

Run Java Program as a Windows Service With Procrun

What is Apache Commons Daemon Procrun?

Procrun is a set of applications that allow Windows users to wrap (mostly) Java applications (e.g. Tomcat) as a Windows service. The service can be set to automatically start when the machine boots and will continue to run with no user logged onto the machine.

You can download Procrun binaries here: <http://mirror.idealhosting.net.tr/Apache//commons/daemon/binaries/windows/commons-daemon-1.0.15-bin-windows-signed.zip>

Create Service

Lets create a Subversion-Updater service.

1. Create Windows service from command prompt (Administrator privileges)

```
prunsvr //IS//Subversion-Updater --Startup=auto --DisplayName="Subversion Updater" --Install=C:\svn-updater-service\prunsvr.exe ^
--Classpath=Subversion-Updater.jar --Jvm="C:\Program Files\Java\jre1.8.0_51\bin\server\jvm.dll" --
StartMode=jvm --StopMode=jvm ^
--StartClass=com.codesenior.subversion.service.Main --StopMethod=stop --
StopClass=com.codesenior.subversion.service.Main ^
--StartMethod=start --LogPath=d:\logs --LogPrefix=Subversion-Updater --LogLevel=Info --
StdOutput=d:\logs\stdout.txt ^
--StdError=d:\logs\stdout.txt --JvmMs=64 --JvmMx=128 --JvmSs=128 ^
--JvmOptions=-Dfile.encoding=UTF8 ++JvmOptions=-Duser.language=TR ++JvmOptions=-Duser.region=tr
```

Notice that we wrapped Jvm option parameter with double quota:

```
1 --Jvm="C:\Program Files\Java\jre1.8.0_51\bin\server\jvm.dll"
```

Also note that if you have more than one jvm options you should add with ++ letters. First jvm option starts with --

```
1 --JvmOptions=-Dfile.encoding=UTF8 ++JvmOptions=-Duser.language=TR ++JvmOptions=-Duser.region=tr
```

2. We can also create a batch file containing following content:

```
1 set SERVICE_NAME=Subversion-Updater
2 set PR_DISPLAYNAME=Subversion Updater Service
3 REM Full path of prunsvr.exe
4 set PR_INSTAL=C:\svn-updater-service\prunsvr.exe
5
6 REM Service log configuration
7 set PR_LOGPREFIX=%SERVICE_NAME%
8 set PR_LOGPATH=d:\logs
9 set PR_STDOUTPUT=d:\logs\stdout.txt
10 set PR_STDERROR=d:\logs\stderr.txt
11 set PR_LOGLEVEL=Error
12
13 REM Path to java installation
14 set PR_JVM=C:\Program Files\Java\jre1.8.0_51\bin\server\jvm.dll
15 REM this jar is supposed to be located in the prunsvr.exe directory
16 set PR_CLASSPATH=Subversion-Updater.jar
17
18 REM Startup configuration
19 set PR_STARTUP=auto
20 set PR_STARTMODE=jvm
21 set PR_STARTCLASS=com.codesenior.subversion.service.Main
```

```

22 set PR_STARTMETHOD=start
23 set PR_STARTPARAMS=CodeseniorComments;3600000
24
25 REM Shutdown configuration
26 set PR_STOPMODE=jvm
27 set PR_STOPCLASS=com.codesenior.subversion.service.Main
28 set PR_STOPMETHOD=stop
29
30 REM JVM configuration
31 set PR_JVMMS=64
32 set PR_JVMMX=128
33 set PR_JVMSS=128
34 set PR_JVMOPTIONS=-Duser.language=TR;-Duser.region=tr
35
36 REM Install service
37 prunsvr.exe //IS//%SERVICE_NAME%

```

After created a batch file, call the file from command prompt (Administrator Privileges) and **don't double click** the batch file!

Note: We should set **full path** of prunsvr.exe file in PR_INSTALL at line 3. Classpath value is relative to prunsvr.exe location. Therefore no need to give full path of the jar file. At this configuration, we accept **prunsvr.exe** file and **Subversion-Updater.jar** file is at the **same location**.

The basic Service definitions are maintained under the registry key:

```
1 HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\<ServiceName>
```

Additional parameters are stored in the registry at:

```
1 HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\ProcRun 2.0\<ServiceName>\Parameters
```

On 64-bit Windows procrun always uses 32-bit registry view for storing the configuration. This means that parameters will be stored inside:

```
1 HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Apache Software Foundation\ProcRun 2.0\<ServiceName>
```


Java Tab

Name	Type	Data
(Default)	REG_SZ	(value not set)
Classpath	REG_SZ	Subversion-Updater.jar
Jvm	REG_SZ	C:\Program Files\Java\jre1.8.0_51\bin\server\jvm.dll
JvmMs	REG_DWORD	0x00000040 (64)
JvmMx	REG_DWORD	0x00000080 (128)
JvmSs	REG_DWORD	0x00000080 (128)
Options	REG_MULTI_SZ	-Dfile.encoding=UTF8 -Duser.language=TR -Duser.region=tr





Log Tab

Name	Type	Data
(Default)	REG_SZ	(value not set)
Level	REG_SZ	Info
Path	REG_SZ	d:\logs
Prefix	REG_SZ	Subversion-Updater
StdError	REG_SZ	d:\logs\stdout.txt
StdOutput	REG_SZ	d:\logs\stdout.txt

Start Tab

Name	Type	Data
 (Default)	REG_SZ	(value not set)
 Class	REG_SZ	com.codesenior.service.cron.Main
 Method	REG_SZ	start
 Mode	REG_SZ	jvm
 Params	REG_MULTI_SZ	CodeseniorComments 3600000

Stop Tab

Name	Type	Data
 (Default)	REG_SZ	(value not set)
 Class	REG_SZ	com.codesenior.subversion.service.Main
 Method	REG_SZ	stop
 Mode	REG_SZ	jvm

Note: Service name cannot contain space. Also note that you should run above commands in command prompt as administrator

Remove Service

To uninstall created service, run following command:

```
1 prunsv.exe //DS//{Service Name}
```

For example:

```
1 prunsv.exe //DS//Subversion-Updater
```

Sometimes created service can turn into disabled mode and command cannot delete the service. If this happens, follow below steps to completely remove it:

1. Start cmd in elevated mode. Then type: `sc queryex <SERVICE_NAME>`. Then you'll get some info. A PID number will show.
2. Run `taskkill /pid <SERVICE_PID> /f` command where /f is to force stop