ePproductivity Software

Auto-Count Requirements Guide

Version 19.1
2025

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Auto-Count | Requirements Guide

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Introduction

This guide is for the system administrator at your plant who will be evaluating the hardware/software requirements for your Auto-Count installation. Please review this guide along with the Plant Manager & Auto-Count Installation Guide for a full review on what is required to deploy Auto-Count.

> **Notes**
>
> We do not support operating systems which Microsoft no longer supports. Please review these requirements and plan accordingly.
>
> If you do not follow these guidelines, we cannot guarantee your Auto-Count 4D installation will perform as designed.

Contact Information

ePS Support		
Web Site:	https://communities.epssw.com	Read knowledgebase articles, stay up to date on the latest release information and enter support cases.
E-Mail:	dmi.support@epssw.com	Contact the product-specific support team.
Documentation Portal:	https://epsdoc.myprintdesk.net/DSF/	Download ePS documentation.

> **Note** For problems involving infrastructure (i.e., computers, networks, operating systems, backup software, printers, third-party software, etc.), contact the appropriate vendor. We cannot support these types of issues.

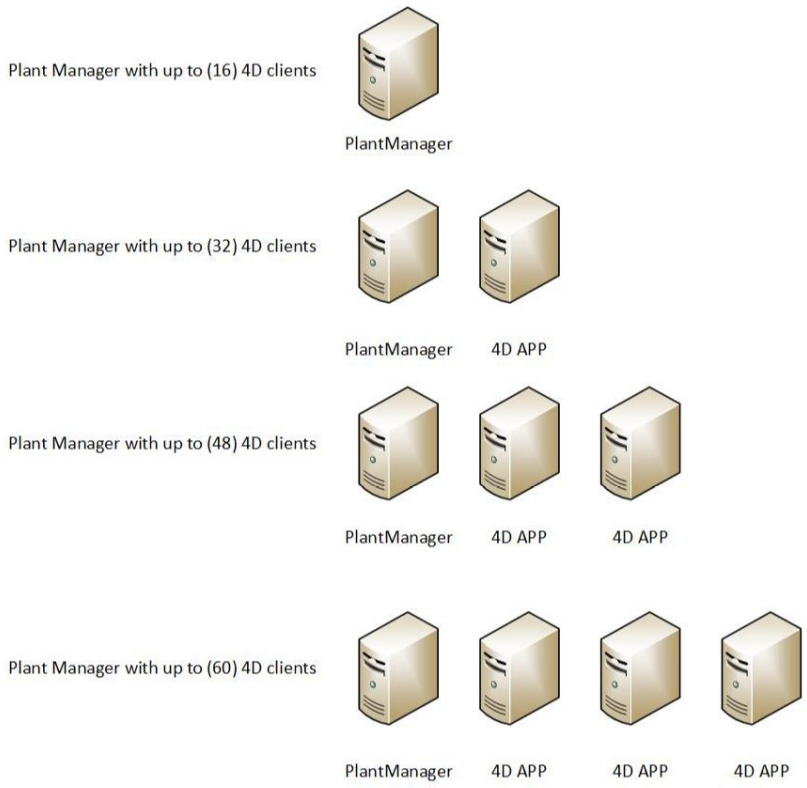
Overview

The tables of recommendations in this guide provide the details for software and hardware. But you must first understand what your needs are and your starting point. Based on the number of Auto-Count 4D instances you purchase, it is necessary to spread out the Auto-Count 4Ds across several server machines – we recommend using virtual machines (VMs). You do not want to overload your main server (Plant Manager, Connector, etc.) with too many Auto-Count 4Ds. Use these basic recommendations to help you determine how many servers (VMs) you'll need to properly run Plant Manager and the Auto-Count 4D instances.

Below is the high-level resource overview of the Plant Manager Server machine and an additional Auto-Count Application server machine. The graphic is a visual representation to further help you understand how to load balance from there.

- Each plant or facility requires server Virtual Machines (VMs) to be hosted onsite.
- The first server VM will host the Plant Manager application, MS SQL database (Express version only), Plant Manager Browser, Report Services and the first 16 Auto Count machines (Auto Count = a work center). We call this the Plant Manager Server. The base VM server should have 32 GB RAM and 4 processing cores with 500 GB disk space. Then you must add additional resources per AC4D machines and if you are using SQL Express on this machine.
- We recommend you install SQL Server Enterprise or Standard Editions on a separate server.
- For load balancing, you'll need an additional application server VM to host *up to 22 additional Auto Count machines*. This base VM server should have 16 GB RAM and 4 processing cores with 250 GB disk space, plus enough resources for the number of AC4D machines installed. If you have more than 22 Auto-Count machines, then you'll need additional applications servers.

Warning This graphic is a guideline only.



Plant Manager Server Requirements

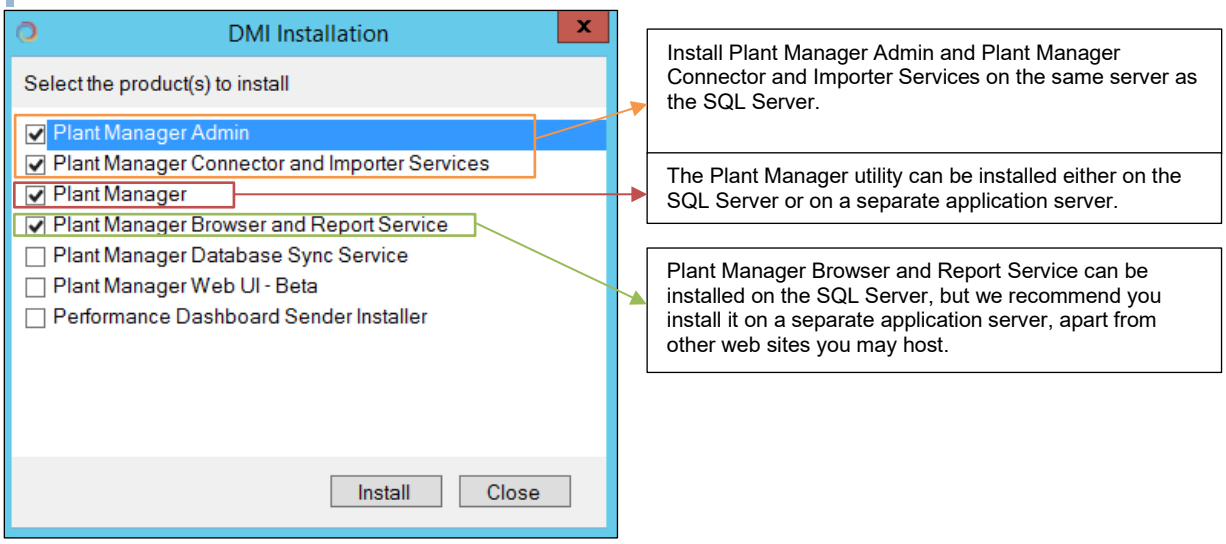
There are four components of Plant Manager: Plant Manager Admin, Plant Manager Connector and Importer Services, Plant Manager utility, and Plant Manager Browser and Report Services. The Plant Manager server will host, at a minimum, the MS SQL Server Express, Plant Manager Admin, Plant Manager Connector and Importer Services and up to 16 Auto-Count 4D machine services. For smaller installations you can also install the Plant Manager utility and Plant Manager Browser and Report Service.

Notes If you have more than 16 Auto-Count 4D machines, then you will need to install Microsoft SQL Server Standard or Enterprise Editions on a separate server. Please review MS SQL Server requirements.

If you have more than 16 Auto-Count 4D machines, you must use an application server for additional AC4D machine installations.

The following are recommendations for typical installations. If you do not have a typical installation, please consult with ePS Services.

These recommendations are based on a machine which only hosts these components. Do not install your MIS system or other software systems on this server.



Hardware

Note See the Appendix for resources per AC4D table.

Hardware Software	Recommendation
Processer	Octo-core CPU 3 GHz **plus**: Auto-Count 4D = 0.5 core *per 4D on this Plant Manager Server* **+** SQL Server Express = 4 core **+** Plant Manager Connector Service = 2 core* ***Note**: If you have additional 4D machines on a separate application server(s), then also allocate an additional 2 core per AC4D Application server connected to this Plant Manager server.
RAM	32 GB **plus**: Auto-Count 4D = 512MB RAM *per 4D* **Note**: If you have additional 4D machines on a separate application server(s), then allocate an additional 2 GB RAM per AC4D Application server.
Hard Drive	≥ 500 GB free space **plus**: Auto-Count 4D = 256 MB **+** Plant Manager SQL Express database is limited to 10 GB RAID 10 or 1 preferred Backup utility
Network Interface	Gigabit Ethernet
Print Server	Any Windows compatible laser printer(s). We do not recommend using wireless connections to the printers. We do not recommend using Remote Desktop for users to access the printer server. This can reset default printers if you do not disable printer settings before logging in.
Uninterrupted Power Supply	Any UPS with enough capacity to assure uninterrupted operation during a short outage. American Power Conversion (APC) is our recommended supplier.

Software

Server Software	Recommendation
Operating System	Windows Server 2019 (64-bit) or Server 2022. Always apply the latest patches/updates.
Microsoft .NET Framework	Version 4.8 (or higher) (Standalone Installer): Do *not* install .NET Core. This is a different product.
***Microsoft SQL Server**	SQL Express 2019, 2022 • You must be on Plant Manager **v19.1.1.1036** or higher to install EPS Reporting Services on the same server as SQL Server 2022. If you are on a lower version, then install Reporting service on a separate machine from SQL 2022. • We do not recommend using SQL Express for plants with more than 15 AC4D machines with traceability. • While SQL Express is the minimum supported version, we recommend using SQL Standard (or higher) for less administrative overhead, higher performance, and long-term data retention. **SQL Express has a 10GB data limit** which may cause customers to prune data more frequently than the business can support. *SQL Enterprise or Standard 2019, 2022 • Standard and Enterprise Edition must be installed on a separate server machine for optimal performance. • You must be on Plant Manager **v19.1.1.1036** or higher to install EPS Reporting Services on the same server as SQL Server 2022. If you are on a lower version, then install Reporting service on a separate machine from SQL 2022. Configuration Notes • Mixed mode -Set the Server Authentication mode to SQL Server and Windows Authentication. (64 bit) • Ensure an SA user/password is available. • SQL Management Studio and SQL Configuration Manager installed. • Allow Remote Connections enabled. • TCP IP and Named Pipes (32bit) enabled. • In TCP/IP properties for Protocols for MSSQLSERVER, set TCP port to 1433 (the default). • Upgrades: If you upgrade to SQL Server, be sure to reboot the server to clear any keys from previous versions. Also, always retain the default Recovery Model of Simple. Otherwise, the log files will become unmanageable.
Microsoft IIS URL Rewrite Module	
SAP Crystal Reports v13 for Visual Studio (.NET)	Runtime engine Version 13 Service Packs 28 through 36 for 32-bit. (SP28, SP29, SP30, SP31, SP32, SP33, SP34, SP35, SP36, SP37, or SP38). This is not the full version but the runtime version (free). Find the installation files here: https://www.crystalreports.com/download/. or here: https://origin.softwaredownloads.sap.com/public/site/index.html **Upgrades!** You must uninstall your current version of Crystal before you install this version. If you perform an in-place upgrade from 13.0.25 or previous

	versions, then after upgrading you must repair the installation in Control Panel > Programs. Otherwise, the ADO.Net database connection will NOT work.
Internet Information Services (IIS)	**IIS version 7, 8, or 10** web server with IIS 6 Management Compatibility role service for IIS. Impersonation User must have Active Directory Read access. and permissions to the ASP. NET database If using Domain Authentication, then grant IIS_IUSRS full access to the directory "C:\Windows\Microsoft.NET\Framework\v4.0.30319\Temporary ASP.NET Files". See Appendix A for details.

Auto-Count 4D App Server Requirements

If you have more than 16 Auto-Count 4D machines, then you must install them on a separate application server(s) apart from the SQL Server. We recommend any additional application servers host up to 22 additional Auto Count machines. But we do not recommend hosting more than 25 AC4Ds on an application server with this configuration below.

Note See the Appendix for resources per AC4D table.

Up to 22 AC4D Machines	Recommendation
Processer	Octo-core CPU 3 GHz **plus**: 0.5 processer core per Auto-Count 4D For example, if this machine hosts 22 AC4Ds then you could use two 8 core processors or four 4 core processors. If you have different needs, contact ePS Services.
RAM	16GB **plus**: 512 MB per Auto-Count 4D
Hard Drive	> 250GB

Plant Manager Browser and Report Service Server Requirements

Although Plant Manager Browser and Report Service can be installed on the same server as MS SQL Server, we recommend you install them on a separate application server for optimal performance.

	Recommendation
Processer	Octo-core CPU 3 GHz **plus**: 2-4 core if you have many pallet tickets / labels printing at the same time. For example, 20 tickets printing per minute.
RAM	32 GB **plus**: Additional RAM (2+ GB) if your reports are complex and are data intensive. For example, a report that pulls data from a large time period and contains many fields.

Auto-Count 4D Client Device Requirements

The Auto-Count 4D work centers on the shop floor are accessed via a browser which can be hosted on tablets or simple client workstations. It is a self-hosted site and does not rely on IIS. Simply, bookmark a link on the client machine's browser application to the specific 4D machine hosted on the server.

	Recommendation
Browser	Chrome or MS Edge (up to date)
Video Resolution	1280 x 1024

Integrations

- **Fiery**: If integrating to a Fiery controller, then you must be on version Fiery 4.0.42 or higher
- **MIS Installation:** Do not install Plant Manager on the same server as your MIS installations.
- **PrintFlow**: Do not install Plant Manager on the same server as PrintFlow. Install MS Excel if you will be integrating to PrintFlow. Needed for reports.
- **iQuote**: Do not install iQuote on the same server as Plant Manager.

Networking

Port Assignments

For security reasons your Network Administrator may need the port assignments used by the Plant Manager Browser. You will find this information below.

Auto-Count 4D and Plant Manager

- **Auto-Count 4D:** port 80 for UI (http) and 4200 upwards for web-sockets between 4D service and browser one port for each 4D service. For example, the first 4D uses 4201, second uses 4202, etc.
- **Plant Manager Browser:** Port 80 http
- **Plant Manager Web:** Port 5000
- **Report Service**: Port 80 http

  The Report Server listens on http://server:80/Reporting.Service/ReportServiceWCF/ hosting a WCF service using port 80 (it hooks in under IIS and this port is configurable). It also streams to localhost port 24976 for the recently enabled logging and the helper UI. This port is configurable.
- **Plant Manager Connector**: Port 80 http

  By default, the PLM Connector listens on a URL http://server:80/PlantManagerConnector/ using port 80 (it hooks in under IIS and this port is configurable). It also streams to localhost port 24976 to enable logging and a helper UI. This port will also be configurable.
- **Service Discovery**:

  Any product using the Service Discovery DLL (including PLM Connector, Report Server and PLMB) uses UDP multicast. The default multicast address is "239.69.70.73" on port 38167. (239.x.x.x is the private range reserved for internal organizational use. The default address uses 239 and the ASCII char codes for ePS = 69,70,73).

Auto-Count Port Assignments

Auto-Count assigns the following ports automatically. The port type is TCP unless noted.

Incoming

7000 Paper Monitor from AC (*UDP type*)

6970 Auto-Count from Slave AC

Outgoing

2000 Scale board A to D data streaming

2002 Scale board setup

2001 DMI Kit

7000 Auto-Count to Paper Monitor

6970 Auto-Count to Slave AC

Web Browser Certificates

If you require SSL (Secure Sockets Layer) encryption between your web server and browsers which use Plant Manager Browser and Auto-Count 4D browser clients, then you should purchase an SSL Certificate from a reputable vendor. Please refer to the instructions from your certificate provider for installing an SSL certificate with an IIS server to properly install the certificate. Then ask your Support representative for the Support Note *Web Browser Certificates for HTTPS* for how to enable Auto-Count 4D to use the certificate.

What is SSL? An SSL certificate is a type of digital certificate which provides authentication for a website and enables an encrypted connection. Simply put, it is the *https://* part of the URL. You may also see a padlock or some other icon indicating that the site is secure. Your organization must purchase and implement an SSL Certificate on the server where you have enabled Internet Information Server (IIS). IIS is the web server software package designed for a Windows Server and is used to host websites and other content on the Web.

Resources per AC4D

The following table is useful for calculating the per AC4D resource specifications used in the recommendations above. Obviously, you cannot purchase core and RAM at these intervals, this table is only to assist you in planning.

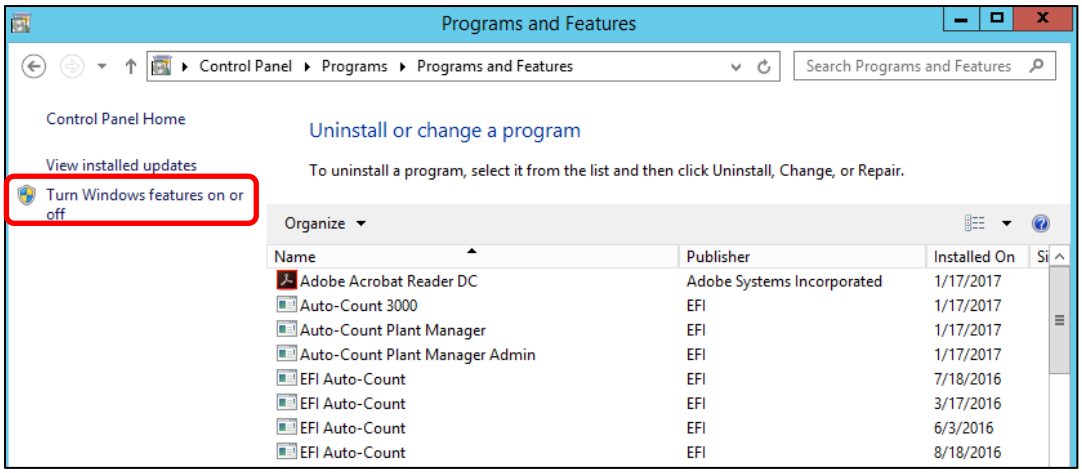
AC4Ds	Processor Core	RAM GB
1	0.5	0.5
2	1.0	1.0
3	1.5	1.5
4	2.0	2.0
5	2.5	2.5
6	3.0	3.0
7	3.5	3.5
8	4.0	4.0
9	4.5	4.5
10	5.0	5.0
11	5.5	5.5
12	6.0	6.0
13	6.5	6.5
14	7.0	7.0
15	7.5	7.5
16	8.0	8.0
17	8.5	8.5
18	9.0	9.0
19	9.5	9.5
20	10.0	10.0
21	10.5	10.5
22	11.0	11.0
23	11.5	11.5
24	12.0	12.0
25	12.5	12.5

Appendix A: IIS 10 and Windows Server 2019

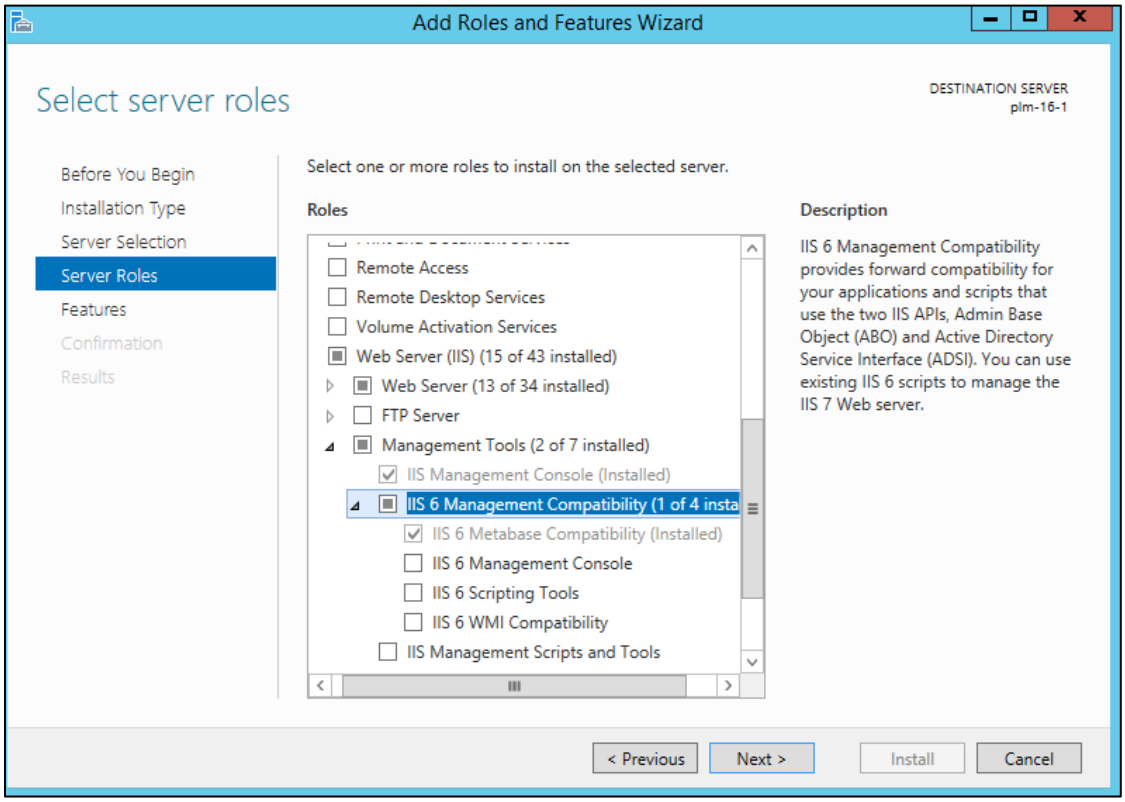
If you install Plant Manager Browser in a Windows Server environment with SQL Server, then you must configure your IIS settings properly to successfully complete the installation. First you must set up IIS compatibility settings in Windows and then set up server roles from Server Manager.

To set up Windows 2019 IIS

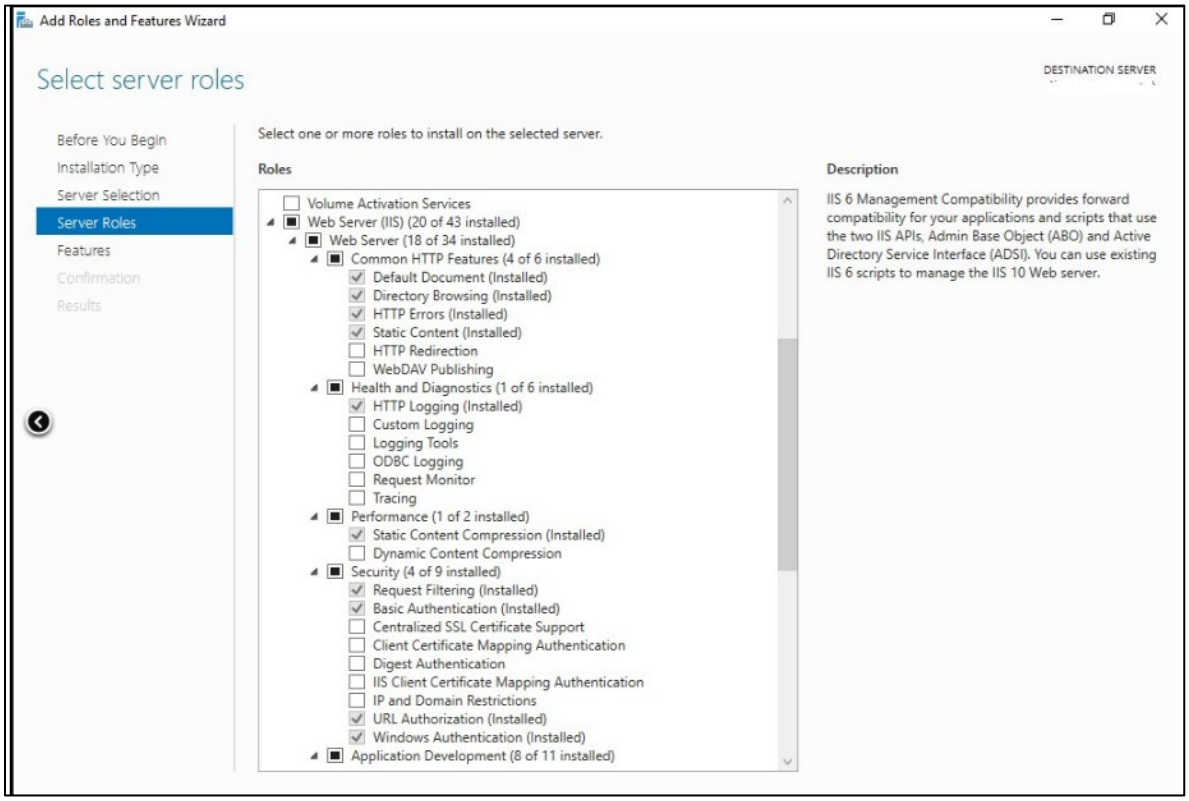
1. From **Control Panel** select **Programs > Programs and Feature**s. Click **Turn Windows features on or off**.



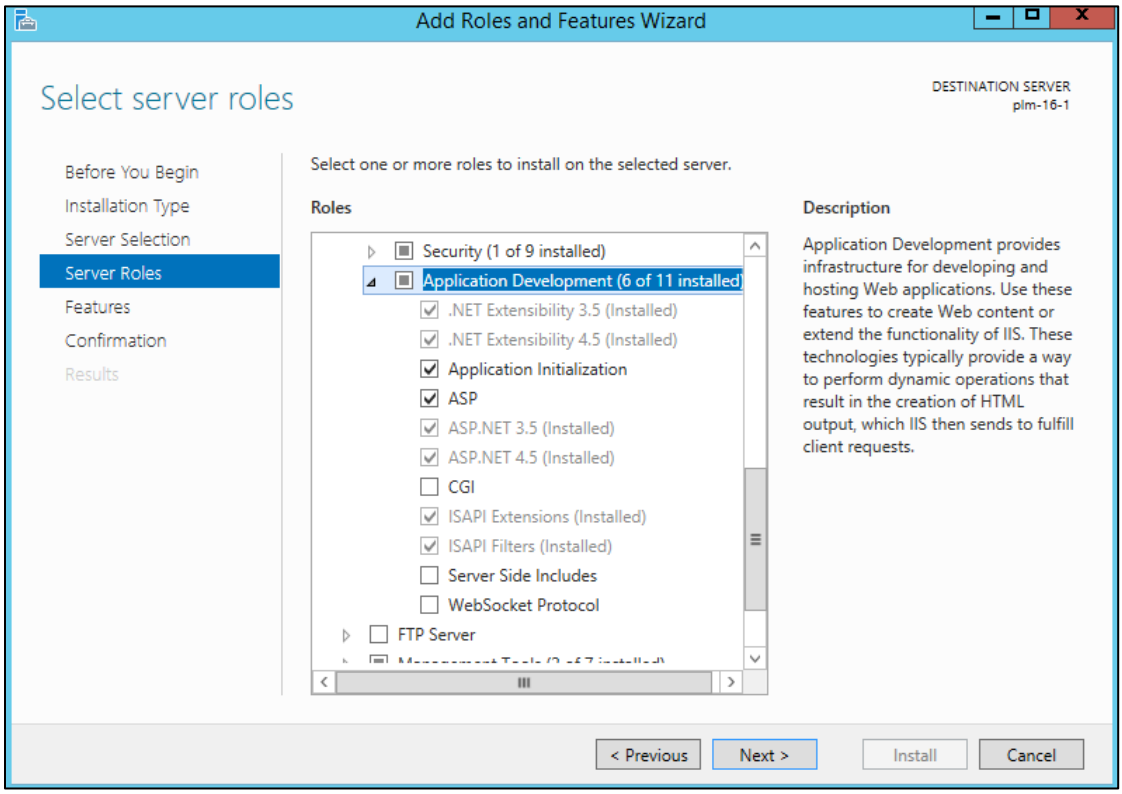
2. In the Add Roles and Features wizard select your installation type and server and move to the Server Roles section.
3. Open **Web Server (IIS) > Management Tools > IIS 6 Management Compatibility** and select **IIS 6 Metabase Compatibility**.



4. Select **Web Server (IIS) > Web Server** and select the features as displayed below under **Common HTTP Features**, **Health and Diagnostics**, **Performance**, and **Security**.

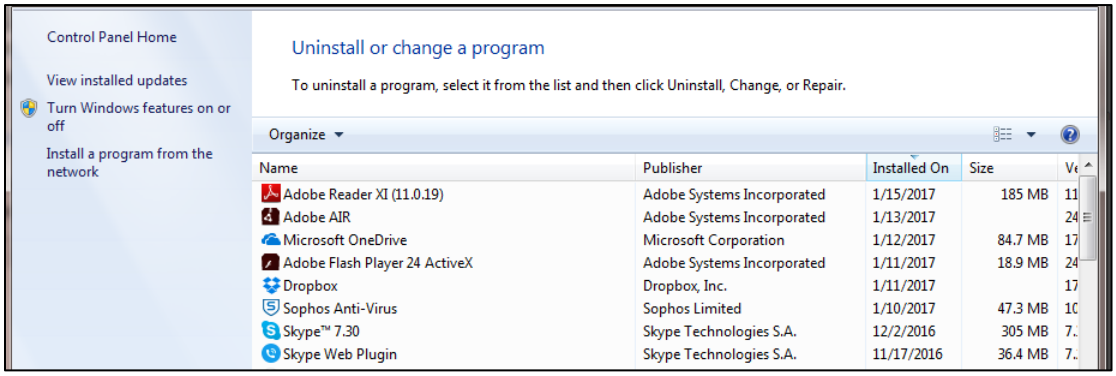


5. Again, select **Web Server (IIS) > Web Server** and under **Application Development** select the features displayed below:

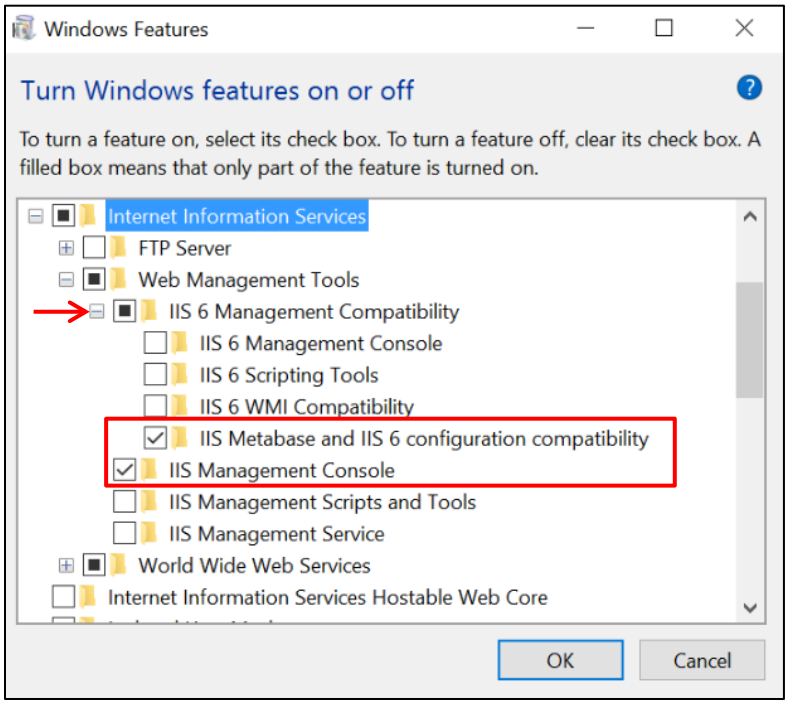


To set up Windows 10 IIS

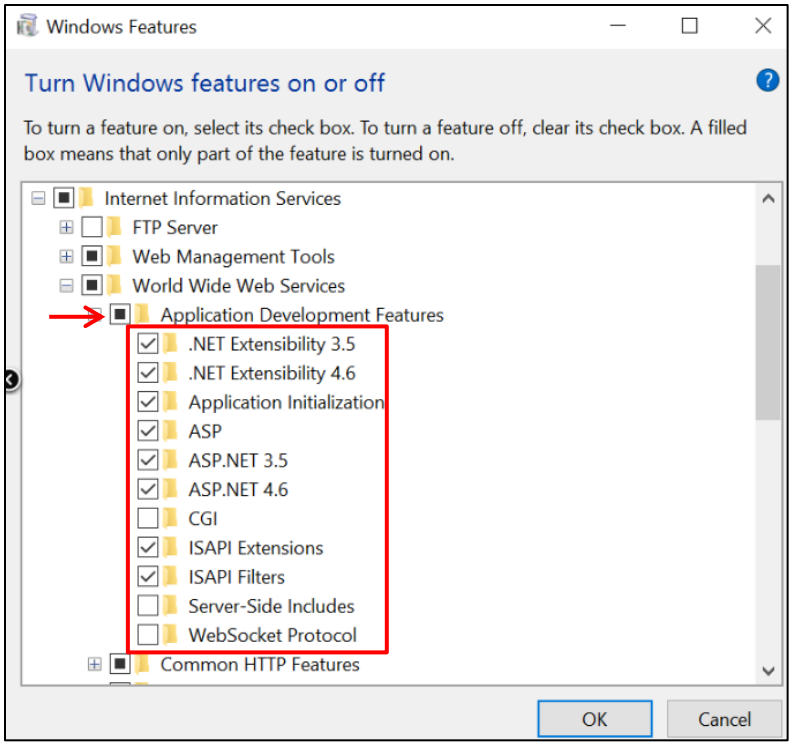
1. From **Control Panel** open **Program Features**.
2. Click Turn **Windows features on or off**.



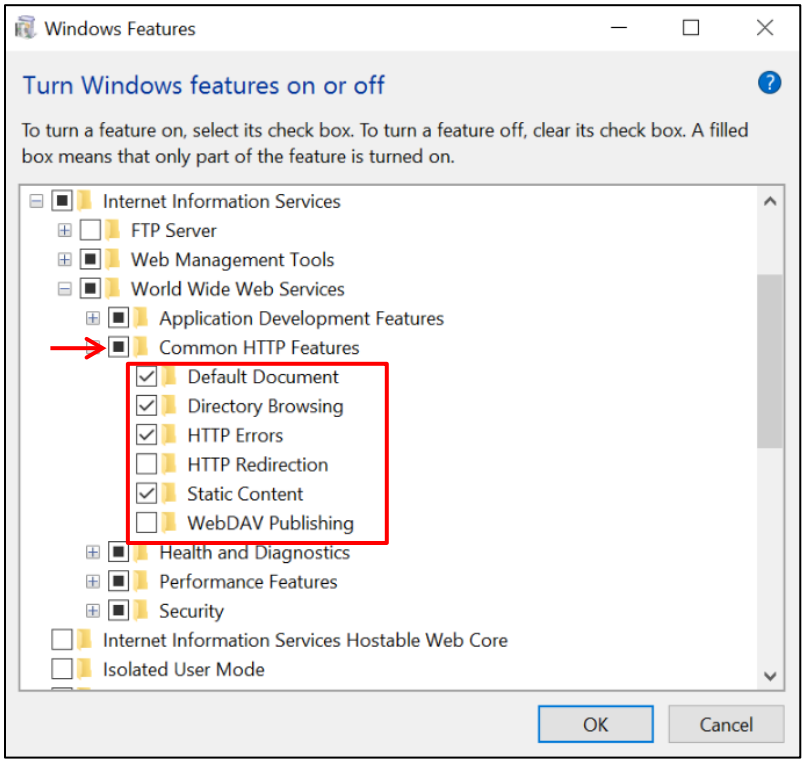
3. Select **Internet Information Services > Web Management Tools > IIS 6 Management Console**. Then only select the following:
   - IIS Metabase and IIS 6 configuration compatibility.
   - IIS Management Console.



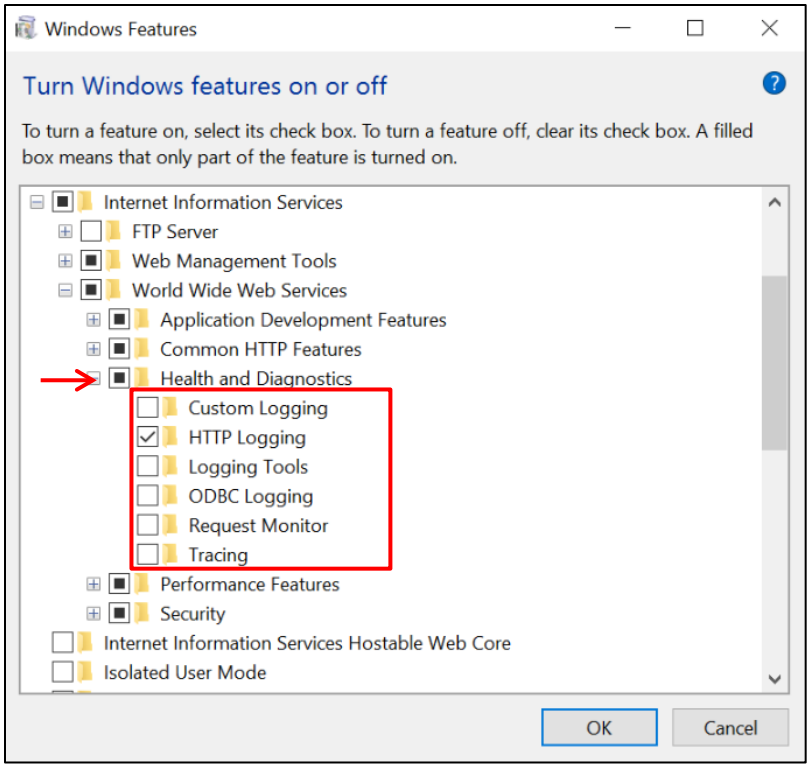
4. Select **World Wide Web Services > Application Development Features** and select the following as displayed below:



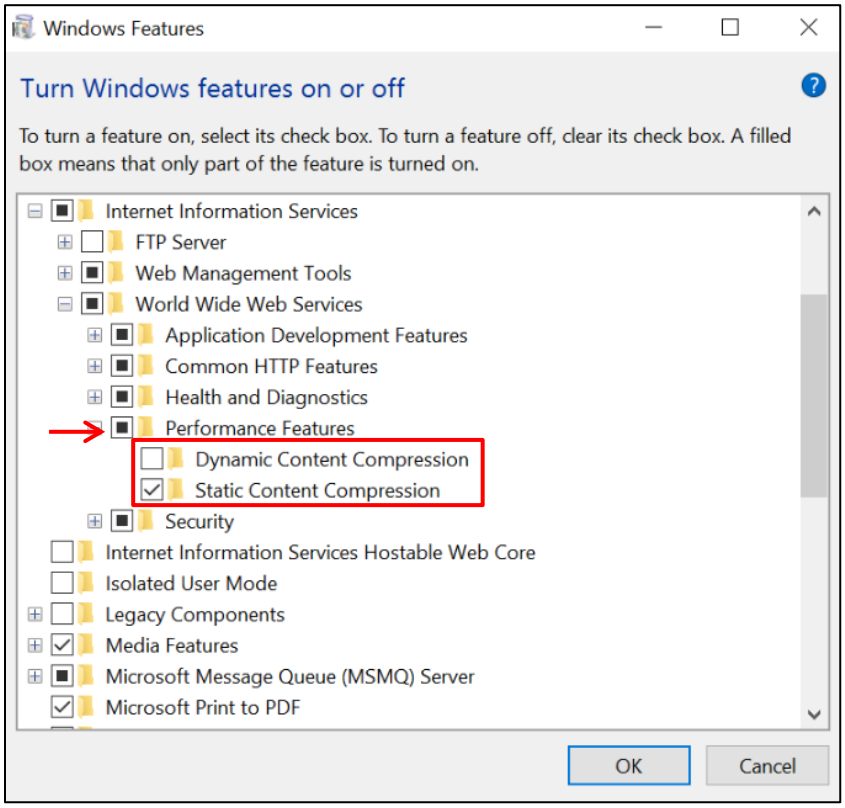
5. Select **World Wide Web Services > Common HTTP Features** and select the following as displayed below:



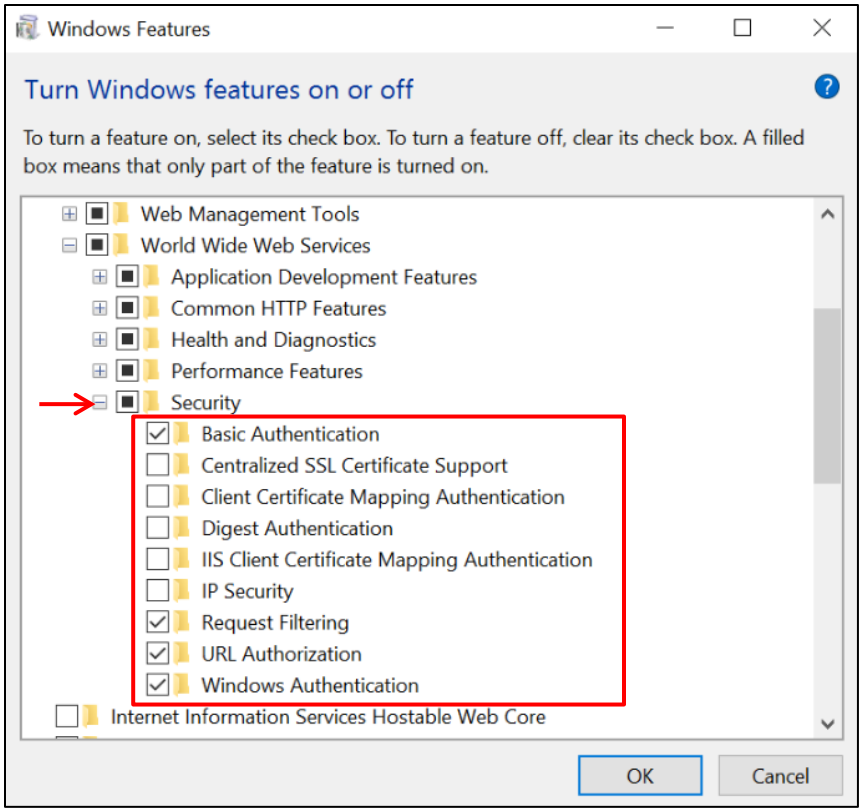
6. Select **World Wide Web Services > Health and Diagnostics** and select the following as displayed below:



7. Select **World Wide Web Services > Performance Features** and select the following as displayed below:



8. Select **World Wide Web Services > Security** and select the following as displayed below:



9. Click **OK** to apply these settings.