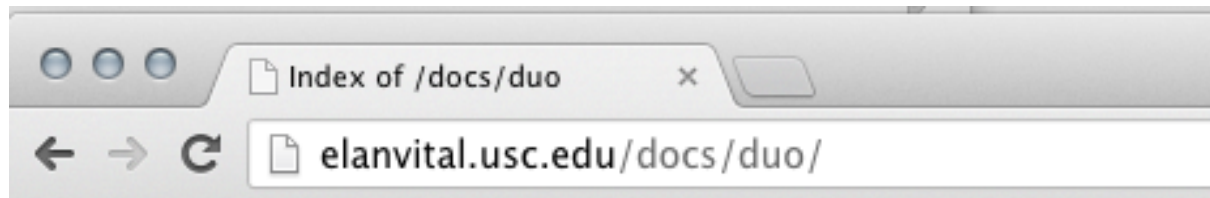


Installation of Duo Security two-factor authN capability into UA IdP (staging instance on [howkan.alaska.edu](http://howkan.alaska.edu))  
see <https://www.duosecurity.com/docs/duoweb>

Russ had previously compiled some of the Duo components needed and made these available at [elanvital.usc.edu/docs/duo](http://elanvital.usc.edu/docs/duo)



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 <a href="#">Duo-Web-v1.bundled.js</a>	11-Oct-2013 13:47	211K	
 <a href="#">Duo-Web-v1.bundled.min.js</a>	11-Oct-2013 13:47	72K	
 <a href="#">Duo-Web-v1.js</a>	11-Oct-2013 13:47	11K	
 <a href="#">Duo-Web-v1.min.js</a>	11-Oct-2013 13:47	2.1K	
 <a href="#">duo.jar</a>	11-Oct-2013 13:32	12K	
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 <a href="#">twofactor-login-hand.js</a>	11-Oct-2013 13:32	14K	
 <a href="#">twofactor-login-hand.min.js</a>	11-Oct-2013 13:38	14K	

Jars bundled with jquery support:

Duo-Web-v1.bundled.js

Duo-Web-v1.bundled.min.js <-- same code as Duo-Web-v1.bundled.js but in compact form w/o spacing for human readability

Jars without bundled jquery support (for installations where jquery already installed / in use)

Duo-Web-v1.js

Duo-Web-v1.min.js <-- same code as Duo-Web-v1.js but in compact form w/o spacing for human readability

duo.jar

duo.jsp

twofactor-login-handler-0.1.jar

twofactor-login-handler-0.2.jar

(1) **duo.jar** and **twofactor-login-handler-0.2.jar** copied into /opt/tomcat/shibboleth-identityprovider-2.3.8/shibboleth-identityprovider-2.3.8/lib <-- IdP installation directory

(2) **duo.jsp** copied into /opt/tomcat/shibboleth-identityprovider-2.3.8/shibboleth-identityprovider-2.3.8/src/main/webapp/ <-- server pages

(3) create directory for java script under webapp; copy **Duo-Web-v1.bundled.js** into .../src/main/webapp/script

(4) edit web.xml in /opt/tomcat/shibboleth-identityprovider-2.3.8/shibboleth-identityprovider-2.3.8/src/main/webapp/WEB-INF/

```
<!-- Servlet for two-factor login handler -->
<servlet>
  <servlet-name>TwoFactorLoginHandler</servlet-name>
  <servlet-class>com.duosecurity.shibboleth.idp.twofactor.TwoFactorLoginServlet</servlet-class>
  <init-param>
    <param-name>authnMethod</param-name>
    <param-value>urn:alaska.edu:ac:classes>PasswordProtectedTransport:duo</param-value>
  </init-param>
  <load-on-startup>4</load-on-startup>
</servlet>

<servlet-mapping>
  <servlet-name>TwoFactorLoginHandler</servlet-name>
  <url-pattern>/Authn/DuoUserPassword</url-pattern>
</servlet-mapping>
```

(5) edit handler.xml (/opt/shibboleth-idp/conf/handler.xml) to add namespace & classes to support duo login handler

(a)

```
<ProfileHandlerGroup
  xmlns="urn:mace:shibboleth:2.0:idp:profile-handler"
  xmlns:twofactor="http://duosecurity.com/2012/shibboleth/idp/twofactor"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:mace:shibboleth:2.0:idp:profile-handler classpath:/schema/
shibboleth-2.0-idp-profile-handler.xsd http://duosecurity.com/2012/shibboleth/idp/
twofactor classpath:/schema/shibboleth-2.0-idp-twofactor-login-handler.xsd">
```

(b)

```
<LoginHandler xsi:type="twofactor:TwoFactorLogin"
  jaasConfigurationLocation="file:///opt/shibboleth-idp/conf/login.config"
  <!-- following keys set up as part of configuring Duo Security API; akey is
40 character key set by UA -->
  skey="....."
  ikey="....."
  akey="....."
  host="api-082f11a6.duosecurity.com">
```

```
<AuthenticationMethod>urn:alaska.edu:ac:classes>PasswordProtectedTransport:duo</
AuthenticationMethod>
</LoginHandler>
```

(6) edit duo.jsp /opt/tomcat/shibboleth-identityprovider-2.3.8/shibboleth-identityprovider-2.3.8/src/main/webapp/duo.jsp for location of script: ...

```
<script src="/idp/script/Duo-Web-v1.bundled.js"></script>
...
```

(7) edit logging.xml to include logging messages related to duo at DEBUG (alternatively at INFO or ERROR) level:

```
<logger name="org.duosecurity.shibboleth" level="DEBUG" />
```

(8) re-install:

```
-sh-3.2$ cd /opt/tomcat/shibboleth-identityprovider-2.3.8/shibboleth-
identityprovider-2.3.8
-sh-3.2$ export JAVA_HOME=/usr/
-sh-3.2$ ./install.sh
```

-----  
*This Proof-of-concept installation does not include customization of the login.jsp and duo.jsp pages which should be a requirement for production - that is, localization to include UA logo and support links.*  
-----

Specially crafted link to force 2-factor request from UA login-info service (specifies authN context):

[https://staffcouncil.uaf.edu/Shibboleth.sso/Login?  
authnContextClassRef=urn:alaska.edu:ac:classes>PasswordProtectedTransport:duo&ta  
rget=/login-info](https://staffcouncil.uaf.edu/Shibboleth.sso/Login?authnContextClassRef=urn:alaska.edu:ac:classes>PasswordProtectedTransport:duo&target=/login-info)