

Installing AutoSCAN Monitor.

Selecting the Host Server

AutoSCAN Monitor service can be installed on any windows computer, however in practice, the server which runs the Media Server is generally the best option.

By default the service requires only access to the AutoSCAN UDL file located in the “Program Data” folder and the SQL server itself. Again this is not strictly required as the service configuration file can be updated to use an alternate connection string.

Installation

Download the Monitor Service folder from:

<https://www.galkam.com.au/autoscan/Monitor/ASMonitor.zip>

Unzip the Monitor folder to the Autoscan Program files directory. The “Monitor” folder should now be present in the AutoscanNG programs folder.

NOTE: if not installing onto the same computer as an existing Autoscan, the folder can be located anywhere as there are no dependencies.

Check that the Monitoring Service application is not blocked. Right click and “unblock” if necessary as it typically the case with downloaded zip files.

Installing the service.

The Steps required to install the AutoSCAN Monitor Service are:

1. Create a Domain Service account suitable for use with the service
2. Provide suitable SQL server access for the service
3. Create a HTTP access control list reservation for the service’s REST endpoint
4. Install the service using the service registration script
5. Enable permissions on the **monitor\webroot** folder
6. Enable permissions to the <program data>\autoscanNG\autoscan.udl file (if required)
7. Enable Firewall access to the service.

Service User

The service should be installed as a specific “service” user.

Importantly:

- a) The password should not expire for this user
- b) The user must have permission to access network resources

- c) The user should have at least DB Reader access to the AutoSCAN Database. Initially, the service will automatically check for and add additional stored procedures if required. Allowing the service user to have DB admin during the setup phase is suggested.

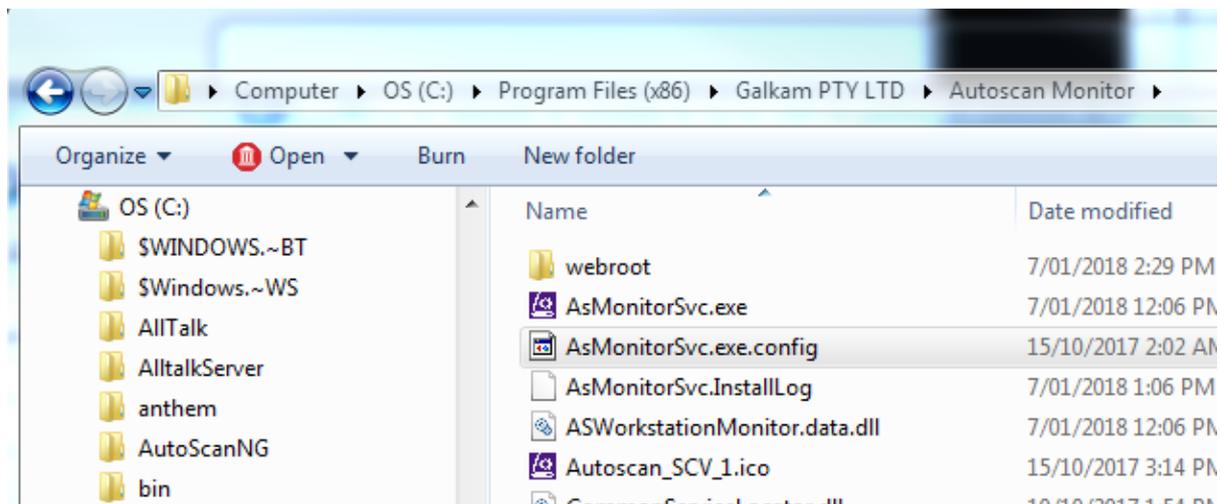
Service HTTP Ports and URL Access Lists

The AutoSCAN Monitor service is a stand-alone REST based web service. It requires permission to establish a HTTP listener.

As an administrator user, you need to add a specific access control list reservation for the AutoSCAN Monitoring service for the Service user.

On windows servers, http services are controlled using Access control lists and when self-hosted (not inside IIS), the **NETSH** command line tool is used to grant rights to establish specific port bindings and URLs as specific windows users.

The Default HTTP port for AutoSCAN Monitoring service is port 9000. This port can be changed by altering the BINDING Expression (***bind_expression***) in the AutoSCAN Monitoring Service Configuration file (***AsMonitorSvc.exe.config***)



To change the binding expression, open the Config file in your preferred text editor and locate the "Bind_expression" field.

```

<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <startup>
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5.2" />
  </startup>
  <appSettings>
    <add key="bind_expression" value="http://*:9000/" />
    <add key="ClientSettingsProvider.ServiceUri" value="" />
  </appSettings>
  <connectionStrings>
    <clear />
    <add name="RWH" connectionString="File name=%programData%\AutoscanNG\autoscan.udl" />
  </connectionStrings>
  <runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
      <dependentAssembly>
        <assemblyIdentity name="Newtonsoft.Json" publicKeyToken="30ad4fe6b2a6aeed" culture="neutral" />
        <bindingRedirect oldVersion="0.0.0.0-10.0.0.0" newVersion="10.0.0.0" />
      </dependentAssembly>
      <dependentAssembly>
        <assemblyIdentity name="Microsoft.Owin" publicKeyToken="31bf3856ad364e35" culture="neutral" />
        <bindingRedirect oldVersion="0.0.0.0-3.1.0.0" newVersion="3.1.0.0" />
      </dependentAssembly>
    </assemblyBinding>
  </runtime>
</configuration>

```

The binding expression follows the format as described in the Reference

<https://docs.microsoft.com/en-us/dotnet/framework/wcf/feature-details/configuring-http-and-https>

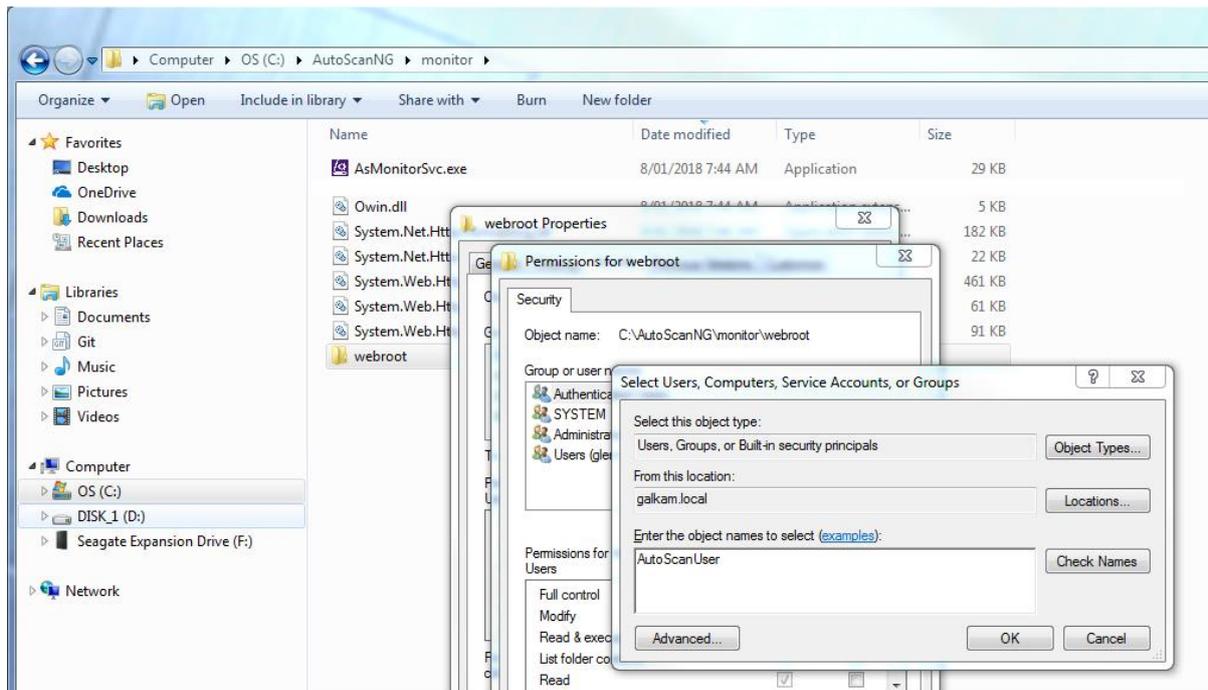
```
netsh http add urlacl url=<bind_expression> user=<DOMAIN>\<Service user>
```

For example, for a Domain user MyDomain\AsMonitorUser for the default binding:

```
C:\> netsh http add urlacl url=http://*:9000/ user=MYDOMAIN\AsmonitorUser
```

Enable Read Permissions on the \Monitor\webRoot folder

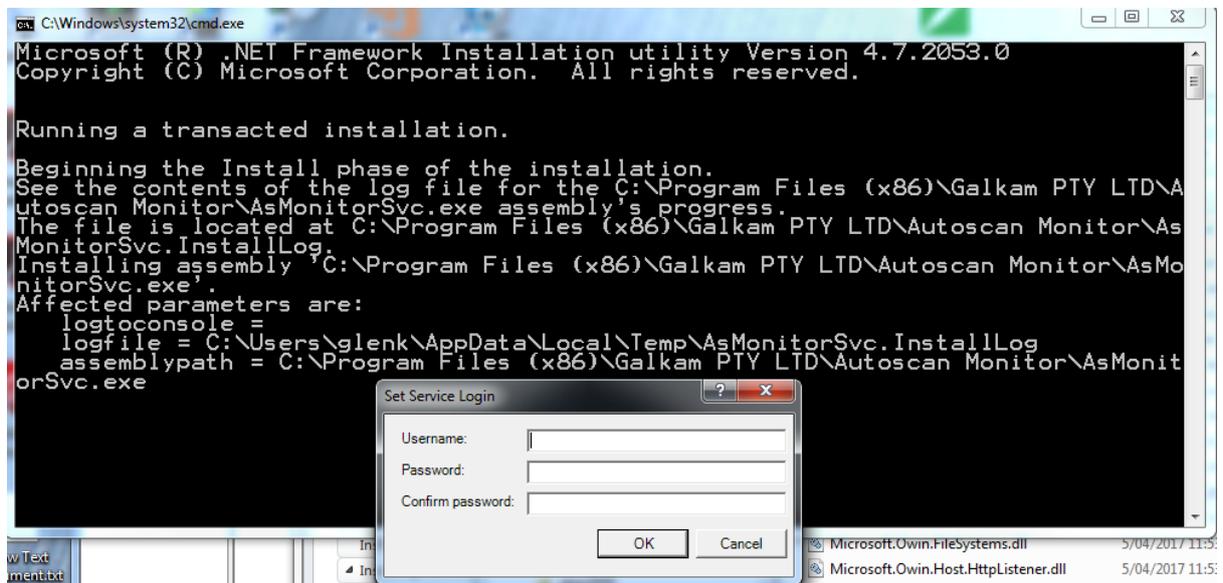
Ensure that the service user has read access ONLY to the Monitor\Webroot folder. Having higher privileges may have security implications.



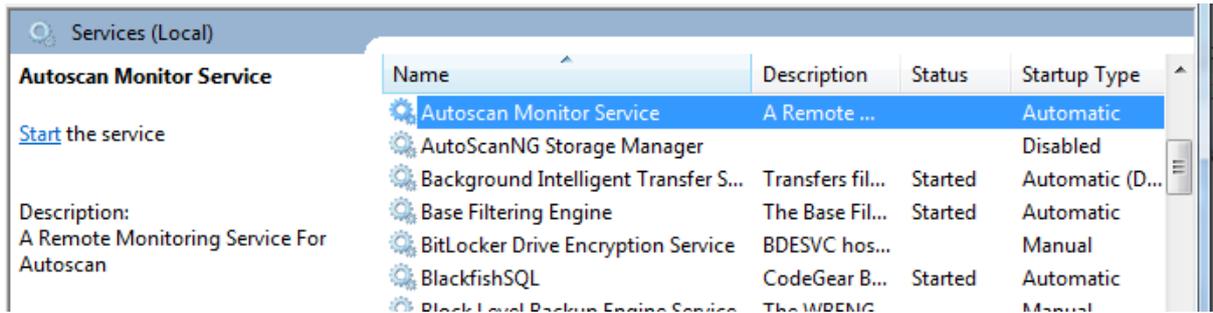
Running and Register the Service

The Autoscan Monitoring service is a .NET application that can run as a foreground or service application.

The normal operating mode is as a windows service. As an Administrator user, install the service using the service user by double clicking the script and enter the username and password for the service user.



After completion of the install process, the Monitoring service will be visible in the Services window.



Confirm the service is functioning.

Start the service and Confirm that the service is active by navigating to the Service's Endpoint.

Assuming default binding this is:

<http://<serverName>:9000/api/autoscancluster>

You should see a JSON response similar to:

```
{ "Clusters": [ { "workstations": [], "id": 1, "name": "AutoScan", "awaitingLIS": 1071, "transferring": 0 } ] }
```

Trouble Shooting the Service.

Initial Investigations

The Monitoring service can be run as a foreground application. Stop the service and browse to the Monitor Folder.

SHIFT-RIGHT-CLICK the ASMonitorSvc.exe and select "run as different user" and enter the Monitoring service User credentials. The service should start and display a detailed error message if there are any.

The most common issues are:

Existing Binding

The service may be trying to operate on a port already used for another service.

```
---> System.Net.HttpListenerException: Failed to listen on prefix 'http://localhost:9000/' because it conflicts with an existing registration on the machine.
```

In this case, change Examine the binding in the configuration file and select an alternate binding (using the instructions above)

Binding Permissions

The service user may not have permissions to create the binding specified in the configuration. Access to HTTP ports on modern Windows Machines is strictly controlled by binding permissions – see the section above on Access Control Lists.

```
Service cannot be established on http://*:9004/ -
System.Reflection.TargetInvocationException: Exception has been thrown by the target of an invocation. --->
System.Net.HttpListenerException: Access is denied
```

SQL Connection String and SQL server Permissions

The service must have access to the Autoscan SQL server database. There are two key steps in the process. Firstly the connection string in the Service Configuration should (by default) point to the Autoscan.UDL file in the ProgramData File. The service user may not have access to the file, it may not exist (if Autoscan is not installed on the machine) or the service user may not have the required access to the database.

Stored Procedures updated.

When starting the Monitoring service checks for the existence of stored procedures required for normal function. Depending on the permissions, the Service MAY NOT be able to create these procedures if they do not exist. Use the SQL management studio to determine if the stored procedure "UpdateWorkstationTable" is present. If not, temporarily give the service user DB admin rights and restart the service. After confirming that the stored procedure is present, the service user's permissions can be reduced to DB Reader.

Installing the client application

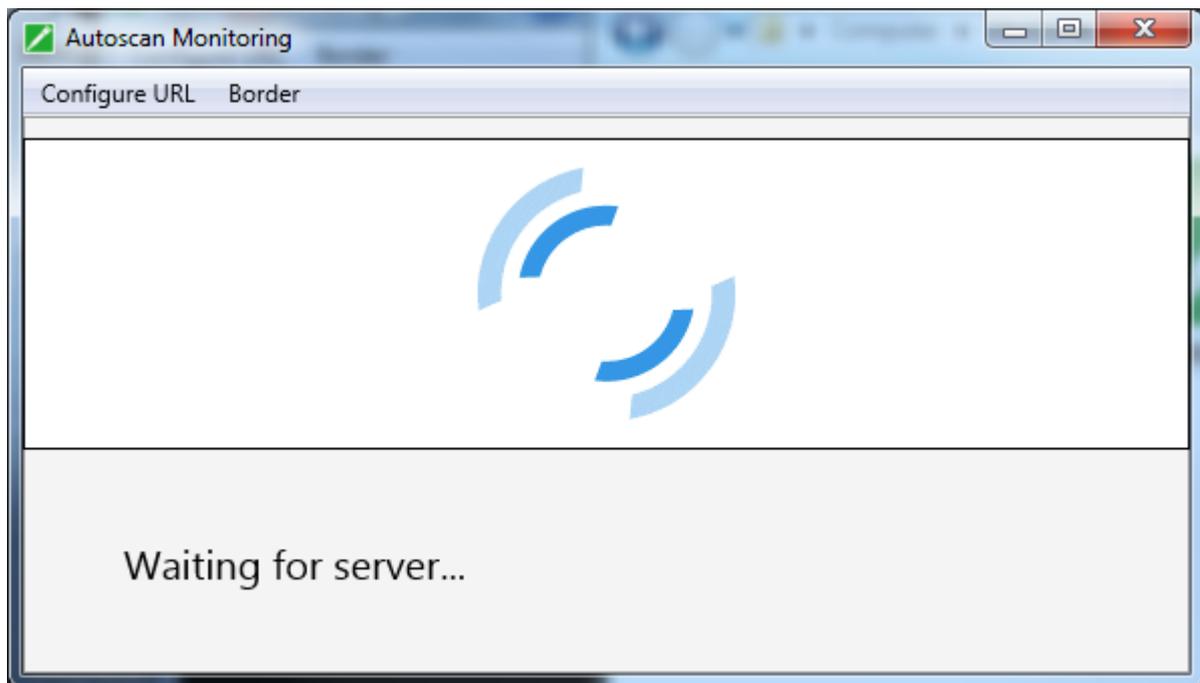
The Monitoring service can be accessed using the ASMonitor client application (windows EXE).

On any workstation, browse to

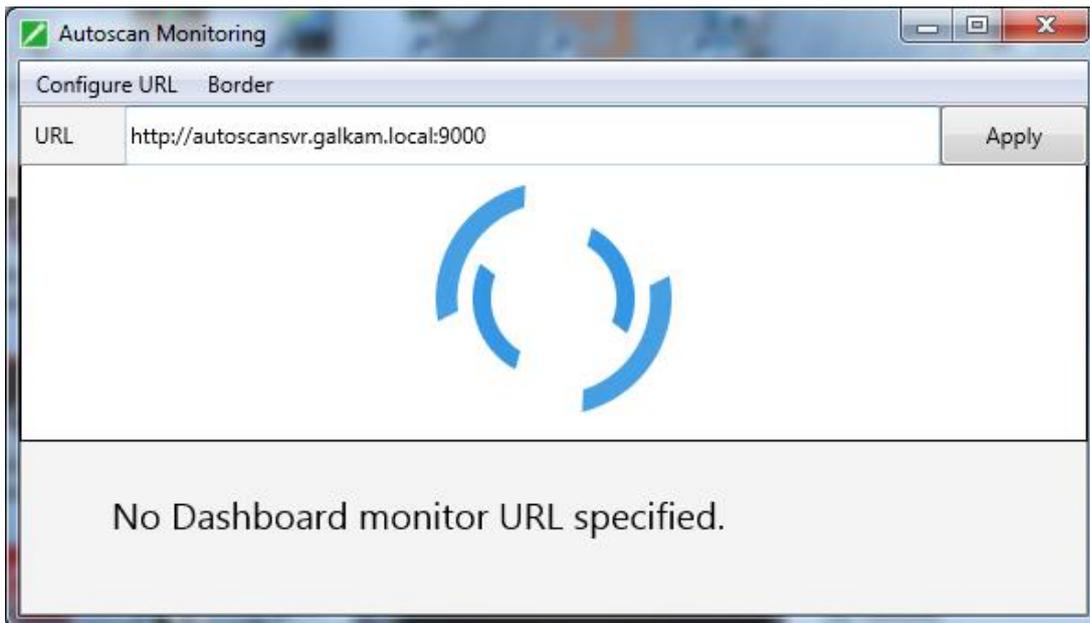
http://<monitoring_service_computer>:9000/asMonitor.exe

This will download the client application (to the “downloads” folder. Place this exe onto the workstation in a suitable location. For a single user computer the %appdata% folder) or on a shared computer, a new folder in the “Public folder” root.

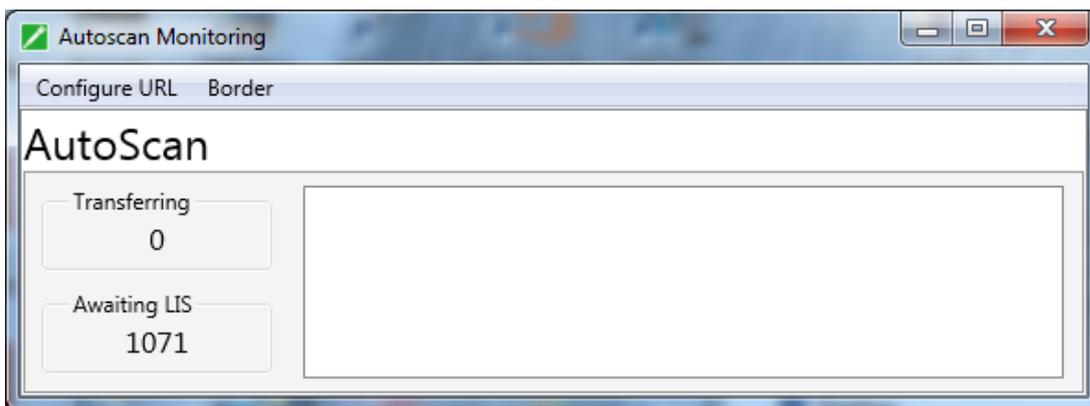
Double click the ASMonitor.exe and the application will start.



It will not know the location of the server, so click on the “Configure URL” menu option and enter the URL. Only the server and port is required, the client application will add the additional pathway itself.

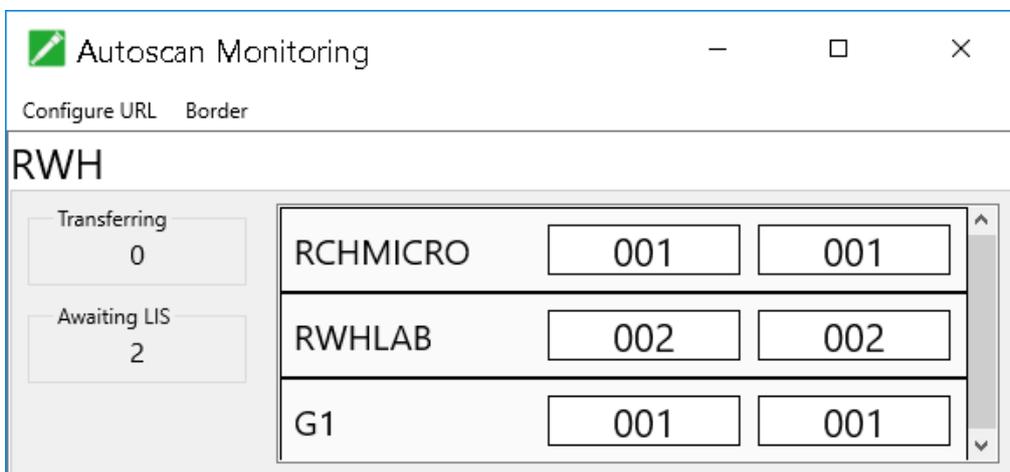


When the URL is entered correctly the client should connect successfully as shown:



The view above is typical when there are no outstanding images to process. The Service will dynamically fill the screen with workstation information as they become available.

For example:



Entering the URL incorrectly will result in an on screen error message such as:



Create a shortcut

If the Application does not remember the URL between restarts, then use a shortcut including the URL as the first parameter.

Move this shortcut to the desktop for easy Access.

