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Tomcat Clustering

— 2024/12/11 13:51



Tomcat 9.x
Tomcat 7.x

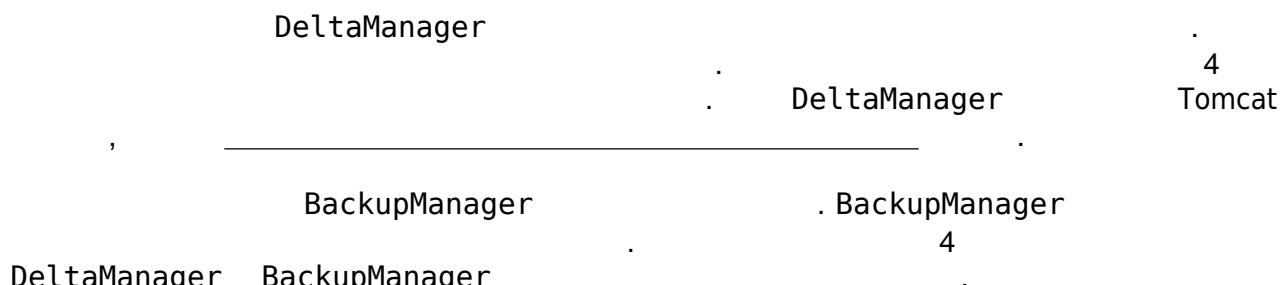
Tomcat Clustering

<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

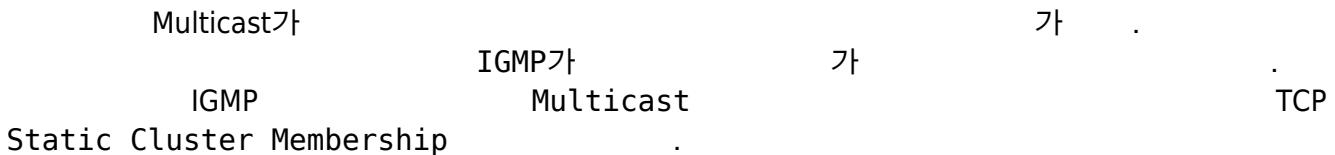


가

- 228.0.0.4

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

TCP StaticMembership



Tomcat 9.0.17 Membership
 StaticMembershipService 가 가
 StaticMember 2가

StaticMembershipService	StaticMembershipInterceptor
<Membership>	<Interceptor>
org.apache.catalina.tribes.membership.StaticMembershipService	org.apache.catalina.tribes.group.interceptors.StaticMembershipInterceptor
().	().
<Member> <LocalMember>	<Member>

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

```
8:         <!-- channelSendOptions      6:          8:  
8:             Receiver  selectorTimeout  5000(5 )  
channelStartOptions  
8:                                     가  
8:  
8:         .  
8:  
8:         -->  
<Cluster className="org.apache.catalina.ha.tcp.SimpleTcpCluster"  
         channelSendOptions="6">  
8:  
8:         <!-- Delta Manager -->  
<Manager className="org.apache.catalina.ha.session.DeltaManager"  
         expireSessionsOnShutdown="false"  
         notifyListenersOnReplication="true"/>  
8:  
8:         <!-- Backup Manager  
<Manager className="org.apache.catalina.ha.session.BackupManager"  
         expireSessionsOnShutdown="false"  
         notifyListenersOnReplication="true"  
         mapSendOptions="6"/>  
8:  
8:         -->  
8:  
8:         <Channel  
sName="org.apache.catalina.tribes.group.GroupChannel">
```



```
        <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          fallback
-->
    <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

From:

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



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https://atl.kr/dokuwiki/doku.php/tomcat_clustering

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