

Tomcat Clsutering

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TCP StaticMembership

StaticMembershipService ()

StaticMembershipInterceptor (9.0.17 -)

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6

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Tomcat Clsutering

— 2024/12/11 13:51



Tomcat 9.x

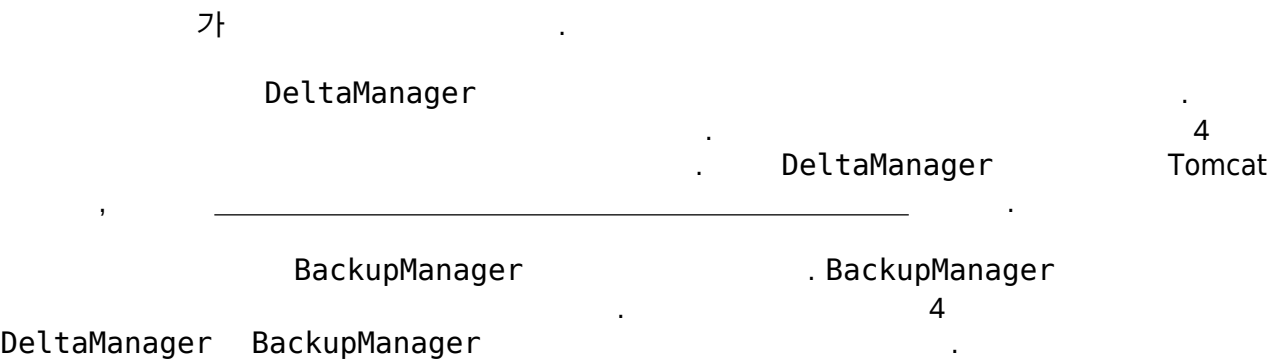
Tomcat 7.x

Tomcat Clustering

<https://tomcat.apache.org/tomcat-9.0-doc/cluster-howto.html>

- web.xml <distributable/>
- Session attributes java.io.Serializable sessionAttributeFilter
- DeltaManager org.apache.catalina.ha.session.ClusterSessionListener가
- DeltaManager 4 . 5 BackupManager
-

```
<Cluster className="org.apache.catalina.ha.tcp.SimpleTcpCluster"/>
```



- 가
- 228.0.0.4 .

- 45564 ()
- IP java.net.InetAddress.getLocalHost().getHostAddress() (127.0.0.1)
- TCP 4000-4100 가
- ClusterSessionListener
- TcpFailureDetector MessageDispatchInterceptor 가

TCP StaticMembership

Multicast가
IGMP가
Static Cluster Membership
Multicast TCP



Tomcat 9.0.17 Membership
StaticMembershipService 가
StaticMember 가 2가

StaticMembershipService ()

1. McastService Membership StaticMembershipService
2. TCPPingInterceptor - StaticMember

```
<Cluster className="org.apache.catalina.ha.tcp.SimpleTcpCluster"
channelSendOptions="6">

  <Manager className="org.apache.catalina.ha.session.DeltaManager"
    expireSessionsOnShutdown="false"
    notifyListenersOnReplication="true"/>

  <Channel className="org.apache.catalina.tribes.group.GroupChannel">
    <!-- multicast membership -->
    <!--
    <Membership
className="org.apache.catalina.tribes.membership.McastService"
      address="${tomcat.cluster.member.address}"
      port="${tomcat.cluster.member.port}"
      frequency="500"
      dropTime="3000"
    />
    -->
    <!-- static membership
9.0.17 가 StaticMembershipService
Interceptor
```

```
-->
  <Membership
className="org.apache.catalina.tribes.membership.StaticMembershipService">
  <Member
className="org.apache.catalina.tribes.membership.StaticMember"
    port="5011"
    host="10.33.0.51"
    uniqueId="{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,1}"/>
  <Member
className="org.apache.catalina.tribes.membership.StaticMember"
    port="5011"
    host="10.33.0.52"
    uniqueId="{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,2}"/>
</Membership>

  <Receiver
className="org.apache.catalina.tribes.transport.nio.NioReceiver"
    address="${tomcat.cluster.receiver.address}"
    port="${tomcat.cluster.receiver.port}"
    autoBind="100"
    selectorTimeout="5000"
    maxThreads="6"
  />

  <Sender
className="org.apache.catalina.tribes.transport.ReplicationTransmitter">
    <Transport
className="org.apache.catalina.tribes.transport.nio.PooledParallelSender"/>
  </Sender>
  <!-- if use StaticMembership enable TcpPingInterceptor -->
  <Interceptor
className="org.apache.catalina.tribes.group.interceptors.TcpPingInterceptor"
/>
  <Interceptor
className="org.apache.catalina.tribes.group.interceptors.TcpFailureDetector"
/>
  <Interceptor
className="org.apache.catalina.tribes.group.interceptors.MessageDispatchInte
rceptor"/>

</Channel>

  <Valve className="org.apache.catalina.ha.tcp.ReplicationValve"
    filter=""/>
  <Valve
className="org.apache.catalina.ha.session.JvmRouteBinderValve"/>
  <!--
  <Deployer className="org.apache.catalina.ha.deploy.FarmWarDeployer"
    tempDir="/tmp/war-temp/"
    deployDir="/tmp/war-deploy/"
    watchDir="/tmp/war-listen/"
```

```
        watchEnabled="false"/>
    -->

    <ClusterListener
className="org.apache.catalina.ha.session.ClusterSessionListener"/>
    </Cluster>
```

- StaticMembershipInterceptor (9.0.17 -
-)
1. McastService Membership

2. TCPPingInterceptor - StaticMember

3. StaticMembershipInterceptor

StaticMembershipInterceptor TCP StaticMember

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```

    <!-- channelSendOptions      6:      8:
8:      Receiver selectorTimeout 5000(5 )
channelStartOptions      가
    -->
    <Cluster className="org.apache.catalina.ha.tcp.SimpleTcpCluster"
channelSendOptions="6">

        <!-- Delta Manager -->
        <Manager className="org.apache.catalina.ha.session.DeltaManager"
expireSessionsOnShutdown="false"
notifyListenersOnReplication="true"/>

        <!-- Backup Manager
        <Manager className="org.apache.catalina.ha.session.BackupManager"
expireSessionsOnShutdown="false"
notifyListenersOnReplication="true"
mapSendOptions="6"/>
    -->

    <Channel
className="org.apache.catalina.tribes.group.GroupChannel">

        <!-- Multicast Member -->
        <!--
        <Membership
className="org.apache.catalina.tribes.membership.McastService"
address="${tomcat.cluster.member.address}"
port="${tomcat.cluster.member.port}"
frequency="500"
dropTime="3000"/>
```

```

-->

    <Receiver
className="org.apache.catalina.tribes.transport.nio.NioReceiver"
    address="${tomcat.cluster.receiver.address}"
    port="${tomcat.cluster.receiver.port}"
    selectorTimeout="100"
    maxThreads="6"/>

    <Sender
className="org.apache.catalina.tribes.transport.ReplicationTransmitter">
        <Transport
className="org.apache.catalina.tribes.transport.nio.PooledParallelSender"/>
    </Sender>

    <!--
        가
    ping
        가
        가
        TcpFailureDetector
    </Interceptor
className="org.apache.catalina.tribes.group.interceptors.TcpPingInterceptor"
/>
    <!--
        가
    ->

    <Interceptor
className="org.apache.catalina.tribes.group.interceptors.TcpFailureDetector"
/>

    <Interceptor
className="org.apache.catalina.tribes.group.interceptors.MessageDispatchInte
rceptor"/>

    <Interceptor
className="org.apache.catalina.tribes.group.interceptors.ThroughputIntercept
or"/>

    <!-- StaticMember
    . -->

    <Interceptor
className="org.apache.catalina.tribes.group.interceptors.StaticMembershipInt
erceptor">
        <!--
            : Tomcat 9.0.17
            가
            <LocalMember>
            <Member>
        , Tomcat
            LocalMember
https://tomcat.apache.org/tomcat-9.0-doc/config/cluster-membership.html#Setting
        -->
        <!--
        <LocalMember

```

```

className="org.apache.catalina.tribes.membership.StaticMember"
        domain="staging-cluster"
uniqueId="{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,1}"/>
        -->

<!--                                -->
        <Member
className="org.apache.catalina.tribes.membership.StaticMember"
        port="4000"
        securePort="-1"
        host="tomcat2"
        domain="staging-cluster"
        uniqueId="{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,2}"/>
    </Interceptor>

</Channel>

<!--                                -->
        <Valve className="org.apache.catalina.ha.tcp.ReplicationValve"
filter=".*\.gif|.*\js|.*\jpeg|.*\jpg|.*\png|.*\htm|.*\html|.*\css|.*\
.txt"/>

        <!-- route                jvmRoute                .
                        route가                jvmRoute                failback
-->
        <Valve
className="org.apache.catalina.ha.session.JvmRouteBinderValve"/>

<!--                                <Host

        <Deployer
className="org.apache.catalina.ha.deploy.FarmWarDeployer"
        tempDir="/tmp/war-temp/"
        deployDir="/tmp/war-deploy/"
        watchDir="/tmp/war-listen/"
        watchEnabled="false"/>
        -->

        <!-- DeltaManager                -->
        <ClusterListener
className="org.apache.catalina.ha.session.ClusterSessionListener"/>
    </Cluster>

```

- <https://tomcat.apache.org/tomcat-9.0-doc/cluster-howto.html>
- <https://tomcat.apache.org/tomcat-9.0-doc/config/cluster-membership.html>
 - tomcatcluster_0.pdf

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<https://atl.kr/dokuwiki/> - **AllThatLinux!**

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