

Servlet TCK 4.0

Running

Tomcat

setenv.[sh|bat]

Set the following system properties

- -Dorg.apache.catalina.STRICT_SERVLET_COMPLIANCE=true
- -Dorg.apache.tomcat.util.http.ServerCookie.FWD_SLASH_IS_SEPARATOR=false
- -Duser.language=en
- -Duser.country=US

context.xml

Make the following changes:

```
<Context crossContext="true" resourceOnlyServlets="jsp">

    <CookieProcessor className="org.apache.tomcat.util.http.LegacyCookieProcessor" alwaysAddExpires="true"
forwardSlashIsSeparator="false" />

    ...

</Context>
```

tomcat-users.xml

Make the following changes:

```
<user username="CN=CTS, OU=Java Software, O=Sun Microsystems Inc., L=Burlington, ST=MA, C=US" roles="
Administrator"/>
<user username="j2ee" password="j2ee" roles="Administrator,Employee" />
<user username="javajoe" password="javajoe" roles="VP,Manager" />
```

server.xml

Enable h2c on port 8080, and add some trailer headers

```
<Connector ... allowedTrailerHeaders="myTrailer, myTrailer2">

    <UpgradeProtocol className="org.apache.coyote.http2.Http2Protocol" />

</Connector>
```

Enable TLS on port 8443

```
<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true">

    <SSLHostConfig truststoreFile="conf/cacerts.jks">

        <Certificate certificateKeystoreFile="conf/clientcert.jks"

            certificateKeystorePassword="changeit"

            type="RSA" />

        </SSLHostConfig>

    </Connector>
```

Remove the lock-out realm

Client certificate tests: see below

Test Suite

Download latest nightly build

https://download.eclipse.org/ee4j/jakartaee-tck/8.0.1/nightly/servlettck-4.0_latest.zip

Extract to `SERVLET_TCK_HOME`

Import `bin/cts_cert` to a truststore doing: `"keytool -import -alias cts -file cts_cert -storetype JKS -keystore cacerts.jks"` password should be "changeit"

Create the truststore using `"keytool -import -alias cts -file cts_cert -storetype JKS -keystore cacerts.jks"` password should be "changeit"

Place `cacerts.jks` truststore in `$SERVLET_TCK_HOME/bin/certificates`

Add `$SERVLET_TCK_HOME/bin/certificates/cacerts.jks` and `$SERVLET_TCK_HOME/bin/certificates/clientcert.jks` in the Tomcat conf folder

Edit `$SERVLET_TCK_HOME/bin/ts.jte`

You'll need to set the following properties (adjust the paths and values for your environment)

```
web.home=/path/to/tomcat
```

```
servlet.classes=${web.home}/lib/servlet-api.jar:${web.home}/lib/annotations-api.jar
```

```
webServerHost=localhost
```

```
webServerPort=8080
```

```
securedWebServicePort=8443
```

```
command.testExecute += -Djava.endorsed.dirs=${ts.home}/endorsedlib -Djavax.net.ssl.trustStore=${ts.home}/bin/certificates/cacerts.jks
```

```
set JAVA_HOME
```

```
cd $SERVLET_TCK_HOME/bin
```

```
ant gui
```

Accept the defaults and then run the tests

Expected results

A default 9.0.x build with the above configuration triggers 10 test failures

2 Expected failures

- 1 x signature test as Tomcat has added a missing `\@Deprecated` annotation
- 1 x default context path test as Tomcat configuration always overrides this

8 TCK bugs

- 1 x case sensitive HTTP header checks
 - <https://github.com/eclipse-ee4j/jakartaee-tck/issues/41>
- 5 * `com/sun/ts/tests/servlet/spec/security/denyUncovered/*` use URLs which don't match the WAR name; it needs to be renamed from `servlet_sec_denyUncovered_web.war` to `servlet_sec_denyUncovered.war` (there is a proprietary descriptor to rectify the mapping on deployment for Glassfish, but it is not portable)
 - <https://github.com/eclipse-ee4j/jakartaee-tck/issues/45>
- 2 * `com/sun/ts/tests/servlet/spec/security/secbasic/client.java#test7[_anno]`
 - Assertion is explained in the common class: <https://github.com/eclipse-ee4j/jakartaee-tck/blob/master/src/com/sun/ts/tests/common/jspServletSec/SecBasicClient.java#L340>
 - I am not aware of this special behavior being mentioned anywhere
 - <https://github.com/eclipse-ee4j/jakartaee-tck/issues/44>

Note the configuration above also works around 3 additional TCK bugs

- 2 x cookie tests assume server is running in `en_US` locale (fixed by `setenv.sh` changes that start Tomcat in that locale)
 - <https://github.com/eclipse-ee4j/jakartaee-tck/issues/46>
- 1 x missing `endorsedLib` configuration (fixed by `command.testExecute` change above)
 - <https://github.com/eclipse-ee4j/jakartaee-tck/issues/39>

1 Tomcat bug has also been fixed as a result of running the TCK

- 1 x Enable a `PushBuilder` to manipulate cookies via HTTP headers