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 Service and JTB FlexReport 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 4.6 or newer is needed for the service and client. Windows 11, Windows 10, Windows Server 2022, Windows Server 2019, Windows Server 2016, Windows Server 2012 R2, Windows Server 2012. 32-bit and 64-bit operating systems are supported. Windows 2003 Server, Windows XP, Windows 2000 (SP2), Windows Server 2008 R2, Windows 2008 Server, Windows 8.1, Windows 8, Windows 7, Windows Vista might work but are not supported.

One limitation is that processes that run in Windows compatibility mode might not 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 JTB Process Monitor Service <version> Setup.exe.

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 2003 and 2004 you can use **2005** here. Otherwise try with any not used port number higher than 2005. 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.

Total: Save the total process time to the database.

Active: Save the active process time to the database. This is based on Idle Time Timeout and/or CPU%.

Windows Title Filter: Add part of the Application's window title (normally at the top in the middle) that should be used to determine what process to monitor. For example if the Process Name is set to "C:\Program Files\Autodesk\AutoCAD 2023\acad.exe" and you have both AutoCAD 2023 and AutoCAD Architecture 2023 installed you can set the filter to "AutoCAD 2023" respective "AutoCAD Architecture 2023" to be able to report separately on these applications even though they use the same acad.exe file.
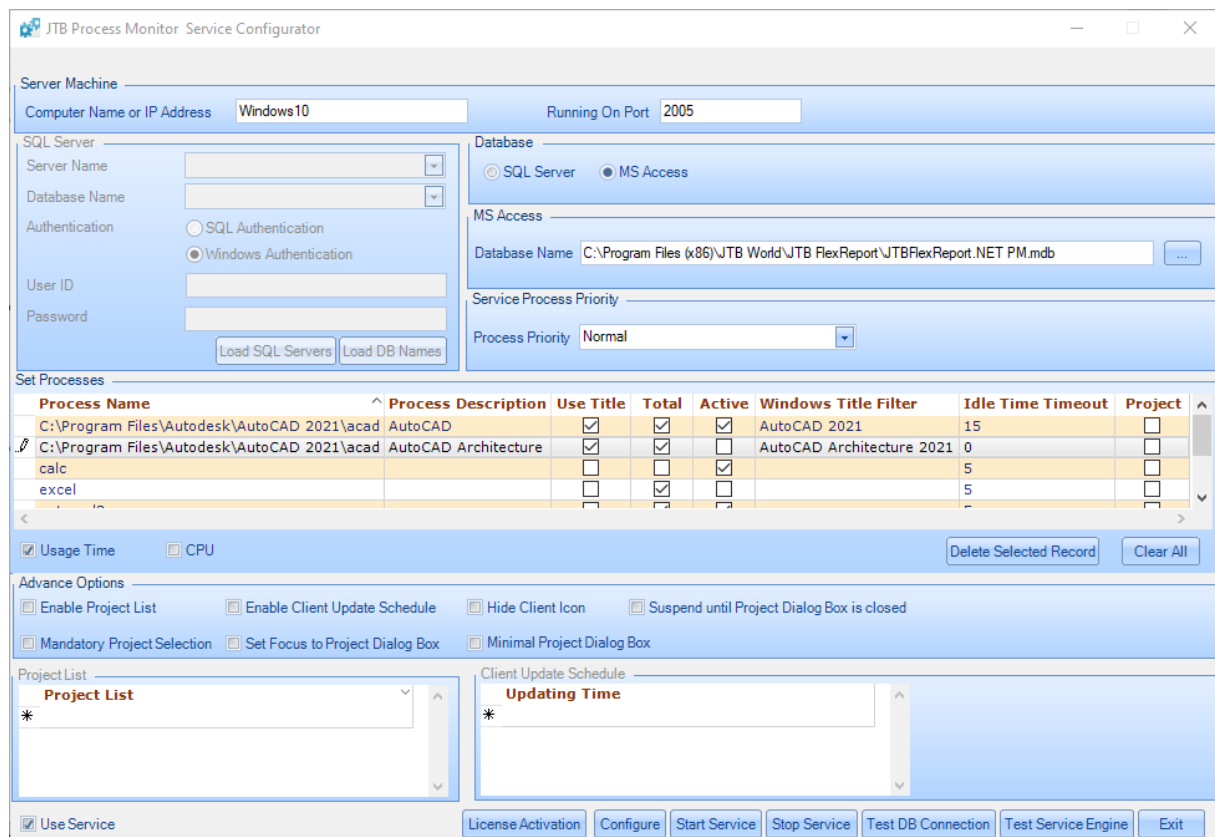
To monitor add-ins specify part of the Add-ins window title.

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. To avoid discrepancies in the reports the Timeout should be equal or larger than the precision in JTB FlexReport Service Configurator, preferably twice as large or more. Minimum Timeout is 2 minutes.

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.

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 hour. Update is sent from the Client when it is closed too.
- **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.

After purchase has been done or to extend a trial period, click on "License Activation" at bottom left of the Configurator. Send the computer number that shows in the dialog box to JTB World at info@jtbworld.com to receive the Activation Key.

The settings for the processes to monitor are saved here:
%ALLUSERSPROFILE%\JTB World\JTB Process Monitor Service\Processes.xml
Example for Windows Vista/7/8/8.1/10/11 location:
C:\ProgramData\JTB World\JTB Process Monitor Service\Processes.xml

Installation of Client

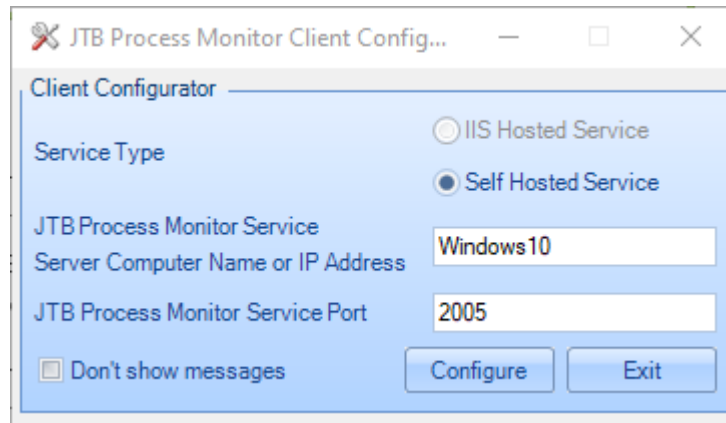Run JTB Process Monitor Client <version> Setup.exe.

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 JTB Process Monitor service running before you configure the client.

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 (JTB Process Monitor Client.exe) is started and will restart when Windows starts.

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 7/8/8.1/10/11 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 is saved locally in this folder:
%AppData%\JTB World\JTB Process Monitor Client\Process Information Collection
Example for Windows 7/8/8.1/10/11 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.

At least once an hour this information is sent to the service and saved to the database and then the saved XML files are deleted unless a process still is running.

If you want to automate installation on clients here is how:

"c:\temp\JTB Process Monitor Client Setup.exe" /server="Windows11" /port=2005 /messages=false /startclient=true /nostartmenu=true /NOICONS /FORCECLOSEAPPLICATIONS /VERYSILENT /NORESTART /SUPPRESSMSGBOXES /LOG="%TEMP%\JTB Process Monitor Client Setup.LOG"

/server="ourserver" for server name or IP as used in the JTB Process Monitor Service Configurator.

/port=2005 for port as used in the JTB Process Monitor Service Configurator.

/messages determine if messages are showed by the Client while it runs. Use **true** or **false**.

/startclient determine if the Client starts after install is ready. Use **true** or **false**. The logged in account the installer runs with will be used to start the Client.

/nostartmenu determine if nothing is added to the Windows start menu. Use **true** or **false**.

To specify another installation folder use **/DIR="C:\JTB Process Monitor Client"** and change the path as you like.

MSI installer is also available.

msiexec /i "C:\temp\JTB Process Monitor Client Setup.msi" SERVER="Windows11" PORT="2005" MESSAGES="false" STARTCLIENT="true" NOSTARTMENU="true" /qn /l*vc "%Temp%\JTB Process Monitor Client Setup.LOG"

To uninstall silently:

msiexec /x "C:\temp\JTB Process Monitor Client Setup.msi" /qn

Usage

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

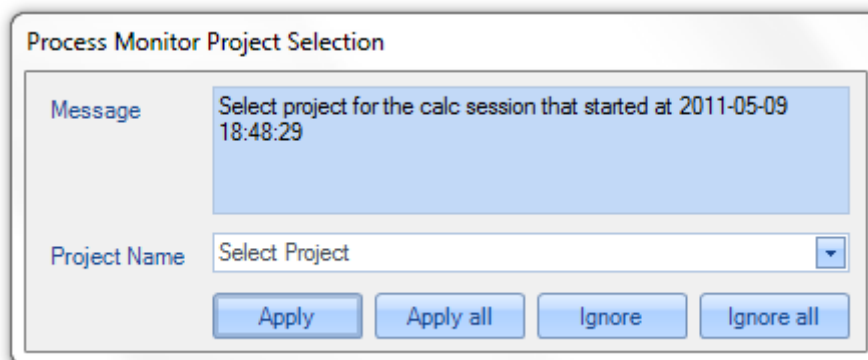*JTB Process Monitor Client.exe* is automatically started when the client logs in on Windows.

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 main JTB FlexReport application.

The report types that are supported in the **Report 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.
- Detailed List reports.

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

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"

Check if there is JTB Process Monitor data in the database using queries like these:

```sql
SELECT TOP (100) *
  FROM [dbo].[tblUserDetailedLog]
 WHERE ServerName = 'JTB Process Monitor'

SELECT TOP (100) *
  FROM [dbo].[tblUserDetailedLogPrev]
 WHERE ServerName = 'JTB Process Monitor'
```

Make sure the license is activated in trial mode or as purchased. See "License Activation" in the Configurator.

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

Verify that JTB Process Monitor Client.exe is running.

See C:\Program Files (x86)\JTB World\JTB Process Monitor Service for log files.

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 in the installation folder *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.

Is this file available on the Client? This is the settings from the Service and indicates that the Service and Client communicate.
%AppData%\JTB World\JTB Process Monitor Client\Processes.xml

Usage for all processes is saved locally in this folder:
%AppData%\JTB World\JTB Process Monitor Client\Process Information Collection
Example for Windows 7/8/8.1/10/11 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. The XML file is updated when a monitored process runs or ends or is inactive. Run a monitored process and see if the XML is updated as expected. The XML file is removed from usage that has been pushed to the database and deleted if empty.

Make sure the configuration server name and port number are 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 or JTB Process Monitor.