

KeyTalk automated Apache certificate renewal remote deployment instructions

Introduction

KeyTalk provides automatic Apache certificate renewal functionality. To update and reconfigure a server farm with many servers however is tedious work. To automate deployments to many servers, the remote deployment tool allows you to:

- * Configure all virtual hosts of your server farm in one place
- * Install KeyTalk Apache certificate updater to each remote machine of your server farm, which includes:
 - Customizing your KeyTalk client with an RCCD file
 - Customizing your certificate renewal script configuration (`apache.ini`)
 - Enabling periodic certificate renewal (by default checking every 10 minutes)
- * Remotely uninstall the KeyTalk client from a server

The following sections explain how to:

- * Prepare web servers
- * Configure Virtual Hosts
- * Deploy Remotely
- * Uninstall Remotely

Prepare web servers

First of all, make sure that all the servers you want to deploy to have the following software installed:

- Ubuntu 18.04 LTS or 20.04 LTS x64 or 22.04 LTS x64
- Apache 2.2 - 2.4 with SSL module enabled

This deployment script requires password-less SSH access to the machines you want to deploy to.

Setting up password-less SSH logins requires the following steps:

1. Generate an SSH key pair (one-time, only if you don't have one yet)
2. Copy your identity (public key) to all remote servers
3. Cache your key passphrase using ssh agent (only if you have a passphrase)

For example:

```
$ ssh-keygen # only if there is no ssh key pair yet

$ ssh-copy-id root@10.0.0.1
root@10.0.0.1's password: ****
Number of key(s) added: 1

$ ssh-copy-id root@10.0.0.2
root@10.0.0.1's password: ****
Number of key(s) added: 1

...

$ ssh-add
Enter passphrase for /home/me/.ssh/id_rsa: ****
Identity added: /home/me/.ssh/id_rsa (/home/me/.ssh/id_rsa)
```

You can check that you can log in without a password:

```
$ ssh root@10.0.0.1
(no password should be asked)
```

More information on how to use ssh-copy-id: <http://www.lindonslog.com/linux-unix/ssh-keygen-keys/>

More information on how to manually copy SSH keys: <http://mah.everybody.org/docs/ssh>

Configure Virtual Hosts

The configuration format of the deployment script is the same as the configuration described in the [KeyTalk automated Apache certificate renewal installation instructions](#) with addition of the `RemoteHost` property to each virtual host.

The `RemoteHost` should contain `<user>@<host>` (e.g. `root@10.0.0.1`). The value should be a user/host combination to which password-less ssh logins are enabled.

For instance, the following configuration shows three virtual hosts, distributed over two servers (`a.example.com` and

b.example.com on root@10.0.0.1 and c.example.com on root@10.0.0.2):

```
[
{
  "RemoteHost" : "root@10.0.0.1",
  "VHost" : "*:443",
  "ServerName" : "a.example.com",
  "KeyTalkProvider" : "MyProvider",
  "KeyTalkService" : "MY_SERVICE",
  "KeyTalkUser" : "a.example.com"
},
{
  "RemoteHost" : "root@10.0.0.1",
  "VHost" : "*:443",
  "ServerName" : "b.example.com",
  "KeyTalkProvider" : "MyProvider",
  "KeyTalkService" : "MY_SERVICE",
  "KeyTalkUser" : "b.example.com"
},
{
  "RemoteHost" : "root@10.0.0.2",
  "VHost" : "*:443",
  "ServerName" : "c.example.com",
  "KeyTalkProvider" : "MyProvider",
  "KeyTalkService" : "MY_SERVICE",
  "KeyTalkUser" : "c.example.com"
}
]
```

The above examples show three simple cases without password and e-mail notifications. A fully customized example for VHost configuration looks as follows:

```
[
{
  "RemoteHost" : "root@10.0.0.1",
  "VHost" : "*:443",
  "ServerName" : "d.example.com",
  "KeyTalkProvider" : "MyProvider",
  "KeyTalkService" : "MY_SERVICE",
  "KeyTalkUser" : "c.example.com",
  "EmailNotifications" : true,
  "EmailFrom" : "me@example.com",
  "EmailTo" : "you@example.com",
  "EmailServer" : "smtp.example.com",
  "EmailSubject" : "Apache Certificate Renewal"
}
]
```

Deploy Remotely

After preparing your servers for password-less SSH login and configuring your VHosts you can use the following command to start deployment:

```
$ ./ktclient_remote_deploy install <PATH_TO_apache.ini>
  <KeyTalk installer.tgz> <service_configuration.rccd> | tee <logfile>
```

For example:

```
$ ./ktclient_remote_deploy install apache.ini
  KeyTalkClient-6.Y.Z.linux.tgz my_services.rccd | tee log.txt
```

Note: Name of configuration file should be apache.ini.

If deployment on one of the hosts fails, the deployment script will attempt to uninstall the failed installation and continue with the next host.

Uninstall Remotely

To uninstall an installed KeyTalk linux client remotely you also need to have password-less SSH access to the system.

To uninstall remotely, you can use the following command:

```
$ ./ktclient_remote_deploy remove <user>@<host>
```

For example:

```
$ ./ktclient_remote_deploy remove root@10.0.0.1
```