**Exercise 5**

*Creating Keystores for WS-Security*

**Prior Knowledge**

*Understand Private Key Crypto and Certificates (at a high level)*

**Objectives**

*Create the keystores we will use for the WS-Security Exercise*

**Software Requirements**

* Java Development Kit 7

1. Check that the keytool command is working  
     
   On a command line type keytool  
     
   You should see   
   keytool usage:  
   … [LOTS MORE]
2. Create a directory (e.g. ~/keys/) and change to that directory
3. Now let’s create a client key (for Signing)  
   Type:  
   keytool -genkey -alias client -keyalg RSA –keystore\  
   clientkeystore.jks -storepass clientpass  
     
   You will be prompted as follows:You don’t have to use my details!

What is your first and last name?

[Unknown]: Paul Fremantle

What is the name of your organizational unit?

[Unknown]: WSO2

What is the name of your organization?

[Unknown]: WSO2

What is the name of your City or Locality?

[Unknown]: Emsworth

What is the name of your State or Province?

[Unknown]: Hampshire

What is the two-letter country code for this unit?

[Unknown]: GB

Is CN=Paul Fremantle, OU=WSO2, O=WSO2, L=Emsworth, ST=Hampshire, C=GB correct?

[no]: yes

Enter key password for <client>

(RETURN if same as keystore password):

1. Now let’s create a server keystore (for encryption):  
     
   keytool -genkey -alias server -keyalg RSA \  
   -keystore serverkeystore.jks \  
   -storepass serverpass
2. Once again fill in the details (this time in a more “server-ish” way perhaps?)
3. Now we need to get these two keystores to trust each other (since there is no uber-CA). Export the client certificate.

keytool -export -alias client -keystore clientkeystore.jks \

-file client.cert

Enter keystore password: *[clientpass]*

Certificate stored in file <client.cert>

1. Now import into the server keystore:

keytool -import -file client.cert -keystore serverkeystore.jks \

-alias client

Enter keystore password: *[serverpass]*

Owner: CN=Paul Fremantle, OU=WSO2, O=WSO2, L=Emsworth, ST=Hampshire, C=GB

Issuer: CN=Paul Fremantle, OU=WSO2, O=WSO2, L=Emsworth, ST=Hampshire, C=GB

Serial number: 50c484aa

Valid from: Sun Dec 09 12:31:38 GMT 2012 until: Sat Mar 09 12:31:38 GMT 2013

Certificate fingerprints:

MD5: 50:CC:6D:0F:9F:CC:05:43:F3:A8:A7:DC:AB:F3:58:0F

SHA1: 90:1B:13:6E:A9:11:02:61:60:80:FB:ED:3E:10:35:31:E3:37:92:1A

Signature algorithm name: SHA1withRSA

Version: 3

Trust this certificate? [no]: yes

Certificate was added to keystore

1. Do the opposite – export the server’s certificate and import into the client’s keystore
2. Validate you have successfully done everything by listing the contents of each keystore. For example:

keytool -list -keystore serverkeystore.jks

Enter keystore password:

Keystore type: JKS

Keystore provider: SUN

Your keystore contains 2 entries

client, Dec 9, 2012, trustedCertEntry,

Certificate fingerprint (MD5): 50:CC:6D:0F:9F:CC:05:43:F3:A8:A7:DC:AB:F3:58:0F

server, Dec 9, 2012, PrivateKeyEntry,

Certificate fingerprint (MD5): 0A:B3:EA:C0:09:9D:C2:8F:2A:40:DF:9A:81:AB:55:5B

That’s all!