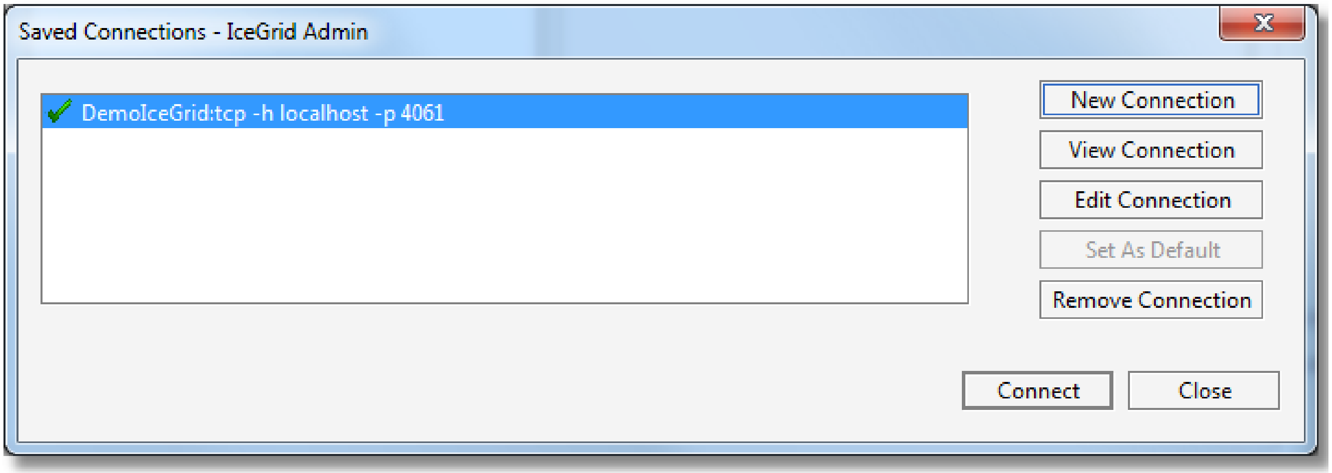
Connection to an IceGrid Registry

In order to administer or monitor an IceGrid deployment, you need to connect to the IceGrid registry of this deployment. If your IceGrid registry is replicated, you can connect to any replica for monitoring purposes; if you intend to change definitions, for example describe a new server, you need to connect to the master IceGrid registry. This page describes how to connect to an IceGrid registry.

On this page:

Connecting using a Saved Connection

Use `File > Login...` or press the button to open the `Saved Connections` dialog:

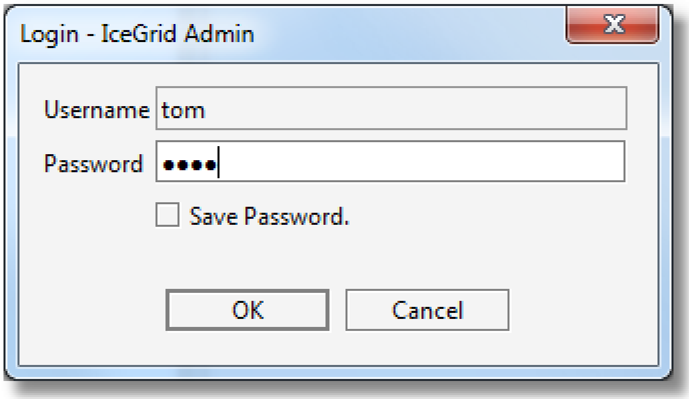


Saved Connections - IceGrid Admin

✓ DemoIceGrid:tcp -h localhost -p 4061

Then double-click on the IceGrid registry you want to connect to, or select the IceGrid registry and click on the `Connect` button.

If the connection contains saved credentials, IceGrid Admin will immediately attempt to connect to the selected IceGrid registry with these credentials. Otherwise, it will open a new dialog to request the missing password (two passwords in some cases), such as:



Login - IceGrid Admin

Username tom

Password ••••

□ Save Password.

Creating a new Connection

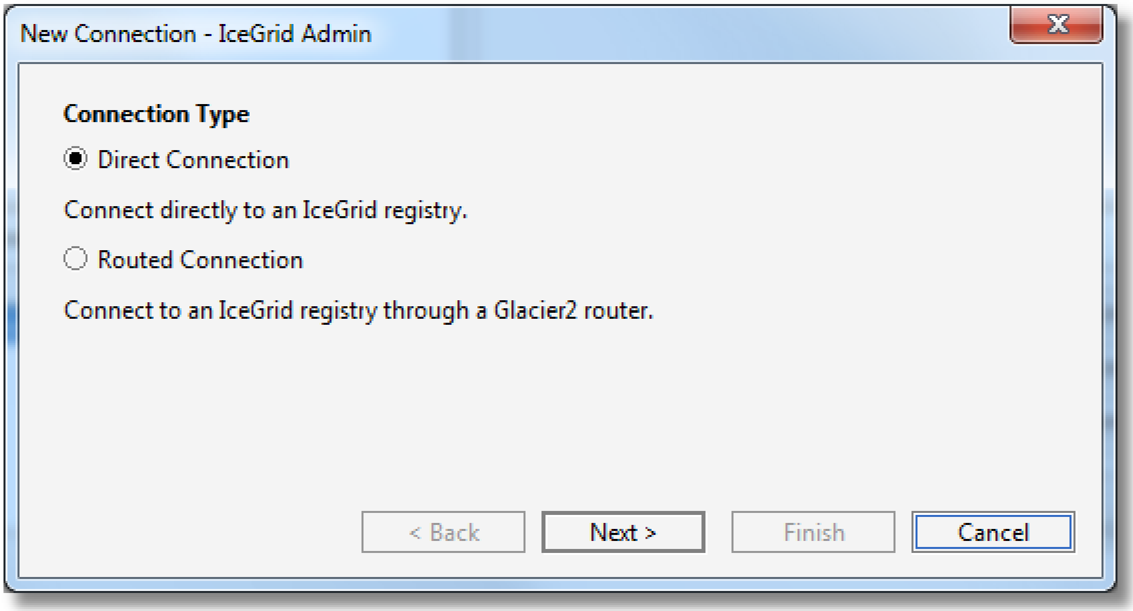
In the `Saved Connections` dialog, click on `New Connection` to open the New Connection wizard.

Below are 3 typical connections to illustrate the wizard steps:

TCP Connection to a local IceGrid registry

We create a TCP connection to the IceGrid registry running on localhost:

Step 1: we select Direct Connection



New Connection - IceGrid Admin

Connection Type

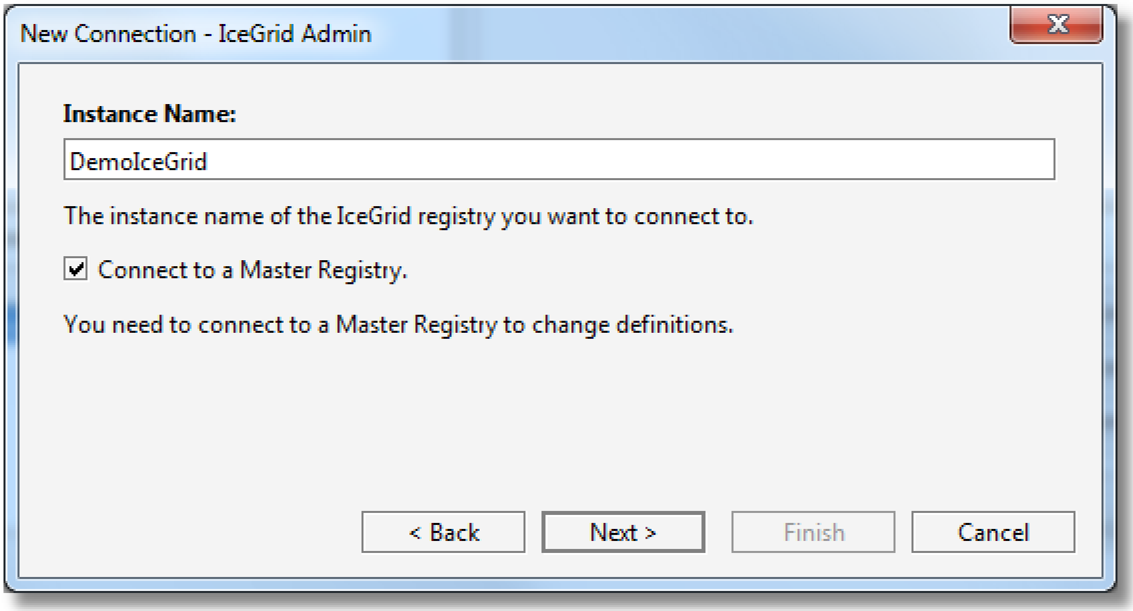
● Direct Connection

Connect directly to an IceGrid registry.

○ Routed Connection

Connect to an IceGrid registry through a Glacier2 router.

Step 2: we enter the name of your IceGrid instance. This corresponds to the `IceGrid.InstanceName` property in the target IceGrid registry configuration.



New Connection - IceGrid Admin

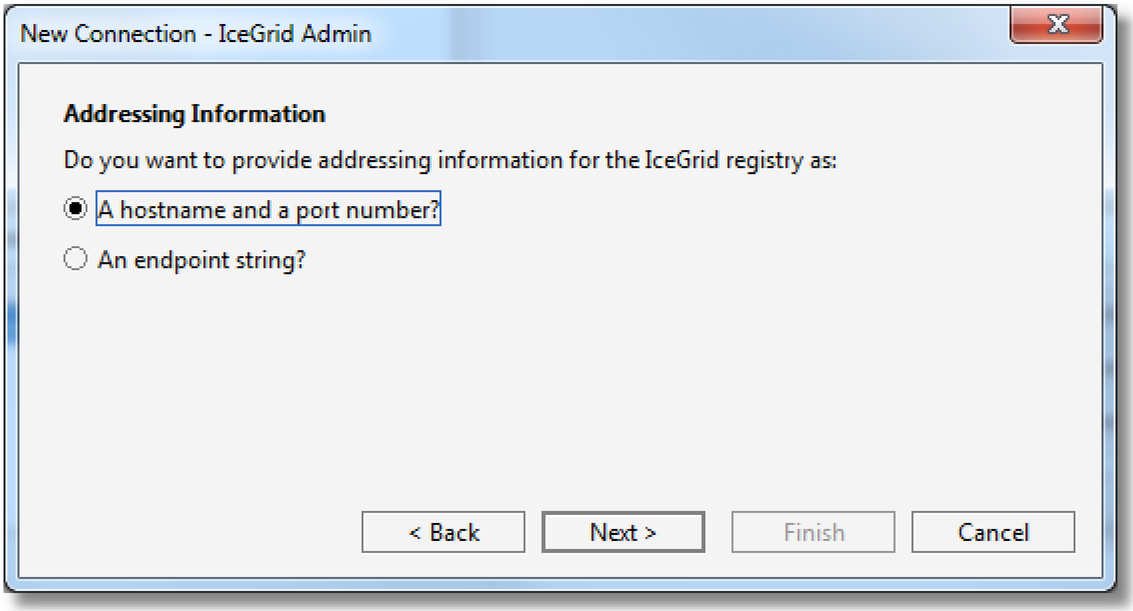
Instance Name: DemoIceGrid

The instance name of the IceGrid registry you want to connect to.

☑ Connect to a Master Registry.

You need to connect to a Master Registry to change definitions.

Step 3: we enter the addressing information as a hostname and port number



New Connection - IceGrid Admin

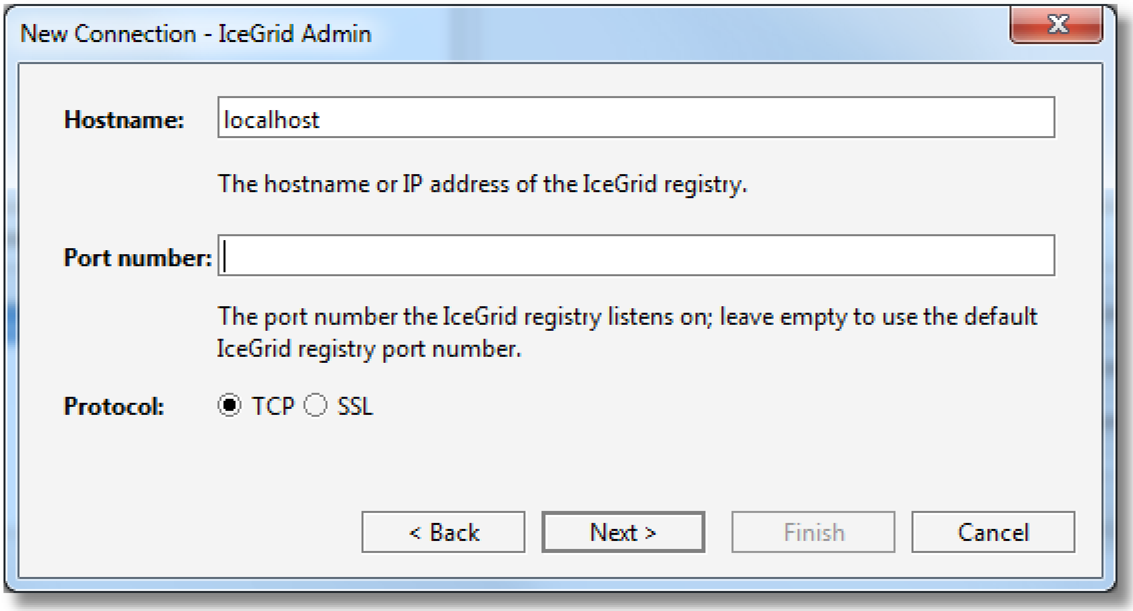
Addressing Information

Do you want to provide addressing information for the IceGrid registry as:

● A hostname and a port number?

○ An endpoint string?

Step 4: we enter `localhost` for the Hostname, leave port number blank and keep TCP as the protocol



New Connection - IceGrid Admin

Hostname: localhost

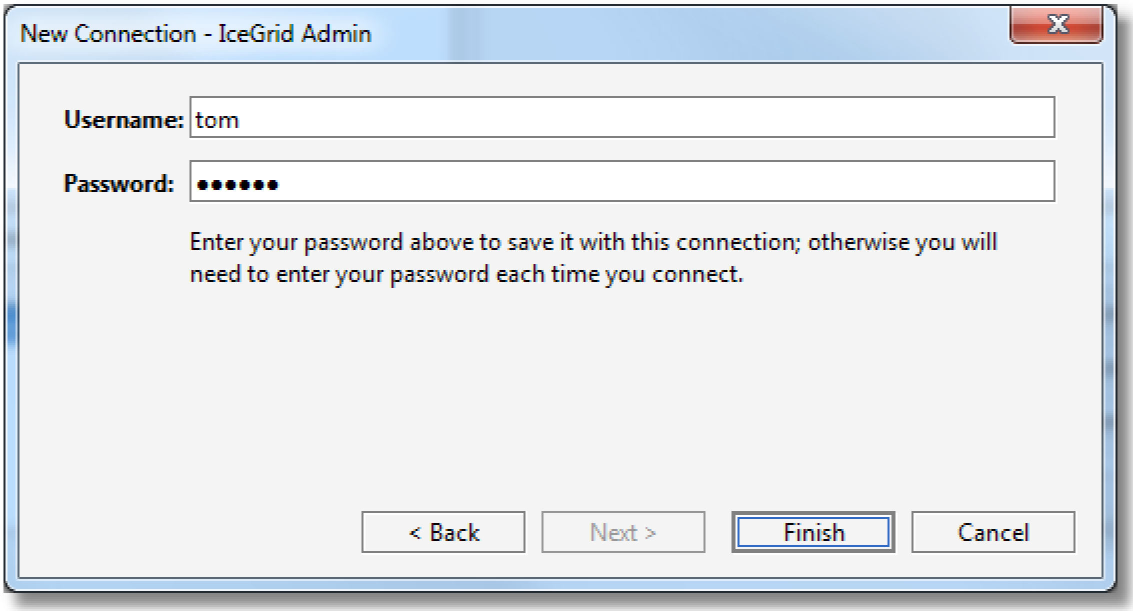
The hostname or IP address of the IceGrid registry.

Port number:

The port number the IceGrid registry listens on; leave empty to use the default IceGrid registry port number.

Protocol: ● TCP ○ SSL

Step 5: we enter a username and password for this connection



Username: tom

Password: ●●●●●●

Enter your password above to save it with this connection; otherwise you will need to enter your password each time you connect.

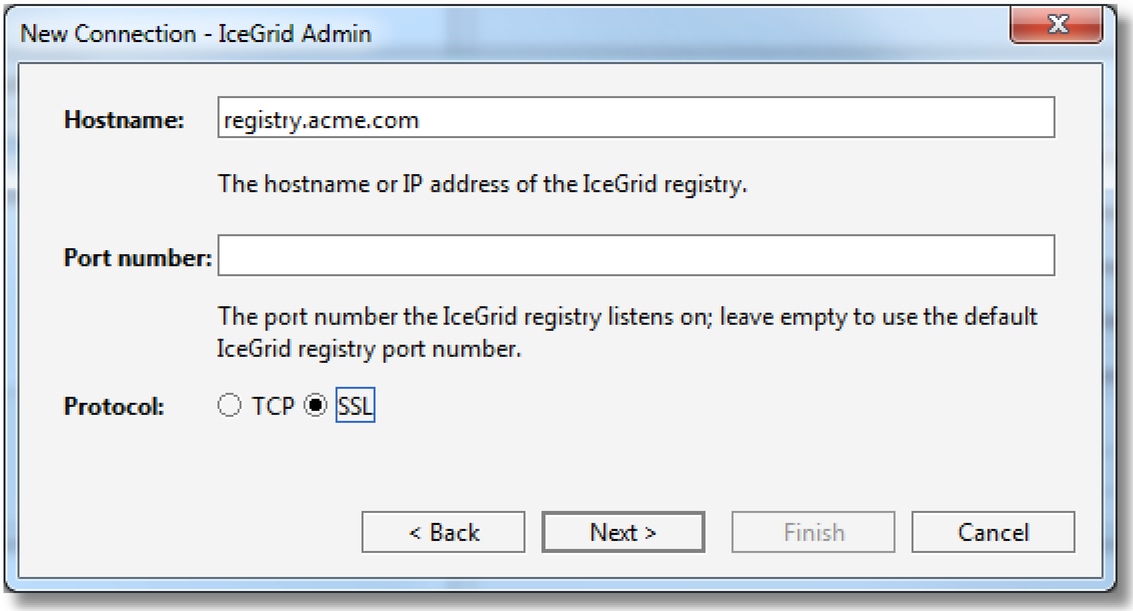
Step 6: we click on the `Finish` button to save the connection; IceGrid Admin then attempts to connect to the IceGrid registry

SSL Connection to local IceGrid using X.509 Credentials

We create a SSL connection to a directly-reachable IceGrid registry, and authenticate with this IceGrid registry using our X.509 key (also used for SSL authentication). The target IceGrid registry must be configured to accept SSL connections and authentication using SSL credentials; see `IceGrid.Registry.AdminSSLPermissionsVerifier`.

Steps 1 to 3 are identical to the simple TCP connection described above.

Step 4: we enter the hostname of the IceGrid registry, we leave the port number empty to use the default IceGrid port number (4061 for TCP and 4062 for SSL), and we select SSL for Protocol



Hostname: registry.acme.com

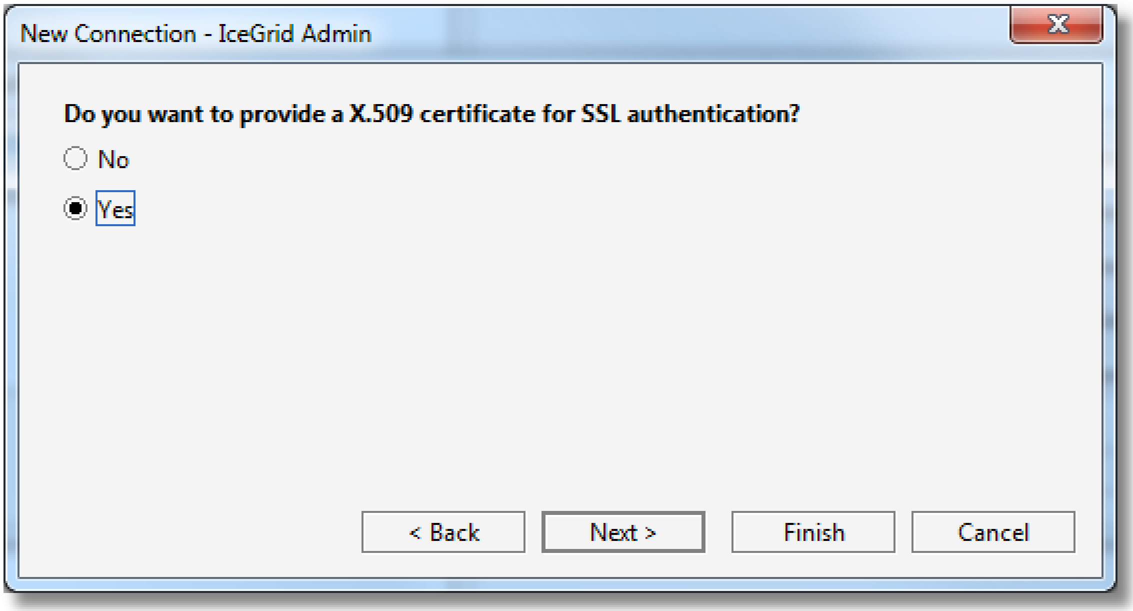
The hostname or IP address of the IceGrid registry.

Port number:

The port number the IceGrid registry listens on; leave empty to use the default IceGrid registry port number.

Protocol: ○ TCP ● SSL

Step 5: yes, we want to provide a X.509 certificate for SSL authentication



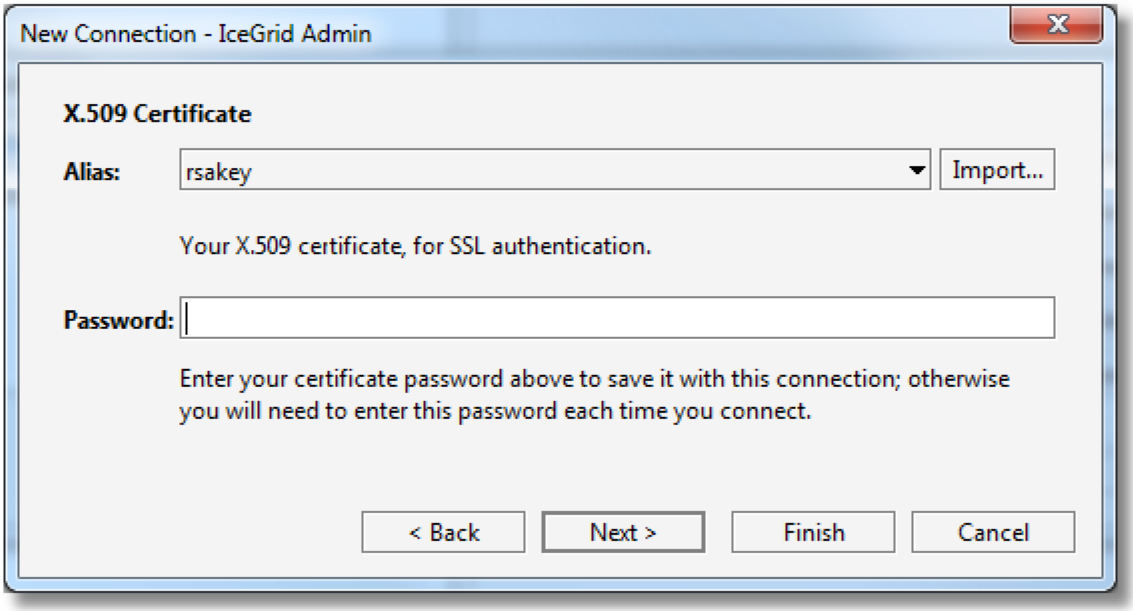
New Connection - IceGrid Admin

Do you want to provide a X.509 certificate for SSL authentication?

○ No

● Yes

Step 6: we select the X.509 key used for SSL authentication from the Alias drop-down list; list this corresponds to the My Certificates set in the Certificate Manager described in the next section. Click on the `Import...` button to open the Certificate Manager dialog.



New Connection - IceGrid Admin

X.509 Certificate

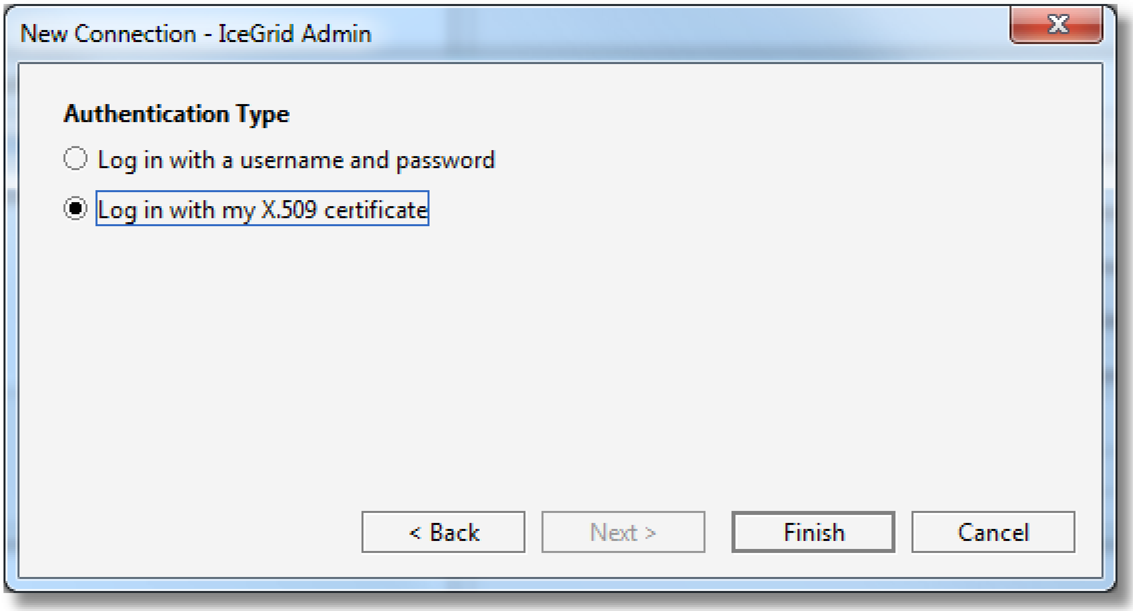
Alias: rsakey

Your X.509 certificate, for SSL authentication.

Password:

Enter your certificate password above to save it with this connection; otherwise you will need to enter this password each time you connect.

Step 7: we choose to use this X.509 certificate (carried through the SSL connection) to authenticate ourselves with the IceGrid registry.



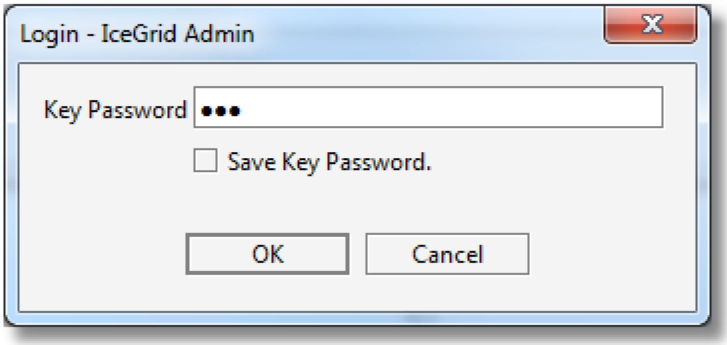
New Connection - IceGrid Admin

Authentication Type

○ Log in with a username and password

● Log in with my X.509 certificate

Step 8: we click on the `Finish` button to save the connection and connect to the IceGrid registry. Unless we entered (and therefore saved) the X.509 key password with the connection, we are prompted for this password:



Login - IceGrid Admin

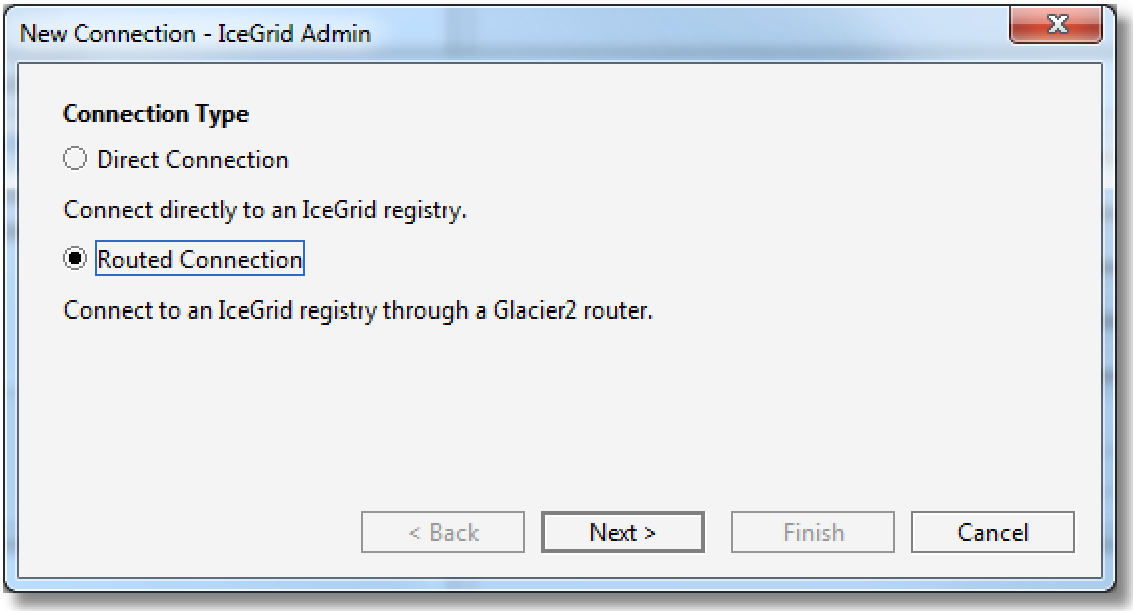
Key Password •••

□ Save Key Password.

SSL Connection through Glacier2 router

We connect to an IceGrid registry "behind" a Glacier2 router. In this case, we need to connect to the Glacier2 router and authenticate ourselves with this Glacier2 router. We do not provide any information about the IceGrid registry itself: we will connect to the IceGrid registry identified by the target Glacier2 router configuration. See Glacier2 Integration with IceGrid.

Step 1: we select Routed Connection



New Connection - IceGrid Admin

Connection Type

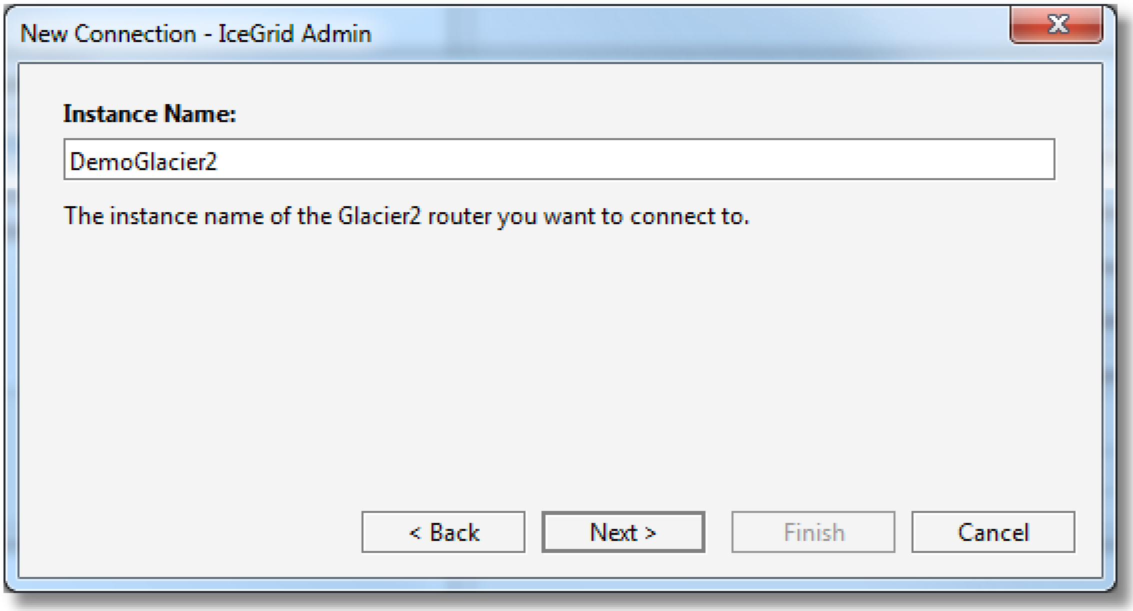
○ Direct Connection

Connect directly to an IceGrid registry.

● Routed Connection

Connect to an IceGrid registry through a Glacier2 router.

Step 2: we enter the instance name of our Glacier2 router. This corresponds to the `Glacier2.InstanceName` property in the target Glacier2 router configuration.



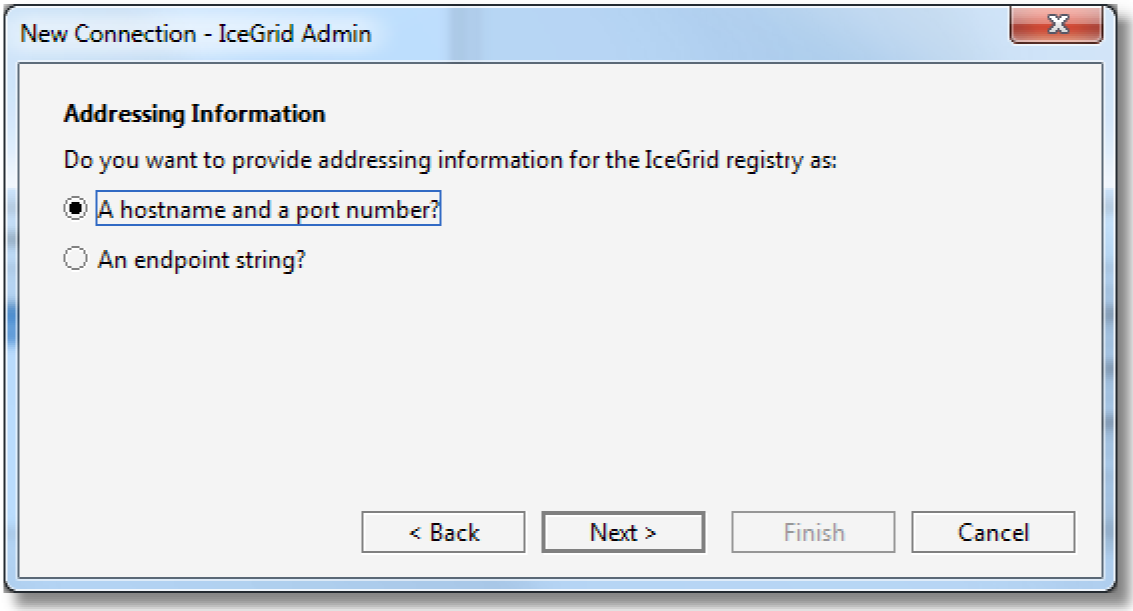
New Connection - IceGrid Admin

Instance Name:

DemoGlacier2

The instance name of the Glacier2 router you want to connect to.

Step 3: we enter the addressing information for the target Glacier2 router as a hostname and port number



New Connection - IceGrid Admin

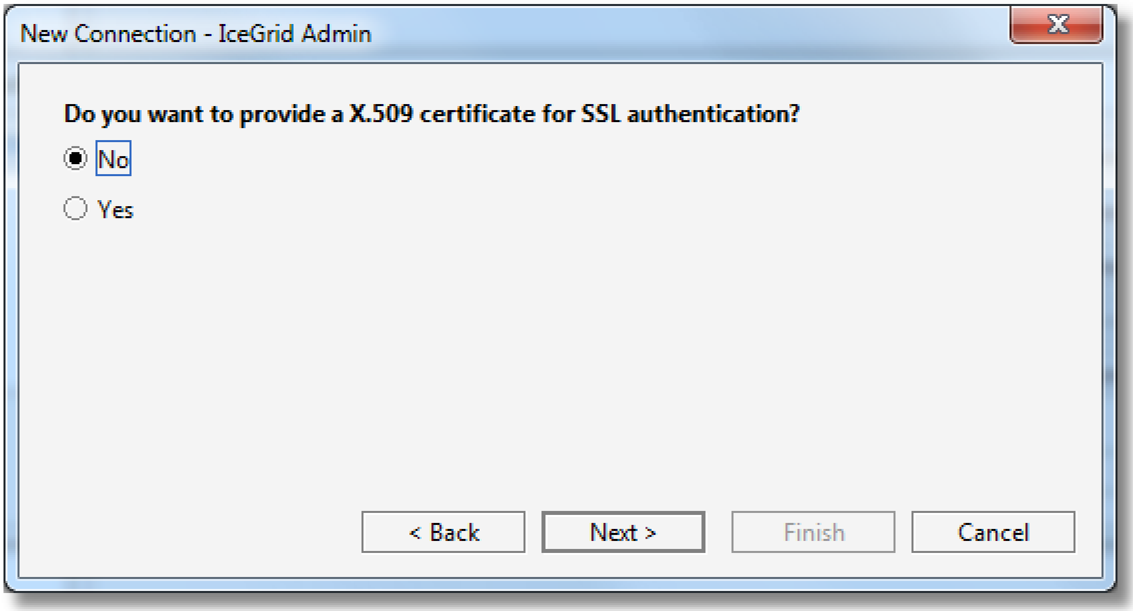
Addressing Information

Do you want to provide addressing information for the IceGrid registry as:

● A hostname and a port number?

○ An endpoint string?

Step 4: we choose not to authenticate ourselves for SSL, so we do not provide a X.509 certificate.



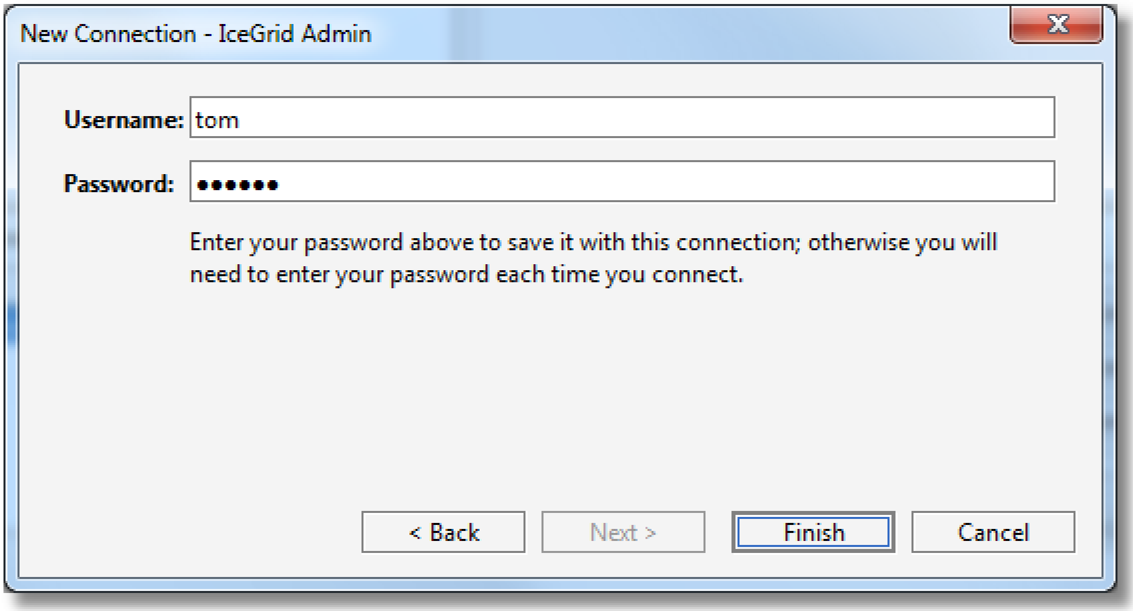
New Connection - IceGrid Admin

Do you want to provide a X.509 certificate for SSL authentication?

● No

○ Yes

Step 5: we provide a username and password for the connection to the Glacier2 router



Username: tom

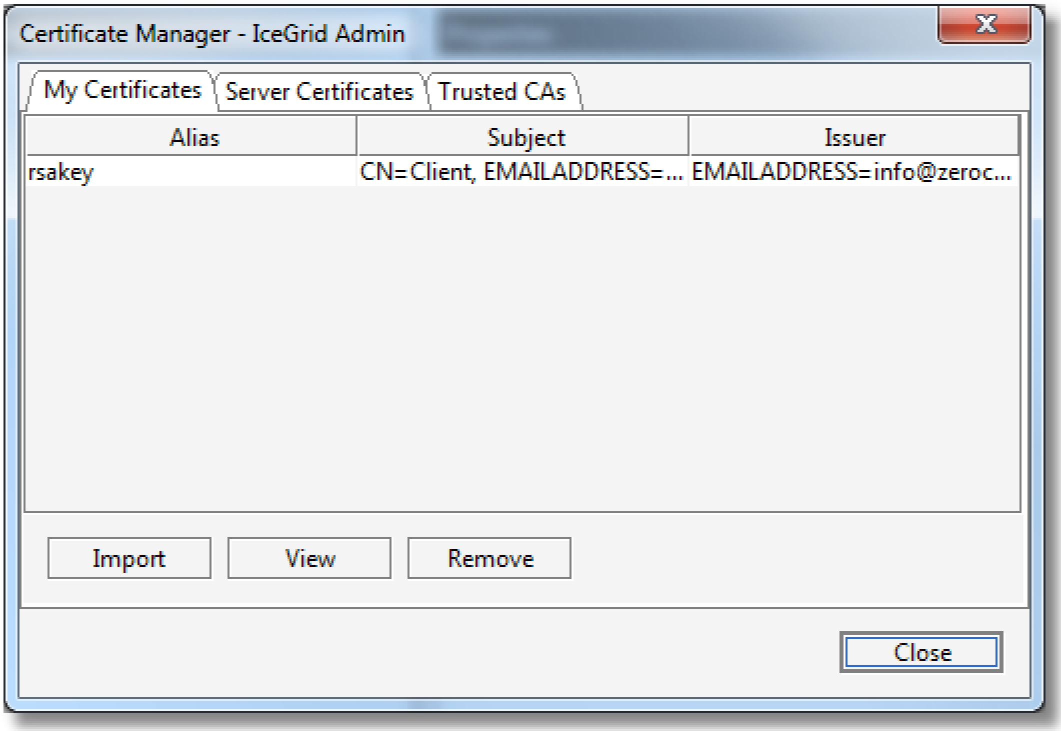
Password: ●●●●●●

Enter your password above to save it with this connection; otherwise you will need to enter your password each time you connect.

Step 6: we click on the `Finish` to save the connection; IceGrid Admin then attempts to connect to the IceGrid registry through the Glacier2 router.

SSL Connections and Certificates

IceGrid Admin maintains a persistent store of X.509 certificates for SSL connections with IceGrid registries. You can import, view and remove these certificates with the Certificate Manager. Use `File > Certificate Manager...` or click on the `Import...` button in the Connection wizard to open the Certificate Manager:



Alias	Subject	Issuer
rsakey	CN=Client, EMAILADDRESS=...	EMAILADDRESS=info@zeroc...

The Certificate Manager maintains 3 sets of certificates:

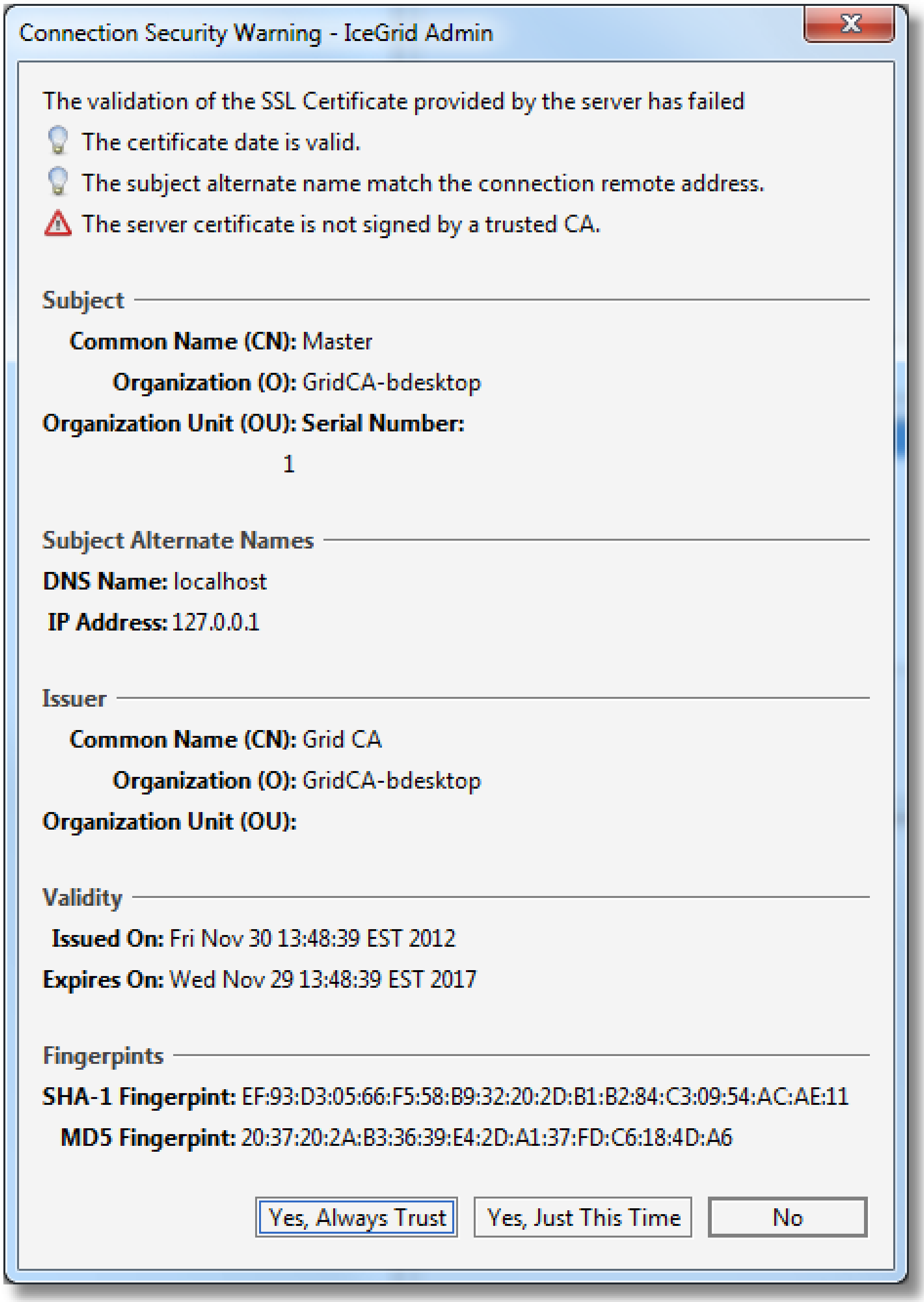
- **My Certificates**
  These certificates are used to authenticate IceGrid Admin when establishing a SSL connection with an IceGrid registry or Glacier2 router (this first authentication is at the SSL level); once the SSL connection is established, this certificate can also be used to authenticate with the target IceGrid registry or Glacier router (at the application level).

- **Server Certificates**
  The certificates of IceGrid registries and Glacier2 routers that IceGrid Admin trusts when establishing a SSL connection. All certificates signed by a Trusted CA (see below) are automatically trusted and usually do not need to be imported in this set.

- **Trusted CAs**
  The certificates of Certificate Authorities.

You do not need to import server certificates or CA certificates prior to establishing a SSL connection with an IceGrid registry or Glacier2 router. IceGrid Admin performs the following checks when establishing a SSL connection:

- If the X.509 certificate presented by the IceGrid registry or Glacier2 router matches a Server Certificate, proceed
- Otherwise, if this certificate is signed by a trusted CA, is valid (*now* is within the certificates validity period) and its alternate name is a match for the SSL connection remote address, proceed
- Otherwise, display a Connection Security Warning dialog similar to the dialog below to let you decide whether or not to proceed with this certificate:



Connection Security Warning - IceGrid Admin

The validation of the SSL Certificate provided by the server has failed

The certificate date is valid.

The subject alternate name match the connection remote address.

⚠ The server certificate is not signed by a trusted CA.

Subject

Common Name (CN): Master

Organization (O): GridCA-bdesktop

Organization Unit (OU): Serial Number:

1

Subject Alternate Names

DNS Name: localhost

IP Address: 127.0.0.1

Issuer

Common Name (CN): Grid CA

Organization (O): GridCA-bdesktop

Organization Unit (OU):

Validity

Issued On: Fri Nov 30 13:48:39 EST 2012

Expires On: Wed Nov 29 13:48:39 EST 2017

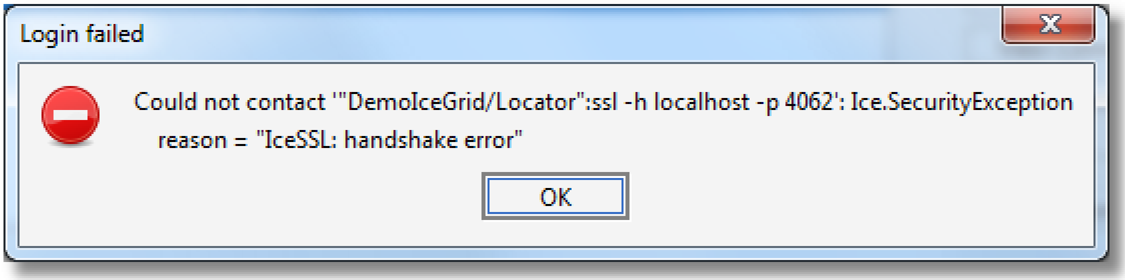
Fingerpints

SHA-1 Fingerpint: EF:93:D3:05:66:F5:58:B9:32:20:2D:B1:B2:84:C3:09:54:AC:AE:11

MD5 Fingerpint: 20:37:20:2A:B3:36:39:E4:2D:A1:37:FD:C6:18:4D:A6

If you select `Yes, Always Trust`, the certificate is added in the persistent Server Certificates set.

A "client" X.509 certificate (saved in My Certificates) is only necessary when the target IceGrid registry or Glacier2 router requires one. This depends on the setting of the `IceSSL.VerifyPeer` property in those servers: when `IceSSL.VerifyPeer` is 2, IceGrid Admin must provide a valid certificate. If you forget to provide a certificate, or provide an invalid certificate, the connection establishment will fail with an IceSSL error comparable to the following:



Could not contact '"DemoIceGrid/Locator":ssl -h localhost -p 4062': Ice.SecurityException
reason = "IceSSL: handshake error"

Editing a Saved Connection

In the `Saved Connections` dialog, click on `Edit Connection` to edit a connection. This opens the Connection wizard for your saved connection. With this wizard, IceGrid Admin does not attempt to connect to the target IceGrid registry when you click on the `Finish` button.

Closing a Connection

Use `File > Logout` or press the button to disconnect from an IceGrid registry. This clears all information in the Live Deployment pane.