SIP Servlets Application Security

Application security varies depending on the server type used. The following procedures describe how to configure the JBoss AS7 and Tomcat servers to enable Security.

Procedure: Enable SIP Application Security in JBoss AS7

1. Add Security Policy to Server Configuraton

    a. Open the configuration file located in `$JBOSS_HOME/standalone/configuration/standalone-sip.xml`

    b. Append a security domain to the under the `<security-domains>`:

    ```xml
    <security-domain name="sip-servlets">
        <authentication>
            <login-module code="UsersRoles" flag="required">
                <module-option name="usersProperties"
    value="${jboss.server.config.dir}/sip-servlets-users.properties"/>
                <module-option name="rolesProperties"
    value="${jboss.server.config.dir}/sip-servlets-roles.properties"/>
                <module-option name="hashAlgorithm" value="MD5"/>
                <module-option name="hashEncoding" value="RFC2617"/>
                <module-option name="hashUserPassword" value="false"/>
                <module-option name="hashStorePassword" value="true"/>
                <module-option name="passwordIsA1Hash" value="true"/>
                <module-option name="storeDigestCallback"
    value="org.jboss.security.auth.callback.RFC2617Digest"/>
            </login-module>
        </authentication>
    </security-domain>
    ```

2. Create SIP Server User Properties File

    a. Open a terminal and navigate to the `$JBOSS_HOME/standalone/configuration` directory:

    ```
    home]$ cd standalone/configuration
    ```

    b. Create and open a `sip-servlets-users.properties` file and append the user lines to the file:

    ```
    # A sample users.properties file, this line creates user "admin" with
    # password "admin" for "sip-servlets-realm"
    admin=<A1_cryptographic_string>
    ```

    c. To create <A1_cryptographic_string>, execute the following command in a terminal:

    ```
    home]$ java -cp ../../modules/system/layers/base/org/picketbox/main/picketbox-
    4.0.15.Final.jar org.jboss.security.auth.callback.RFC2617Digest admin sip-
    servlets <password>
    ```

    d. Copy the A1 hash, and paste it into the admin parameter in the previous step.

    e. Save and close `sip-servlets-users.properties`.

3. Create the SIP Server Roles File

    a. Create and open `sip-servlets-roles.properties` (using your preferred editor) and append the following information to the file:

```
# A sample roles.properties file for use with some roles
# Each line in this file assigns roles to the users defined in
# sip-servlets-users.properties
admin=caller,role1,role2,..
```

4. Add the Security Domain to the SIP Application

    a. Open the `jboss-web.xml` file for the SIP application to which security is required.

    b. Add the element as a child of the element:

```
<jboss-web>
      <security-domain>sip-servlets</security-domain>
</jboss-web>
```

5. Add Security Constraints to the SIP Application

    a. Open the `sip.xml` file for the SIP application.

    b. Add the element as a child of the element:

```
<security-constraint>
    <display-name>REGISTER Method Security Constraint</display-name>
    <resource-collection>
        <resource-name>SimpleSipServlet</resource-name>
        <description>Require authenticated REGSITER requests</description>
        <servlet-name>SimpleSipServlet</servlet-name>
        <sip-method>REGISTER</sip-method>
    </resource-collection>
    <auth-constraint>
        <role-name>caller</role-name>
    </auth-constraint>
</security-constraint>

<login-config>
    <auth-method>DIGEST</auth-method>
    <realm-name>sip-servlets</realm-name>
 </login-config>
```

Procedure: Enable SIP Application Security in Tomcat Server

1. Activate the Memory Realm in Catalina:

    a. Open a terminal and navigate to the */conf* directory:

```
home]$ cd server/default/<tomcat_home>/conf/
```

b. Open `server.xml` and uncomment the following line:

```
<!--<Realm className="org.apache.catalina.realm.MemoryRealm"/>-->
```

2. Update SIP Server User Properties File

   a. In the */conf* directory, open `tomcat-users.xml` (using your preferred editor) and append the following child element:

```
<user name="user" password="password" roles="caller"/>
```

3. Add Security Constraints to the SIP Application

   a. Open the `sip.xml` file for the SIP application to which security is required.

   b. Add the child element to the element:

```
<security-constraint>
  <display-name>REGISTER Method Security Constraint</display-name>
  <resource-collection>
    <resource-name>SimpleSipServlet</resource-name>
    <description>Require authenticated REGISTER requests</description>
    <servlet-name>SimpleSipServlet</servlet-name>
    <sip-method>REGISTER</sip-method>
  </resource-collection>
  <auth-constraint>
    <role-name>caller</role-name>
  </auth-constraint>
</security-constraint>
<login-config>
  <auth-method>DIGEST</auth-method>
  <realm-name>sip-servlets-realm</realm-name>
</login-config>
```