



Secure FTP or SFTP using Putty/PSFTP with C# (Open Source) and Task Scheduler Configuration



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Simple open source code and technique for SFTP connectivity

Download demo - 38.2 KB

Introduction

If you want to use SFTP connection for file transfer, then there are several paid/license tools available in the market and some of them are very tough to work also. So, much complicated coding is required for simple file transfer using those tools.

Recently, one of my clients changed their file transfer server FTP to SFTP and then I did research for a while to find the best way to manage without any paid tool with simple/less C# code. I have used PSFTP with this example.

Now What is PSFTP?

Most of us know about PuTTY. PuTTY is a free SSH, Telnet and Rlogin client for 32-bit Windows systems. **PSFTP**, the PuTTY SFTP client, is a tool for transferring files securely between computers using an SSH connection.

Download PuTTY

What You Need for SFTP?

1. **Host Name or FTP Server**
2. **User Name**
3. **Password**

Example: Host Name or FTP Server: ftpdev.mycompany.com

User Name: ftptestuser

Password: ftptestpassword

I will use this information in my coding, however you need to replace it with a valid one.

Let's Start Now

Please follow the steps given below:

Step 1 (Installing PuTTY)

Download PuTTY and install in your computer (it's free). It will install at default path *C:\Program Files (x86)\PuTTY*.

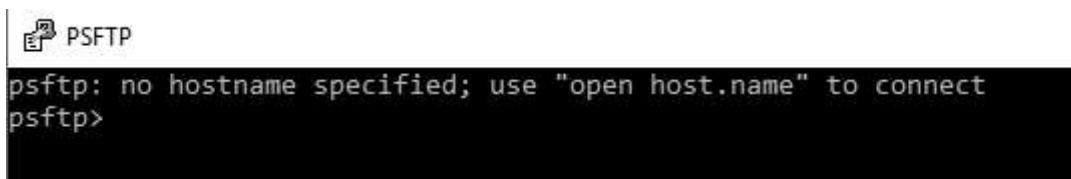
Step 2 (Authorizing PSFTP)

This is a mandatory step, you need to do since it will accept SSH certificate first time from SFTP server. So, this is required before C# coding is done.

Follow either option a or b:

- Option a: Click on, Windows start button -> All Programs -> PuTTY -> PSFTP
- Option b: Go to *C:\Program Files (x86)\PuTTY*, then double click on *psftp.exe*

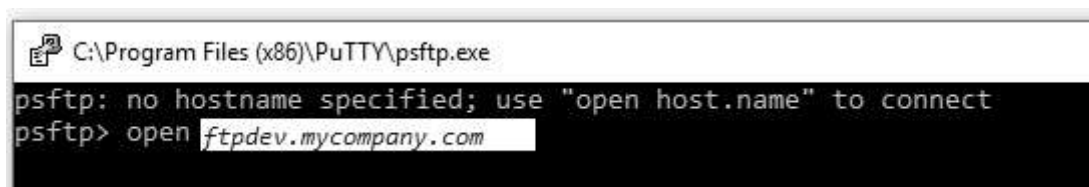
You will see a window like:



```
PSFTP
psftp: no hostname specified; use "open host.name" to connect
psftp>
```

Then try to connect manually.

Command 1: Open *ftpdev.mycompany.com*



```
C:\Program Files (x86)\PuTTY\psftp.exe
psftp: no hostname specified; use "open host.name" to connect
psftp> open ftpdev.mycompany.com
```

Command 2: y

```
C:\Program Files (x86)\PuTTY\psftp.exe
psftp: no hostname specified; use "open host.name" to connect
psftp> open [redacted]
The server's host key is not cached in the registry. You
have no guarantee that the server is the computer you
think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 2048 3d:15:3b:bb:1c:69:c6:fc:95:07:f4:c3:f3:68:8b:53
If you trust this host, enter "y" to add the key to
PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without
adding the key to the cache, enter "n".
If you do not trust this host, press Return to abandon the
connection.
Store key in cache? (y/n) y_
```

Command 3: Enter user name

```
C:\Program Files (x86)\PuTTY\psftp.exe
psftp: no hostname specified; use "open host.name" to connect
psftp> open [redacted]
The server's host key is not cached in the registry. You
have no guarantee that the server is the computer you
think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 2048 3d:15:3b:bb:1c:69:c6:fc:95:07:f4:c3:f3:68:8b:53
If you trust this host, enter "y" to add the key to
PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without
adding the key to the cache, enter "n".
If you do not trust this host, press Return to abandon the
connection.
Store key in cache? (y/n) y
login as: ftptestuser_
```

Command 4: Enter password

```
C:\Program Files (x86)\PuTTY\psftp.exe
psftp: no hostname specified; use "open host.name" to connect
psftp> open [redacted]
The server's host key is not cached in the registry. You
have no guarantee that the server is the computer you
think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 2048 3d:15:3b:bb:1c:69:c6:fc:95:07:f4:c3:f3:68:8b:53
If you trust this host, enter "y" to add the key to
PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without
adding the key to the cache, enter "n".
If you do not trust this host, press Return to abandon the
connection.
Store key in cache? (y/n) y
login as: ftptestuser
Air Canada Corporate FTP production - [redacted]
SSH server: Password Authentication
Using keyboard-interactive authentication.
Password: _
```

Command 5: You can try some test commands to verify the SFTP files and folder list.

Like Help; quit; ls; get; put, etc. [more can be found at this link].

Background

We need to install PuTTY (free tool) for developing this program, however you do not need any prior experience of PuTTY. You need to just follow the provided instructions.

Using the Code

Create a simple console app in Microsoft Visual Studio.

App.config:

XML

```
<appSettings>
  <!--psftp path-->
  <add key ="psftp" value="C:\\Program Files (x86)\\PuTTY\\psftp.exe"/>

  <!--ftp server and credentials-->
  <add key ="user" value="ftptestuser"/>
  <add key ="pass" value="ftptestpassword"/>
  <add key ="ftpserver" value="ftpdev.mycompany.com"/>
</appSettings>
```

Program.cs:

C#

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Configuration;
using System.IO;
using System.Diagnostics;

namespace PSFTP_Demo
{
    class Program
    {
        static void Main(string[] args)
        {
            /*Example of SFTP using PSFTP */

            /* In this example, the local files are placed in bin/debug folder
               since I am using AppDomain.CurrentDomain.BaseDirectory path, you can
               change it but make sure your run time code is accessible to that path.
            */
        }
    }
}
```

```

        /*Send file from local folder to FTP server, send.sftp is a
        batch file, look the command in the file from the solution
        */
        PSFTP_TransferFile("send.sftp");
        /*Receive file from FTP server to local folder
        receive.sftp is a batch file, look the command
        in the file from the solution
        */
        PSFTP_TransferFile("receive.sftp");
        /*delete file from FTP server
        delete.sftp is a batch file,
        look the command in the file from the solution
        */
        PSFTP_TransferFile("delete.sftp");
    }
    private static void PSFTP_TransferFile(string batchFile)
    {
        try
        {
            Process myProcess = new Process();
            myProcess.StartInfo.UseShellExecute = true;
            myProcess.StartInfo.FileName =
                ConfigurationManager.AppSettings["psftp"].ToString();
            var args1 = ConfigurationManager.AppSettings["user"].ToString() + "@"
                + ConfigurationManager.AppSettings["ftpserver"].ToString() +
                " -pw " +
                ConfigurationManager.AppSettings["pass"].ToString() +
                " -batch -be -b " + AppDomain.CurrentDomain.BaseDirectory +
                "PSFTP-BatchFile\\" + batchFile;
            myProcess.StartInfo.Arguments = args1;
            myProcess.StartInfo.CreateNoWindow = true;
            var abc = myProcess.Start();
            myProcess.WaitForExit();
        }
        catch (Exception ex)
        {
            Console.WriteLine("Error occurred : " + ex.Message);
        }
    }
}
}
}

```

You can also download the complete solution from the link at the top of this article.

How to Configure from Task Scheduler?

Often, we use the SFTP in an automated environment for file transfer. You might find it difficult to run the above application from windows **Task Scheduler** if you will not configure it properly.

I will provide the steps for configuring in windows task scheduler. Please follow my instructions:

In Windows, go to **Start -> Control panel -> Administrative Tools -> Task Scheduler ->** then right click on "**Task Scheduler Library**" -> Create **Task**.

Step 1: General

The screenshot shows the 'Create Task' dialog box with the 'General' tab selected. The fields are filled with the following information:

- Name:** testSFTP
- Location:** \
- Author:** MSI\Developer
- Description:** SFTP testing

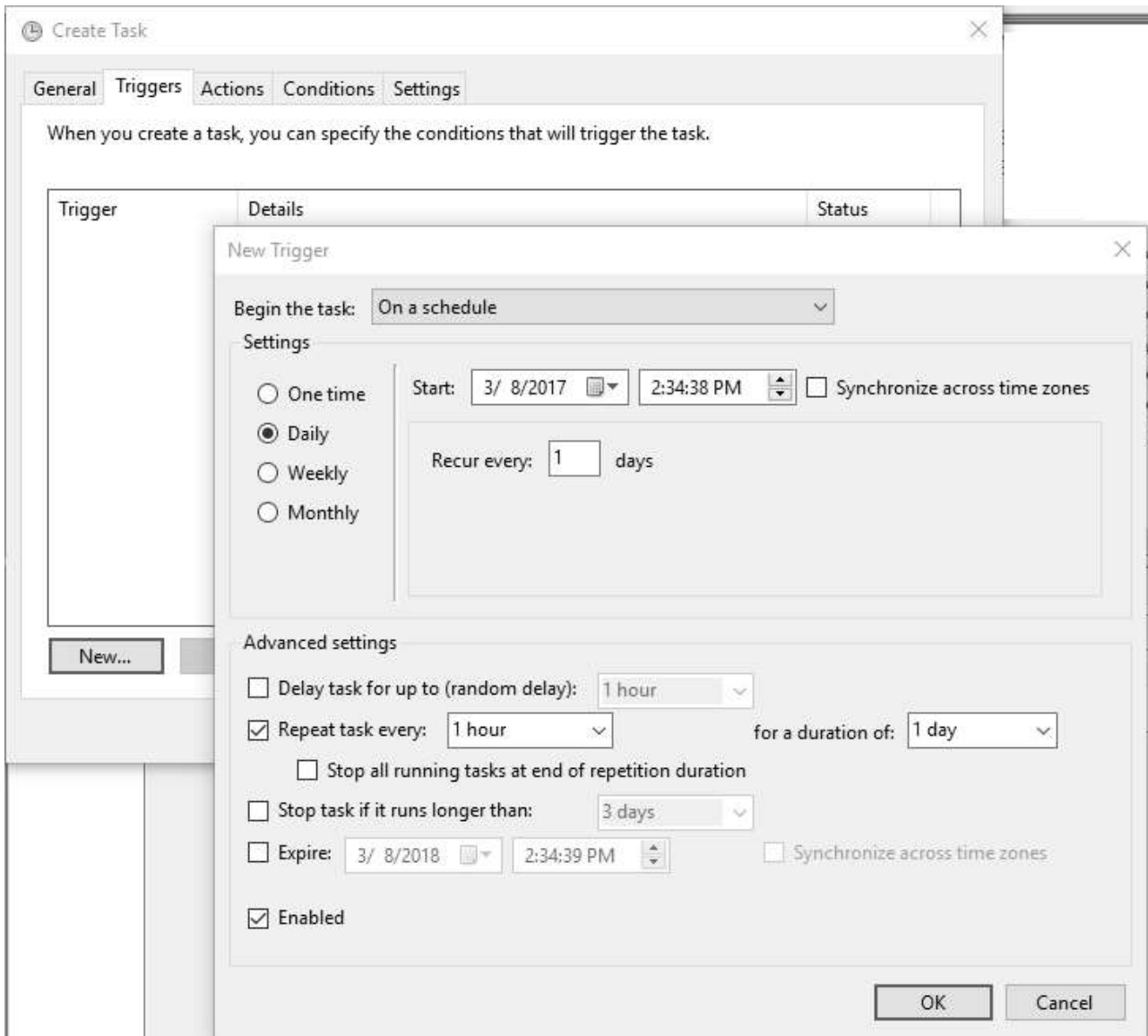
Security options:

- When running the task, use the following user account: MSI\Developer. A callout box points to this field with the text 'Change User which has right access' and a 'Change User or Group...' button.
- Run only when user is logged on
- Run whether user is logged on or not
- Do not store password. The task will only have access to local computer resources.
- Run with highest privileges

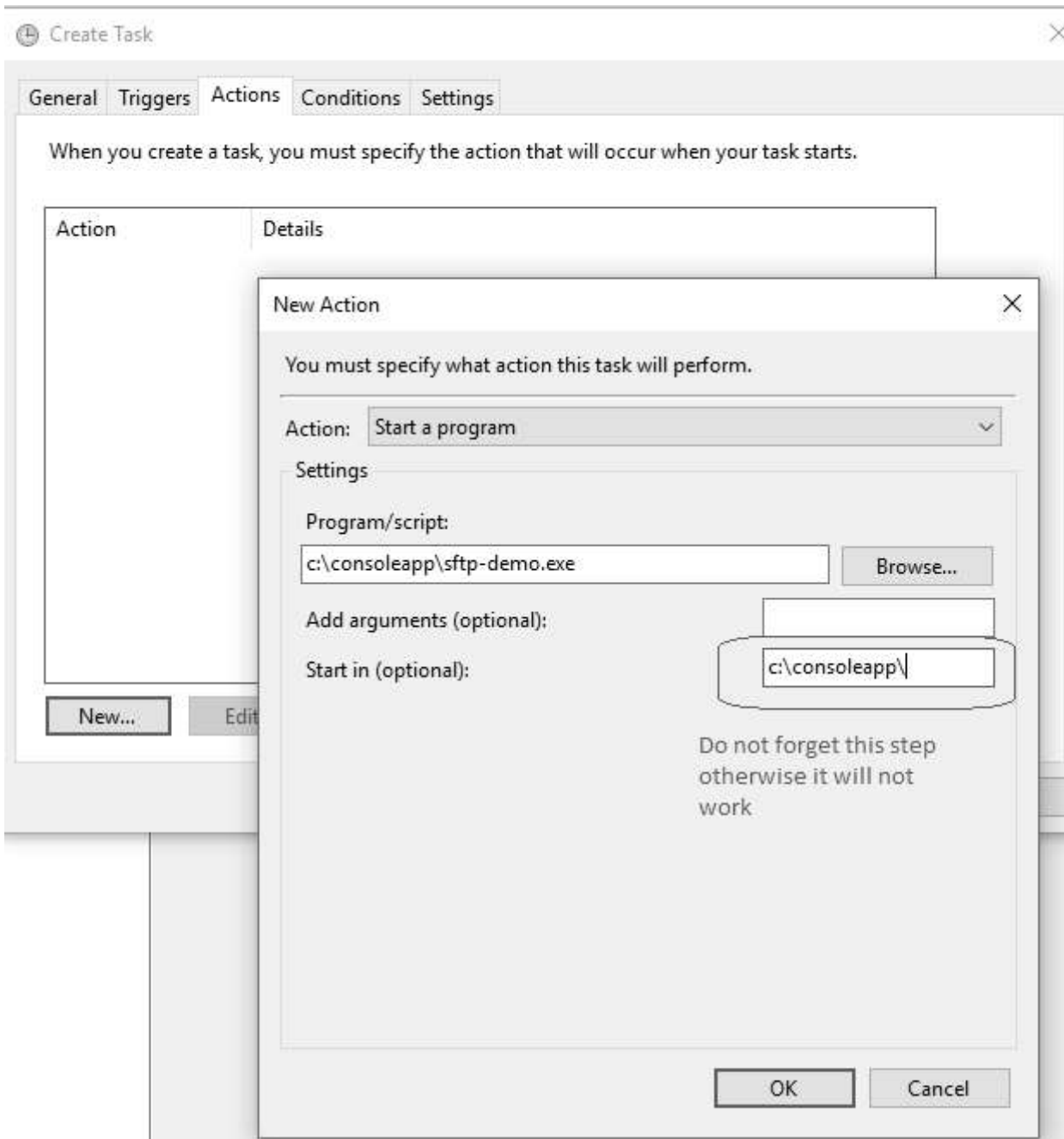
Hidden **Configure for:** Windows Vista™, Windows Server™ 2008

Buttons: OK, Cancel

Step 2: Triggers



Step 3: Actions



Points of Interest

This article will help you in building SFTP connectivity using PSFTP. You can add more features depending on your requirements.

Your feedback is always welcome.

History

- 29th May, 2023: Initial version

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This member has not yet provided a Biography. Assume it's interesting and varied, and probably something to do with programming.

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