



## **SmartDiagnostics<sup>®</sup> Application Note OPC Server Installation** **Instructions**

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### **Overview**

This document contains instructions for installing and using the SmartDiagnostics OPC Server. Following the completion of this process, you should be able to retrieve values, in near real-time, from the SmartDiagnostics software via any OPC DA compliant client.



## Requirements

The SmartDiagnostics OPC Server should be installed on a Windows desktop or server. It is installed as a windows service that remains running as long as the computer is turned on. The computer must be Windows 7 or later or Windows Server 2008 R2 or later.

## Installation Procedure

Prior to installing the SmartDiagnostics OPC Server, you will need to install the following pre-requisites:

1. .NET Framework 4.5.1 or later
  - <http://www.microsoft.com/en-us/download/details.aspx?id=40779>
2. Microsoft Visual c++ 2010 redistributable package (x86)
  - <https://www.microsoft.com/en-us/download/details.aspx?id=5555>
3. OPC core components
  - 64-bit - <https://kcftech.com/smartdiagnostics/resources/software/opc-core-components-redistributable-x64-20150731.zip>
  - or 32-bit - <https://kcftech.com/smartdiagnostics/resources/software/opc-core-components-redistributable-x86-release-106-20150630.zip>

Once the pre-requisites are installed, download the OPC Server software itself is here:

- <https://kcftech.com/smartdiagnostics/resources/software/SmartDiagnosticsOPCServer.msi>

Once the install completes, you will need to configure the service by editing this file:

- C:\Program Files (x86)\KCF Technologies\Smart Diagnostics\OPC Server\customOPC.config

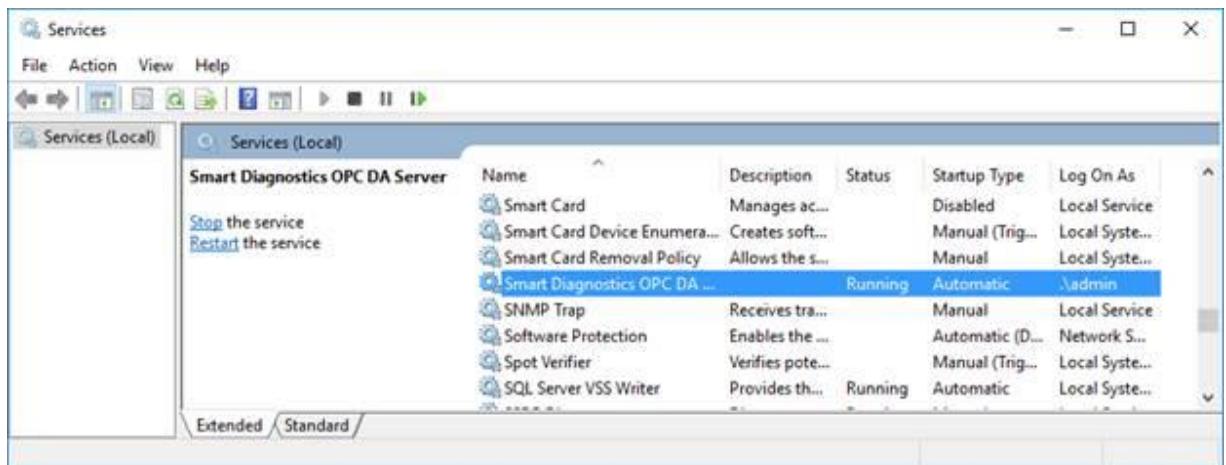
Edit the following keys:

1. Edit the key “apiKey”, set it to the OPC API Key that KCF Support will give to you.

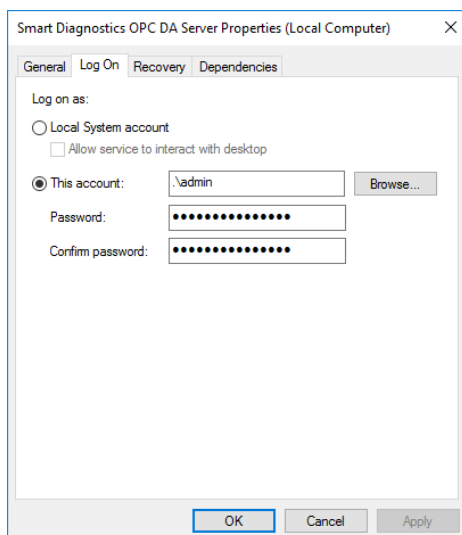


Save the file.

After editing and saving the file, start the windows service by searching for Services in the start menu, find the “Smart Diagnostics OPC DA Server” in the list, right click and select “Start” or “Restart” if it’s already running.



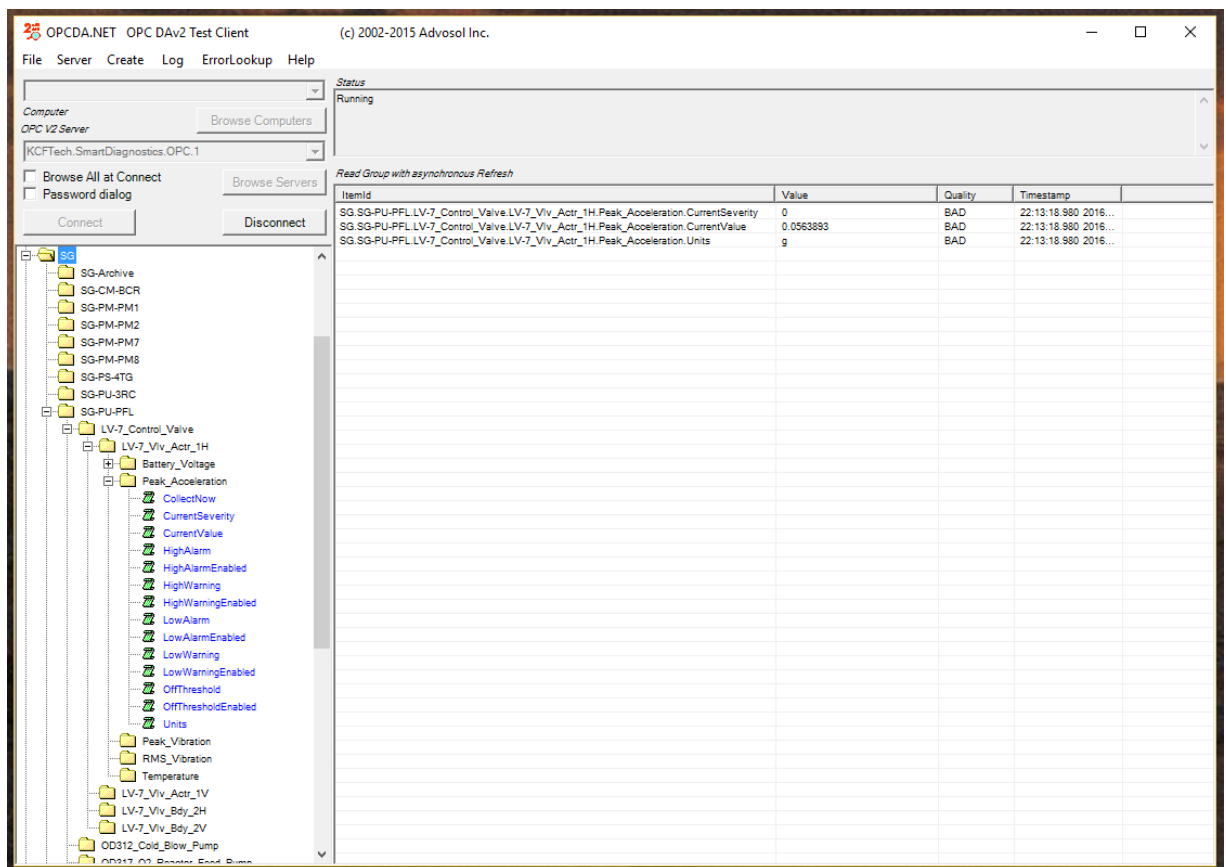
Depending on the windows version this is running under, you may need to add network privileges to the service account (specifically HTTPS and DCOM) or switch the service to run as a different user like an administrator.





## Usage

Once the OPC Server is running, test that it is successfully installed with your favorite OPC Test client. Connect to the “KCFTech.SmartDiagnostics.OPC.1” server. You will be able to browse an OPC structure that will reflect the structure you’ve created in SmartDiagnostics.



Itemid	Value	Quality	Timestamp
SG.SG-PU-PFL.LV-7_Control_Valve.LV-7_Viv_Actr_1H.Peak_Acceleration.CurrentSeverity	0	BAD	22:13:18.980 2016...
SG.SG-PU-PFL.LV-7_Control_Valve.LV-7_Viv_Actr_1H.Peak_Acceleration.CurrentValue	0.0563893	BAD	22:13:18.980 2016...
SG.SG-PU-PFL.LV-7_Control_Valve.LV-7_Viv_Actr_1H.Peak_Acceleration.Units	g	BAD	22:13:18.980 2016...

Each indicator in SmartDiagnostics will expose the following list of items:

- Current Value
- Current Severity
- High Alarm Value



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- High Alarm Enabled
- High Warn Value
- High Warn Enabled
- Low Warn Value
- Low Warn Enabled
- Off Threshold Value
- Off Threshold Enabled
- Units

There is also a CollectNow item. When you write a 1 to CollectNow, it will initiate the process of collecting data from the corresponding sensor. Please note that this may take up to several minutes to complete.

## Troubleshooting

The OPC Server writes status information to a log file located at  
C:\ProgramData\KCF Technologies\Smart Diagnostics\logs\opc\OPCLog.txt  
A successful connection will show the indicators being pulled down from the account within Smart Diagnostics.

```
2017-02-22 10:55:28.3783 NSPlugin.AppPlugin Server Starting
2017-02-22 10:55:28.4323 NSPlugin.AppPlugin -----APIKEY: ABCABCABCA -----
2017-02-22 10:55:28.4533 NSPlugin.AppPlugin -----DOMAIN: https://sd.kcftech.com -----
2017-02-22 10:55:28.4653 NSPlugin.AppPlugin Getting indicators from Server.
2017-02-22 10:55:29.5345 NSPlugin.AppPlugin Retrieved {1} indicators.
2017-02-22 10:55:29.5545 NSPlugin.AppPlugin Adding item system1.machine1.Bearing
2017-02-22 10:55:29.5755 NSPlugin.AppPlugin Adding item system1.machine1.fan
```

If it appears that the server can't connect and pull down indicators. Try connecting to <https://sd.kcftech.com> from a web browser on the server to check for an open internet connection to the Smart Diagnostics cloud.