

# JTB Process Monitor

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## About

**JTB Process Monitor** makes it possible to monitor usage of more applications than the core JTB FlexReport handles. There is a service part and a client part of Process Monitor. You need to first install the service and configure it and then install the client and configure it.

The data is saved into the JTB FlexReport core database and reports on the usage can be done in the normal way. This means that JTB FlexReport Core and JTB FlexReport Chart Service/Client also need to be installed.

The client computer to monitor does not need to be connected to the network all the time. It still can monitor the usage and when connected again it will send back the data to the server.

The client-server solution is based on WCF (Windows Communication Foundation) and XML Web services.

## System requirements

.NET Framework 4.0 or newer is needed for the service and client. Other than that most Windows operating systems are supported like XP, Vista, Windows 7, Windows 8, Windows 8.1, Windows Server 2003, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012. Both 32-bit and 64-bit systems are supported.

One limitation is that processes that run in Windows compatibility mode cannot be monitored.

## Installation of Service

The service needs to be installed on one location and it is recommended to be on the same computer where JTB FlexReport's other services are installed as it needs to save the usage to the JTB FlexReport database. For a trial it can be installed on a workstation if that is easier for the evaluation.

Run setup.exe that comes together with *JTBProcessMonitorService.msi*.

Default location for the installation is *C:\Program Files\JTB World\JTB Process Monitor Service* or *C:\Program Files (x86)\JTB World\JTB Process Monitor Service* on a 64-bit OS.

**JTB Process Monitor Service Configurator.exe** is used to configure the service, also available from the Windows Start menu.

Decide to use SQL Server or MS Access as database.

You might need to specify the static IP instead of the server machine name.

Make sure the port is open through firewalls and not used by other programs. If JTB FlexReport Chart Service is using ports 2000 and 2001 you can use 2002 here. Otherwise try with any port number

higher than 2002. This port number should also be specified by the JTB Process Monitor Client Configurator.

Browse for the MS Access database (normally named JTBFlexReport.NET.mdb) or configure the SQL Server settings. Use the button Load SQL Servers to update the list of SQL Servers. Use Load DB Names button to update the list of Database Names.

Notice that if the MS Access database is located on another server/computer (not recommended) you need to give the user that runs the service rights to access other computers on the network (details for how to do this is available in the core JTB FlexReport documentation). UNC path should be used instead of mapped folder.

### **Set processes grid**

**Process Name:** Specify the process names or full path to the exe files you want to monitor. Process names are the same name as the executable exe file. If you have the program running you can open Windows Task Manager and find the name. If you for example specify “acad.exe” only there will be no way to tell the difference between AutoCAD 2015 and AutoCAD 2016. If you want to report on them separately you need to specify the full path to the exe file.

**Process Description:** The description here will be used as “feature” name in the database and for the reports. If empty, the Process Name will be used.

**Use Title:** When checked the Windows Title column will be used for this row.

**Windows Title Filter:** Add part of the Windows title that should be used to determine what process to monitor. For example if the Process Name is set to “C:\Program Files\Autodesk\AutoCAD 2016\acad.exe” and you have both AutoCAD 2016 and AutoCAD Architecture 2016 installed you can set the filter to “AutoCAD 2016” respective “AutoCAD Architecture 2016” to be able to report separately on these applications even though they use the same acad.exe file.

**Idle Time Timeout:** The process is idle after specified amount of minutes if the process is not being used by the user. Usage of keyboard or mouse within the process/application triggers usage.

**CPU %:** For process intensive application the detection of idle can be specified related to CPU usage. Only if the process uses more than specified % of the CPU it will be counted as used.

**Project:** Use this checkbox if the project list should be used for this process.

Then click on Configure, Start Service, Test DB Connection, Test Service Engine and finally Exit.

**Server Machine**

Computer Name or IP Address:  Running On Port:

**SQL Server**

Server Name:   
 Database Name:   
 Authentication: ☐ SQL Authentication ☒ Windows Authentication  
 User ID:   
 Password:

**Database**

☐ SQL Server ☒ MS Access

**MS Access**

Database Name:

**Service Process Priority**

Process Priority:

**Set Processes**

Process Name	Process Description	Use Title	Windows Title Filter	Idle Time Timeout	Project
E:\Program...	AutoCAD 2016	<input checked="" type="checkbox"/>	AutoCAD 2016	10	<input type="checkbox"/>
E:\Program...	AutoCAD Architecture 2016	<input checked="" type="checkbox"/>	AutoCAD Architecture 2016	10	<input type="checkbox"/>
winword	Word	<input type="checkbox"/>		5	<input type="checkbox"/>
*		<input checked="" type="checkbox"/>		0	<input checked="" type="checkbox"/>

☒ Usage Time Only ☐ CPU

**Advance Options**

☐ Enable Project List ☒ Enable Client Update Schedule ☐ Hide Client Icon ☐ Suspend until Project Dialog Box is closed  
☐ Mandatory Project Selection ☐ Set Focus to Project Dialog Box ☐ Minimal Project Dialog Box

**Project List**

Project List:

**Client Update Schedule**

Updating Time: 12:30, 14:30, 16:30, \*

☒ Use Service

#### Advanced Options:

- Enable Project List**  
 When checked projects can be added, edited and deleted from the project list.
- Enable Client Update Schedule**  
 When checked updating times can be added to the Client Updating Times list. This makes it possible to specify when the client should send updates to the service. When disable it is done on an automated basis once per day.
- Hide Client Icon**  
 When checked the Notification Area Icon for the Process Monitor Client will be hidden. Only way to close the client is through the Task Manager.
- Suspend until Project Dialog Box is closed**  
 When checked the application started with be suspended until the Project Dialog Box is closed.
- Mandatory Project Selection**  
 When checked it is mandatory for the user to select a project.

- **Set Focus to Project Dialog Box**

When checked the Project Dialog Box will get focus instead of the started application making it possible to right away type in the project on the keyboard.

- **Minimal Project Dialog Box**

When checked only the Apply button will be available.

Make a note of the port that is used as it is needed to setup the clients.

Copy the license file *JTBFlexReportLicense.txt* into the installation folder for the JTB Process Monitor Service.

The settings for the processes to monitor are saved here:

*%ALLUSERSPROFILE%\JTB World\JTB Process Monitor Service\Processes.xml*

Example for Windows Vista/7/8 location:

*C:\ProgramData\JTB World\JTB Process Monitor Service\Processes.xml*

## Installation of Client

Run setup.exe that comes together with JTBProcessMonitorClient.msi.

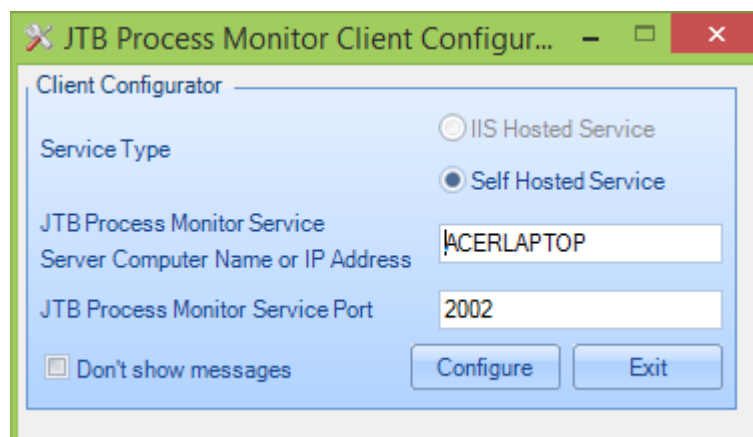
Default location for the installation is *C:\Program Files\JTB World\JTB Process Monitor Client* or *C:\Program Files (x86)\JTB World\JTB Process Monitor Client* on a 64-bit OS.

You need to be connected to the network and have the service running before you configure the client. If the client sometimes is offline you also need to start the client and run it at least once so it knows what processes to monitor.

*JTB Process Monitor Client Configurator.exe* is used to configure the client, also available on the Windows Start menu.

Specify the server name or IP. If you have problem to use the server name, try the IP instead.

Specify the same port as specified in the service config. Press Configure and Exit.



After the installation the client needs to be started manually otherwise it will first be started next time the user login.

When the client starts it retrieves the processes to monitor from the service and saves them locally:

*%AppData%\JTB World\JTB Process Monitor Client\Processes.xml*

Example for Windows 7/8 location where jtb is the logged-in user:

*C:\Users\jtb\AppData\Roaming\JTB World\JTB Process Monitor Client\Processes.xml*

Usage for all processes are saved locally in this folder:

*%AppData%\JTB World\JTB Process Monitor Client\Process Information Collection*

Example for Windows 7/8 location where jtb is the logged-in user:

*C:\Users\jtb\AppData\Roaming\JTB World\JTB Process Monitor Client\Process Information Collection*

You can look in this folder for one or many XML files to be created to confirm that the client is running as expected.

Once a day this information is sent to the service and saved to the database.

If you want to automate installation on clients here are the basic steps for it. Make the configuration on one computer. The settings are saved into *JTB Process Monitor Client.exe.config*. This file can then be copied to the other clients in an automated way.

Create a CMD or BAT or VBS file that runs the MSI file in silent mode and then copy the client config file from a server location.

For Windows Vista/7/8:

*MsiExec.exe /qb /i JTBProcessMonitorClient.msi*

For XP:

*MsiExec.exe /qn /i JTBProcessMonitorClient.msi*

After that merge the JTBProcessMonitorClientConfigured.reg file to the current user's registry to tell the client configurator to use the updated .config file. The .reg file is found in the \JTB World\JTB Process Monitor Client folder.

## Usage

*JTB Process Monitor Client.exe* is the process that runs and monitors the usage of the processes.

*JTB Process Monitor Client.exe* is automatically started when the client logs in on Windows.

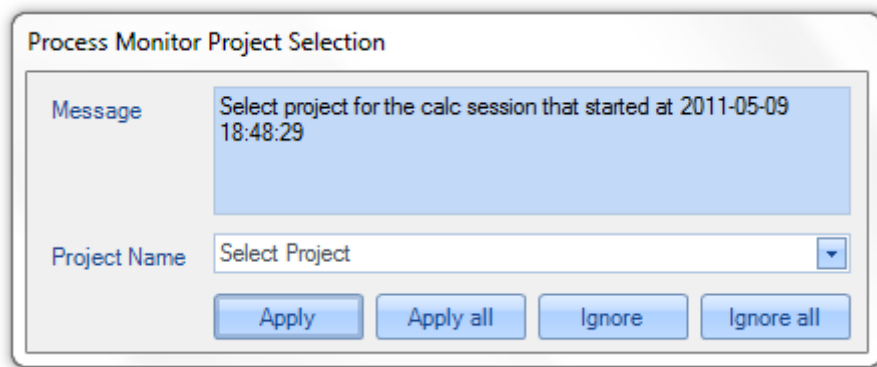
You can stop the client by right clicking on the taskbar notification icon.

You can push data manually to the service from the right click menu.

If project selection has been configured for the application starting this dialog box will show up making it possible to select a project.

If multiple applications are started "Apply all" or "Ignore all" can be used to act on them all at the same time.

Project can specified by just start entering the name or by selecting it from the dropdown.



## Reports and charts

Reports on the usage are made from the standard JTB FlexReport application.

The Excel reports that cannot be used.

The report types that are supported in the **chart client** are:

- "Unique Users" in combination with selection on Feature Server tab.
- The selection on the Detailed tab can be used together with "Per Day", "Continuous", "Stacked Line", "Histogram", "Unique Users"
- The charts on the "Hours Chart" tab.

Several of the **detailed reports** are available to use. "Used licenses (not including borrowed licenses)" and "User Groups and Host Groups".

Data from the client will have a server name of "null". This can be modified by adding a description for the server "null" in JTB FlexReport Config>Servers.

Reports including project will be provided in an upcoming release upon requests.

## Resolve problems and some tips & tricks

If the installation fails you may need to disable any anti-virus or backup software. One typical error can be "The installer has encountered an unexpected error installing this package. This may indicate a problem with this package. The error code is 2203"

Make sure the configuration server name and port number is the same on both client and server.

Using netstat -o in command prompt window will help to identify ports that are used on the machine. Sometimes the port configured is already used and to solve the conflict you need to change the port in the configuration on the server and the client. Normally you can try numbers that start with 2000 and higher.

Make sure that the port is not blocked either on the server or the client side.

If Test Service Engine gives this error: "The Remote Name Could Not Be Resolved: 'localhost'" and if the Event Viewer has this event (Event ID: 15005 Source: HTTP) you can try to change the port number to next number: "Unable to bind to the underlying transport for 0.0.0.0:2000. The IP Listen-Only list may contain a reference to an interface which may not exist on this machine. The data field contains the error number."

Check the Windows Event Viewer for any Application or System errors being logged that are related to JTB FlexReport.

Make sure the license file is copied to the folder installation folder for the service:

`\\JTB World\\JTB Process Monitor Service`

Check if the *JTB Process Monitor Service* is running in Windows Services.

See `%LOCALAPPDATA%\\JTB World\\JTB Process Monitor Client` for .log files.

To test from the client if it has contact with the server service you can locate *JTB Process Monitor Client.exe.config* and locate near the end of the file this row: `<endpoint address="http://MyServer:2000/ProcessService"`. Now try to enter the address in a web browser and see if there are any problems to access the service or not. You can also try to ping the actual server. Try also the address above directly on the server.