JGroupsTransport]
(Incoming-1,shared=udp) ISPN000094: Received new cluster view:

```

[node01/web|1] [node01/web, node02/web]

node02

```
tail -n 100 /var/log/jboss-as/node02-console.log
```

node01	node02	Cluster member
가	.	

```
17:16:15,582 INFO [org.infinispan.remoting.transport.jgroups.JGroupsTransport] (ServerService Thread Pool -- 57) ISPN000094: Received new cluster view: [node01/web|1] [node01/web, node02/web]
17:16:15,686 INFO [org.infinispan.remoting.transport.jgroups.JGroupsTransport] (ServerService Thread Pool -- 57) ISPN000079: Cache local address is node02/web, physical addresses are [0.0.0.0:55400]
17:16:15,694 INFO [org.infinispan.factories.GlobalComponentRegistry] (ServerService Thread Pool -- 57) ISPN000128: Infinispan version: Infinispan 'Delirium' 5.2.7.Final
17:16:15,709 INFO [org.jboss.as.clustering] (MSC service thread 1-2) JBAS010238: Number of cluster members: 2
17:16:15,752 INFO [org.infinispan.factories.TransactionManagerFactory] (ServerService Thread Pool -- 53) ISPN000161: Using a batchMode transaction manager
17:16:15,752 INFO [org.infinispan.factories.TransactionManagerFactory] (ServerService Thread Pool -- 54) ISPN000161: Using a batchMode transaction manager
17:16:15,756 INFO [org.infinispan.factories.TransactionManagerFactory] (ServerService Thread Pool -- 55) ISPN000161: Using a batchMode transaction manager
```

## Clustering Sample Application

Page Hit	가	가	.	"Node01"	"Node02"	가
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## Apache HTTPD Server

Apache HTTPD Server mod\_jk, mod\_cluster, mod\_proxy

## 1 - mod\_jk

JBoss EAP 6.x - Apache HTTPD 2.2.x + mod\_jk 1.2.x Session Clustering

## 2 - mod\_cluster

JBoss EAP 6.x - Apache HTTPD 2.2.x + mod\_cluster 1.2.x Session Clustering

### **JBAS014612 : java.lang.RuntimeException: java.net.UnknownHostException: standalone01: standalone01**

JBoss Node console

```
21:28:41,857 ERROR [org.jboss.as.controller.management-operation]
(ServerService Thread Pool -- 50) JBAS014612: Operation ("add") failed -
address: (["subsystem" => "webservices"]): java.lang.RuntimeException:
java.net.UnknownHostException: standalone01: standalone01
    at
org.jboss.as.webservices.dmr.WSSubsystemAdd.createServerConfig(WSSubsystemAdd
d.java:103)
    at
org.jboss.as.webservices.dmr.WSSubsystemAdd.performBoottime(WSSubsystemAdd.j
ava:88)
    at
org.jboss.as.controller.AbstractBoottimeAddStepHandler.performRuntime(Abstra
ctBoottimeAddStepHandler.java:57) [jboss-as-controller-7.3.0.Final-redhat-14
.jar:7.3.0.Final-redhat-14]
    at
org.jboss.as.controller.AbstractAddStepHandler$1.execute(AbstractAddStepHand
ler.java:76) [jboss-as-controller-7.3.0.Final-redhat-14.jar:7.3.0.Final-
redhat-14]
    at
org.jboss.as.controller.AbstractOperationContext.executeStep(AbstractOperati
onContext.java:607) [jboss-as-controller-7.3.0.Final-redhat-14.jar:7.3.0.Final-
redhat-14]
    at
org.jboss.as.controller.AbstractOperationContext.doCompleteStep(AbstractOper
ationContext.java:485) [jboss-as-controller-7.3.0.Final-redhat-14.jar:7.3.0.Final-
redhat-14]
    at
org.jboss.as.controller.AbstractOperationContext.completeStepInternal(Abstra
```

```
ctOperationContext.java:282) [jboss-as-controller-7.3.0.Final-
redhat-14.jar:7.3.0.Final-redhat-14]
    at
org.jboss.as.controller.AbstractOperationContext.executeOperation(AbstractOp
erationContext.java:277) [jboss-as-controller-7.3.0.Final-
redhat-14.jar:7.3.0.Final-redhat-14]
    at
org.jboss.as.controller.ParallelBootOperationStepHandler$ParallelBootTest.run
(ParallelBootOperationStepHandler.java:343) [jboss-as-
controller-7.3.0.Final-redhat-14.jar:7.3.0.Final-redhat-14]
    at
java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:11
45) [rt.jar:1.7.0_55]
    at
java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:6
15) [rt.jar:1.7.0_55]
        at java.lang.Thread.run(Thread.java:745) [rt.jar:1.7.0_55]
        at org.jboss.threads.JBossThread.run(JBossThread.java:122) [jboss-
threads-2.1.1.Final-redhat-1.jar:2.1.1.Final-redhat-1]
Caused by: java.net.UnknownHostException: standalone01: standalone01
    at java.net.InetAddress.getLocalHost(InetAddress.java:1473)
[rt.jar:1.7.0_55]
    at
org.jboss.ws.common.management.AbstractServerConfig.setWebServiceHost(Abstra
ctServerConfig.java:111)
    at
org.jboss.as.webservices.dmr.WSSubsystemAdd.createServerConfig(WSSubsystemAd
d.java:101)
    ... 12 more
Caused by: java.net.UnknownHostException: standalone01
    at java.net.Inet4AddressImpl.lookupAllHostAddr(Native Method)
[rt.jar:1.7.0_55]
    at java.net.InetAddress$1.lookupAllHostAddr(InetAddress.java:901)
[rt.jar:1.7.0_55]
    at
java.net.InetAddress.getAddressesFromNameService(InetAddress.java:1293)
[rt.jar:1.7.0_55]
        at java.net.InetAddress.getLocalHost(InetAddress.java:1469)
[rt.jar:1.7.0_55]
        ... 14 more
```

JBoss

(standalone01)

. hosts

“/etc/hosts”

```
vi /etc/hosts
```

```
127.0.0.1 localhost localhost.localdomain localhost4  
localhost4.localdomain4  
192.168.0.11 standalone01 #
```

JBoss Server

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