VRESCo Installation Guide

This guide represents a step-by-step tutorial for setting up VRESCo and the sample TELCO case study which can be either *IIS-hosted* (use step V and VI) or *self-hosted* (step VII).

I) Required Software
You need the following software to run VRESCo:

- Administrator rights
- SVN client (e.g., Tortoise SVN: [http://tortoisesvn.tigris.org/](http://tortoisesvn.tigris.org/))
- .NET 3.0 or 3.5
- Visual Studio 2008
- Mysql Database 5.1 and Mysql Connector Net 6.2.2
- IIS (if services should be deployed using IIS Hosting)

II) SVN Checkout
First of all, check out the source code from sourceforge: [https://vresco.svn.sourceforge.net/svnroot/vresco](https://vresco.svn.sourceforge.net/svnroot/vresco)

III) Configure Hibernate and MySQL database
The hibernate configuration can be found in *hibernate.cfg.xml*. Do not forget to create the database as indicated in this file (e.g., vresco). Furthermore, you have to install MySQL Connector Net to use the Mysql database (see *Web.config* for the configuration of the driver).

IV) Security Setup
Next, you have to setup the certificates for the VRESCo authentication and authorization features.

Certificates
First of all, you need to create the certificates on both client and server side. Therefore, open the Management Console (*mmc.exe*). Add the Snap-Ins for *Certificates* for both *LocalComputer* and *CurrentUser*.

Server Certificate
1) Create the server certificate under Visual Studio 2008 Command Prompt:
   ```
   makecert -r -pe -n CN=localhost -ss my -sr localmachine -sky exchange -sp "Microsoft RSA SChannel Cryptographic Provider" -sy 12 vresco.crt
   ```
   This command creates a certificate including private key which is stored in *LocalMachine\My Certificates*. In addition, *vresco.crt* is created in the current working directory.
   Hints: The certificate name (CN) should be set to the domain name. *makecert.exe* is usually found in *C:\Program Files\Microsoft SDKs\Windows\v6.0\Bin*

2) In Snap-In *LocalMachine* import *vresco.crt* (i.e., without private key) to *Trusted Root Certification Authorities*.

3) In Snap-In *CurrentUser* import *vresco.crt* (i.e., without private key): *Personal* and *Trusted Root Certification Authorities*. 
Client Certificate

4) Create the client certificate for the client under Visual Studio 2008 Command Prompt:

```
makecert -r -pe -n CN=vrescoClient -ss my -sr currentUser -sky exchange -sp "Microsoft RSA SChannel Cryptographic Provider" -sy 12 vrescoClient.crt
```

This command creates a certificate including private key which is stored in CurrentUser\My Certificates. In addition, vrescoClient.crt is created in the current working directory.

5) In Snap-In CurrentUser import vrescoClient.crt to Trusted Root Certification Authorities.

6) In Snap-In LocalMachine import vrescoClient.crt to Trusted People and Trusted Root Certification Authorities.

V) Configure VRESCo.Hosting project (IIS Hosting)

When you open the solution in Visual Studio (vresco.sln), the following warning may appear:
Click “Yes” ("Ja") to setup the virtual directory settings. Then, open the IIS Management Console to create an application called “services” under the Default Web Site. The application must have a physical path to the location of the VRESCO.Hosting project.
VI) Launching the VRESCo.Hosting project

Now we can try to launch the VRESCo.Hosting project by running the project (without debugging). If everything works fine your default browser will come up, showing the following screen:

This screen shows the content of your IIS virtual directory "services". To test the setup, click on one of the services (e.g., PublishingService.svc). If you see an overview page including link to the WSDL file, the setup has been completed successfully.

Please note that if you get an error complaining that no application handler is available for SVC, you have to install WCF handlers in IIS (http://blog.mijalko.com/2009/02/missing-svc-handler.html).

VII) Configure Self-Hosting project

When using self hosting (project VRESCo.Selfhosting), the ports which use certificates have to be associated with the certificates. In our example, these are the ports 30000 to 30006.

Windows XP:

Under Windows XP this is done using httpcfg.exe which is part of Windows XP Service Pack 2 Support Tools (http://www.microsoft.com/downloads/details.aspx?FamilyId=49AE8576-9BB9-4126-9761-BA8011FABF38&displaylang=en). For each port that uses secure connections, httpcfg has to be invoked as follows (the thumbprint can be found in the server certificate):

httpcfg set ssl /i 127.0.0.1:[SERVER PORT] /h [SERVER CERTIFICATE THUMBPRINT] -c My -m 1

For instance:

httpcfg set ssl /i 127.0.0.1:30000 /h 78dd8fd915093fceed65146166d1c9cb87b94ce45 -c My -m 1

If the command succeeds, the tool returns “pSetServiceConfiguration completed with 0.”.
The following command can be used to check the certificate association:

`httpcfg query ssl`

The following command can be used to delete a certificate from a port:

`httpcfg delete ssl -i 127.0.0.1:[PORT]`

**Windows Vista:**

Under Windows Vista the tool `netsh.exe` is used to associate certificates as follows:

```
netsh http add sslcert ipport=0.0.0.0:30000 certhash=[THUMBPRINT]
appid={[APPID]}
```

For instance:

```
netsh http add sslcert ipport=0.0.0.0:30000
certhash=78dd8fd915093fceff6514166d1c9cb87b94ce45 appid={00112233-4455-6677-8899-AABCCDDEEFF}
```

The certificate association is shown using the following command:

`netsh http show sslcert`

The certificate association is deleted using the following command:

`netsh http delete sslcert ipport=0.0.0.0:30000`

Finally, if you start the project from Visual Studio, you should again see the screen shown in step V.

**VIII) Running the TELCO Client**

Finally, you can run the client of the Telco case study (TelcoClient). The `app.config` defines where the VRESCO services are running. If you use IIS Hosting (step V) you can just start the client program. If you use self-hosting (step VII), please rename `app_selfhosting.config` to `app.config`.

The following figure shows the output that you should see if everything works: