APLNext Application Server & APLNext Desktop Server Consolidated Installation Documentation

Contents

Summary

APLNext Application Server [AAS] is software designed to facilitate exposing APL+Win functions as industry-standard web services. The APLNext Application Server is designed for production use and runs as a Windows service on the target machine. The APLNext Desktop Server [ADS] is designed for application system development and maintenance and runs as a Windows application on the target machine.

This document consolidates the installation documentation for AAS and ADS.

Installation Overview

The illustrated dialogs in this document are from AAS or ADS. AAS and ADS each require individual installation steps which are similar.

- Install the Microsoft .Net Framework v4.5.2 [full version].
- Uninstall the prior version of AAS or ADS
- Download the AAS or ADS installer
- Install the AAS or ADS software following the on-screen instructions
- Activate the AAS or ADS software
- Install the appropriate developer or runtime version of APL+Win software to the machine
- Register APL+Win as an ActiveX engine on the machine
- Check for proper operation of the AAS or ADS Administration tool

Microsoft .Net Framework

AAS and ADS are C# assemblies based on the Microsoft .Net Framework. The appropriate version of the Microsoft .Net Framework must be installed on the 'server' hardware on which AAS or ADS are installed. The Microsoft .Net Framework is available for download and installation from Microsoft at no charge.

AAS and ADS do not require that the Microsoft .Net Framework be installed on the client machine which will access web services enabled by AAS or ADS.

The AAS and ADS installer software will check that the appropriate version of the Microsoft .Net Framework has been installed on the target machine. Each version of AAS and ADS may require a different version of the Microsoft .Net Framework.

As of 7/2015 the 4.5.2 version of the Microsoft .Net Framework is sufficient for AAS and ADS. After downloading the Microsoft .Net 4.5.2 Framework follow the instructions on the screen to complete the installation of the Microsoft .Net Framework.
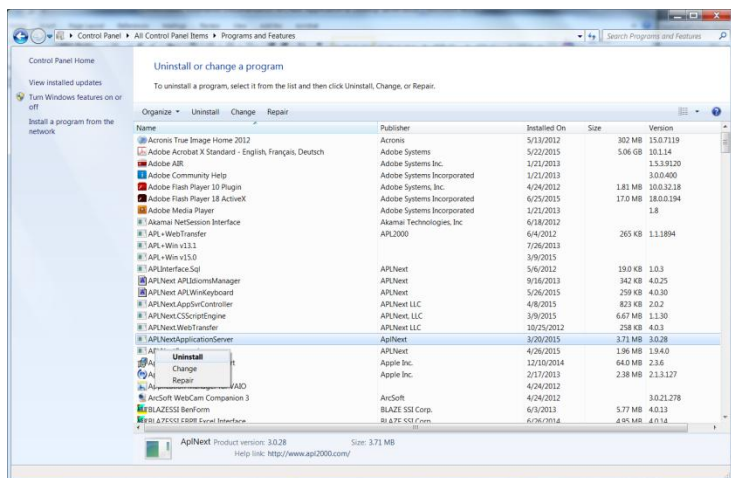
Uninstall any previous versions

The prior version of AAS or ADS should be installed if necessary. Different versions of AAS and ADS may be simultaneously present on the same target machine.

Before attempting to uninstall the prior version of AAS or ADS, it is advisable to use the APLNext AAS or ADS Administration tool to stop any web services which may be running on the target machine.

Over time the name of AAS has been modified from "AplWebServices" to "APLNextApplicationServer" so be sure to remove the prior version of the APLWebServices too if necessary.

- Use the Start > Settings > Control Panel > Programs and Features dialog to select the appropriate prior version of AAS or ADS to uninstall.
- Use the context menu [right click] of the prior version listing to select the 'Uninstall' option.
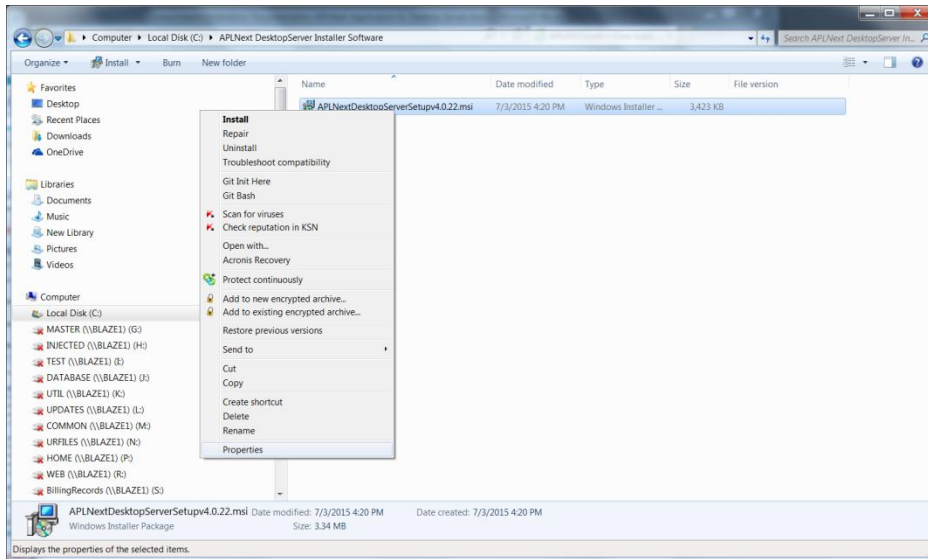- Follow the on-screen directions to complete the uninstall procedure.

The uninstall procedure will not remove the software activation information which may have been previously entered for the prior version.

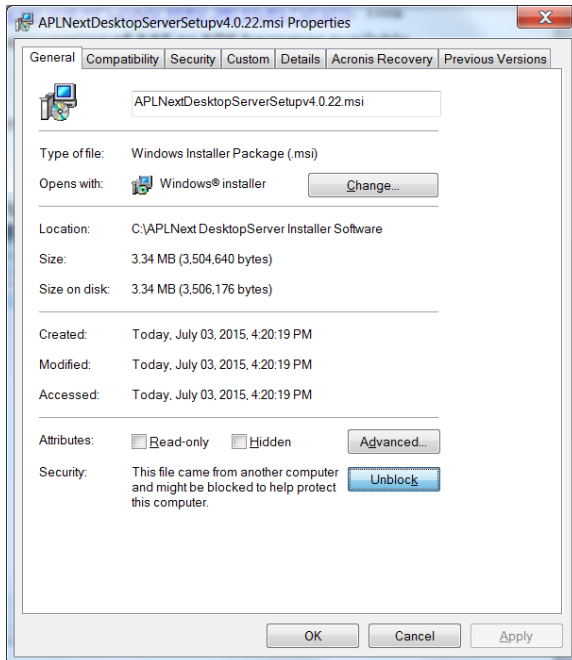
Download the AAS or ADS Installer

The AAS and ADS installer software is available for download on the APL2000 Web Services Forum. This APL2000 Web Services Forum page is updated whenever a new version of AAS or ADS becomes available to APL2000 customers.

Since the installer software has been downloaded from the Internet, it may be necessary to modify the downloaded file properties to 'Unblock' the file.

- Use the context menu of the downloaded installer file [right click] and select the 'Properties' option.

- From the Properties dialog click the 'Unblock' button.

- Click the 'OK' button to apply the modification.

AAS or ADS Installer On-screen Instructions

When the AAS or ADS installer software is run general instructions are provided on-screen, however consider the additional instructions in this document to assure a successful installation.

Anti-malware Software

The AAS and ADS installers are digitally-signed using an appropriate certificate of authorship, but sometimes when installing AAS or ADS it may be necessary to temporarily turn off the anti-malware software on the target 'server' machine or establish a 'trust' of the AAS or ADS installer.

When using AAS or ADS it may be necessary to use the anti-malware software controlling the server machines firewall to open the tcp/ip ports which will be used to receive client requests and transmit responses back to the client.
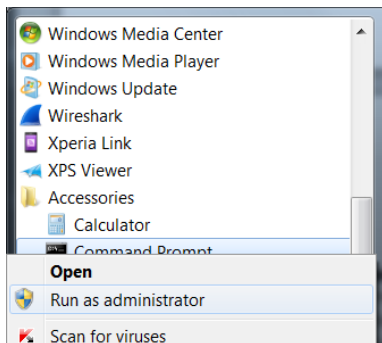
User Account Control

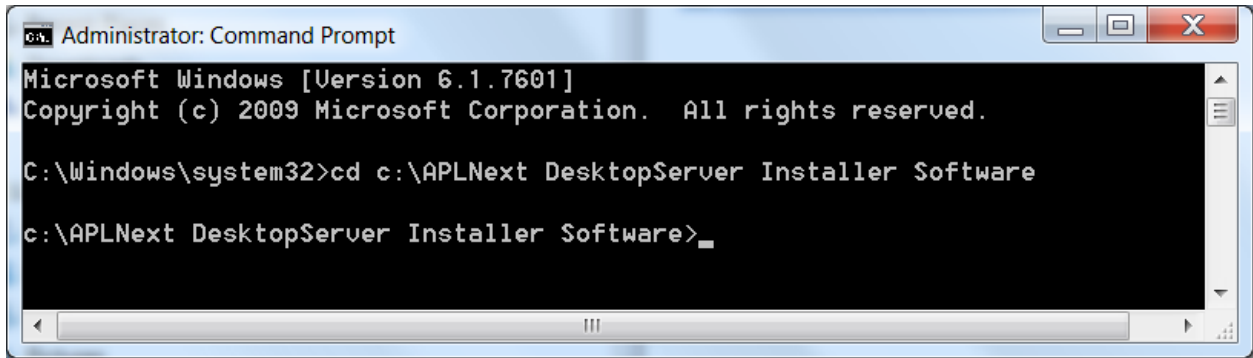When installing AAS or ADS it may be necessary to temporarily turn off the Windows user account control.

Adminstrator Account

Because the AAS and ADS installer will modify the Windows registry on the target machine, it may be necessary for the user account running the installer to have Administrator privileges. Depending on the user account running the installer this may not be necessary, so first try simply double-clicking the installer file (.msi) to see if it will run successfully.
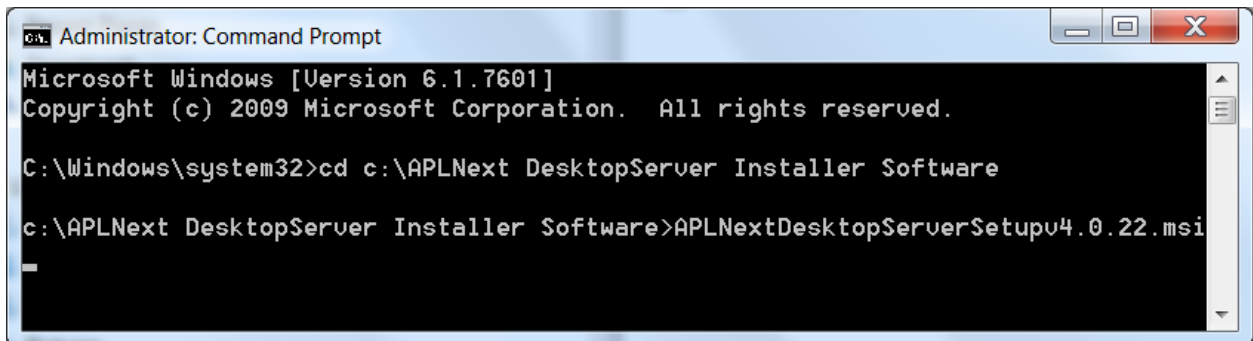
- Since the AAS or ADS installer is in Microsoft Installer (.msi) format, its context menu does not include a user-accessible 'Run as Administrator' option. Instead use the Start > All Programs > Accessories > Command Prompt 'run as administrator' to run the AAS or ADS installer.

- From the Windows Command Prompt navigate to the folder containing the AAS or ADS installer software.
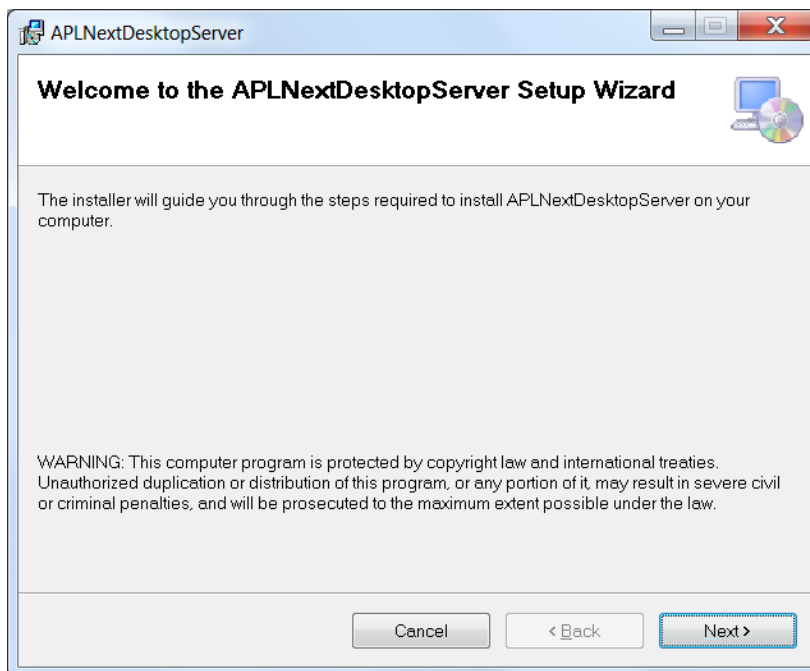
- Enter the name of the AAS or ADS installer software file into the Windows Command Prompt dialog.
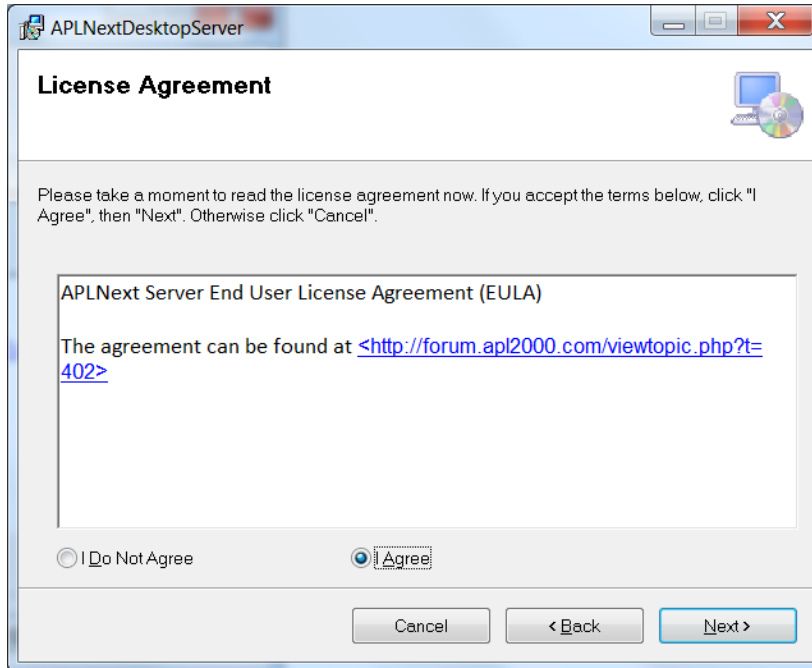

- Click the 'Enter' button to run the AAS or ADS installer software.
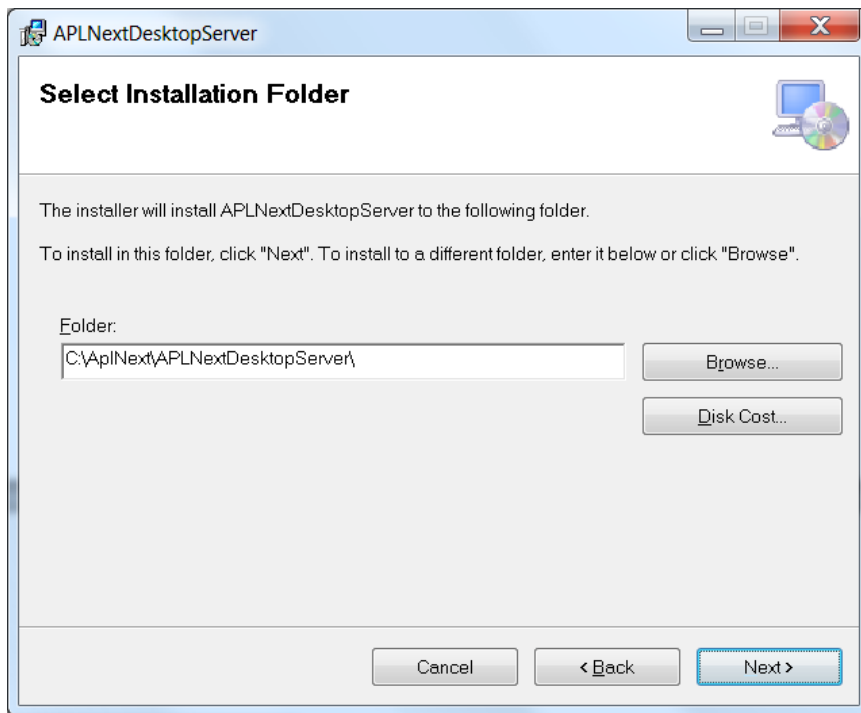
Running the AAS or ADS Installer
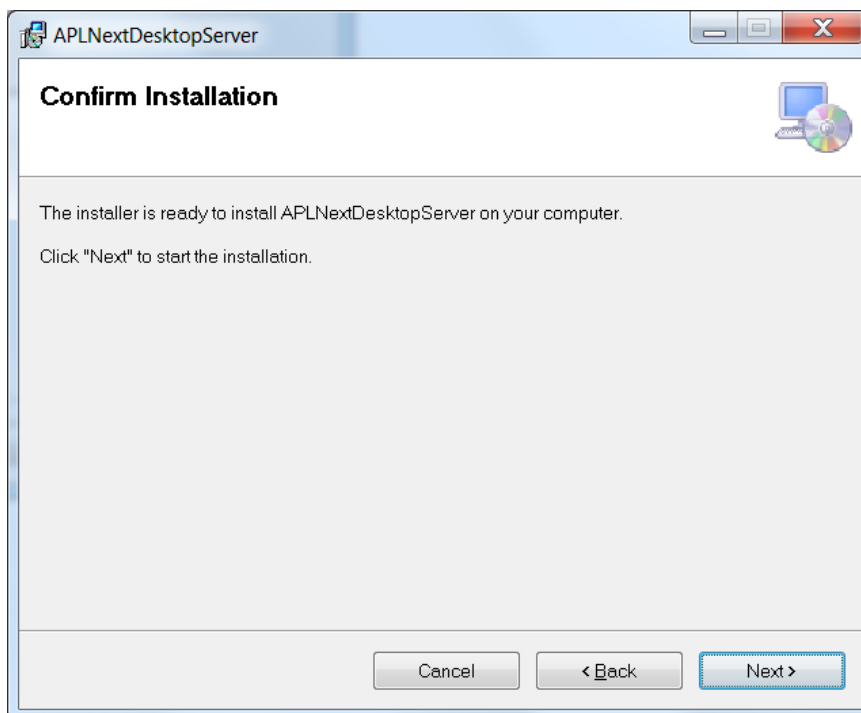
From the initial installer dialog click the 'Next' button:

To view the AAS or ADS EULA, copy the provided url and paste it into an Internet browser address window. After reviewing the EULA, click the 'I Agree' option. Click the 'Next' button to continue:
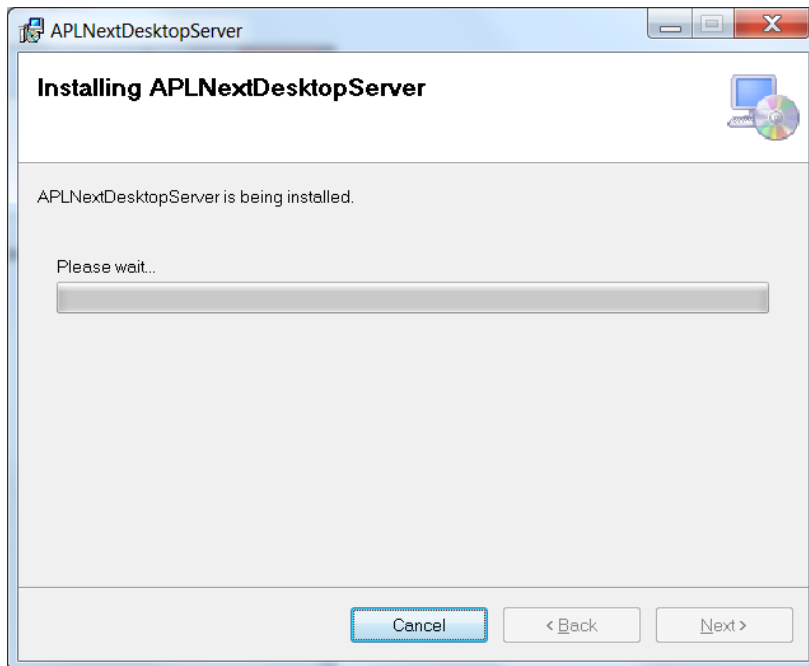

Enter the desired target path for the AAS or ADS installation. The default target path is recommended to make the 64-bit hardware registry modification easier in a subsequent installation step. When installing AAS or ADS the installation path should not include \Program Files\ or \Program Files (x86). Click the 'Next' button to continue the installation.

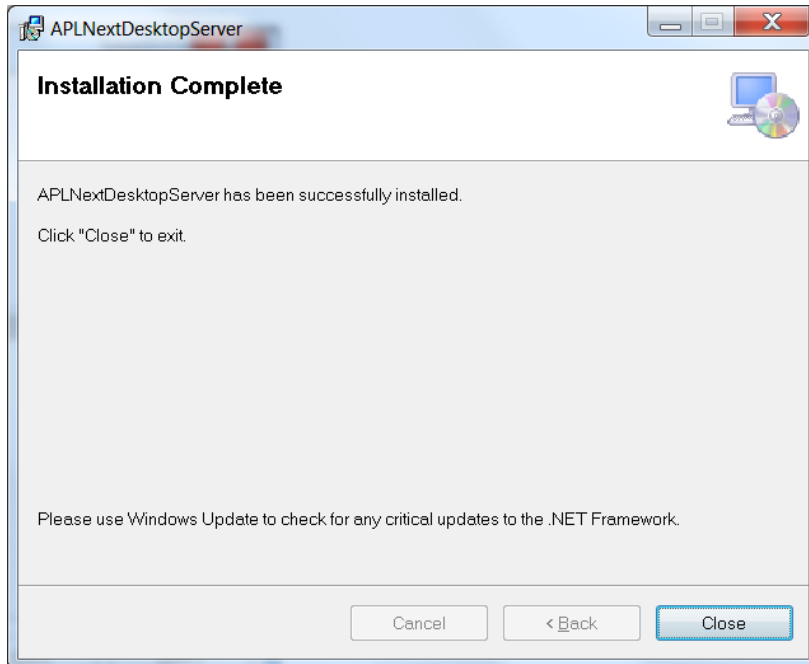Click the 'Next' button to continue the installation:

The installation progress will be reported on this dialog. During the installation process, a security warning message box may be presented by the operating system. Click the 'OK' or 'Allow' button to continue the installation.

Failure to uninstall the prior version may result in the following error message when attempting to run the AAS or ADS installer for the new version:

When the installer process is complete, click the 'Close' button:

64-bit Hardware

AAS and ADS will be fully functional if the target machine hardware or operating system is 64-bit, however because AAS and ADS must interact with APL+Win, which is 32-bit software, AAS and ADS run in 32-bit compatibility mode in a 64-bit environment.
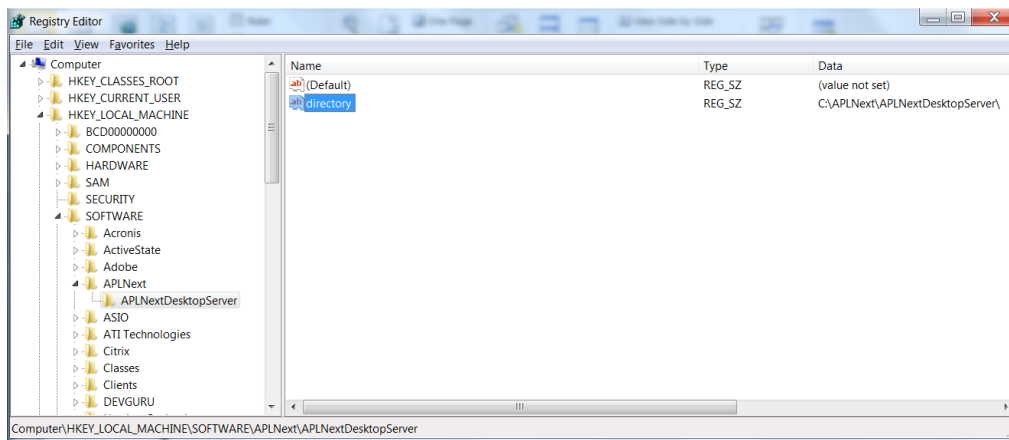
After installing the ADS software, the registry key "HKEY_LOCAL_MACHINE\SOFTWARE\AplNext\APLNextDesktopServices" with a value key name "directory" must have a trailing backslash ("\") on the installation path value.

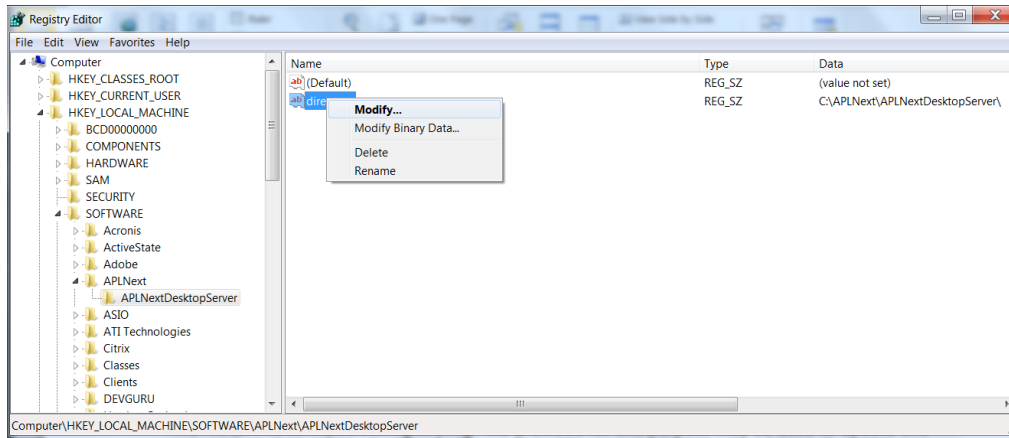BEFORE PERFORMING THIS STEP, BE SURE A VIABLE BACKUP OF THE TARGET MACHINE REGISTRY EXISTS!

To check this requirement use Start and enter regedit.exe in the 'Search programs and files' edit control and click the 'Enter' key:
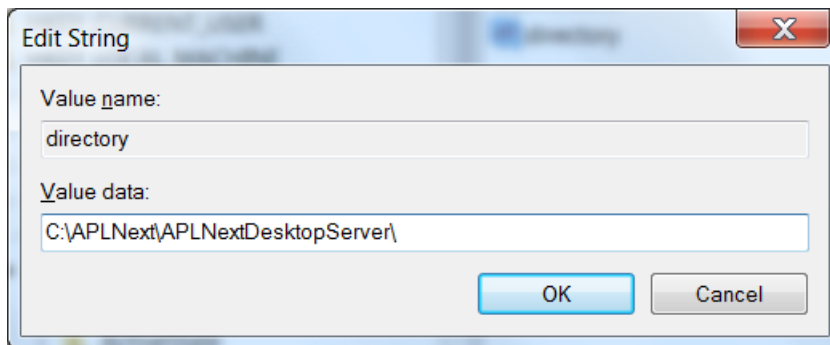
From the regedit.exe dialog navigate to the specified key to check its value:

If necessary using the key's context menu, select the 'Modify' option:

Modify the value and click the 'OK' button:

Alternately if the default installation address, "C:\APLNext\APLNextDesktopServer", was specified the following "APLNextDesktopServerRegistry.reg" file may be created and used to update this registry key specified.
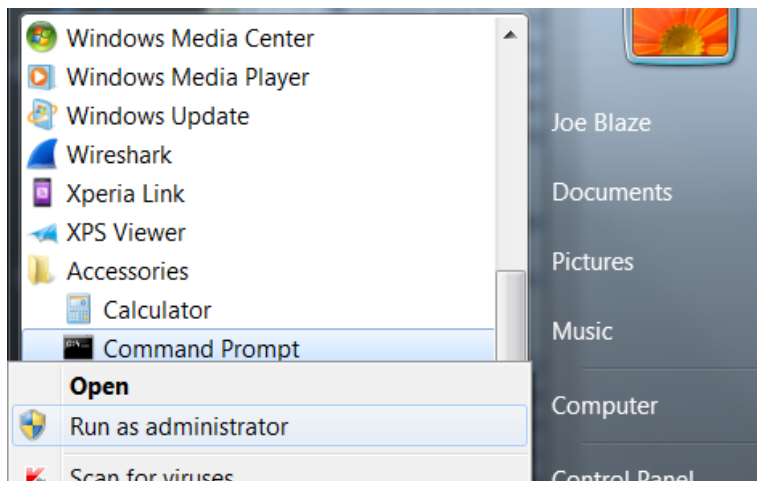
```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\APLNext\APLNextDesktopServer]
"directory"="C:\\APLNext\\APLNextDesktopServer\\"
```

After creating the "APLNextDesktopServerRegistry.reg" file, use its context menu to select the "Merge" option to apply the registry modification.
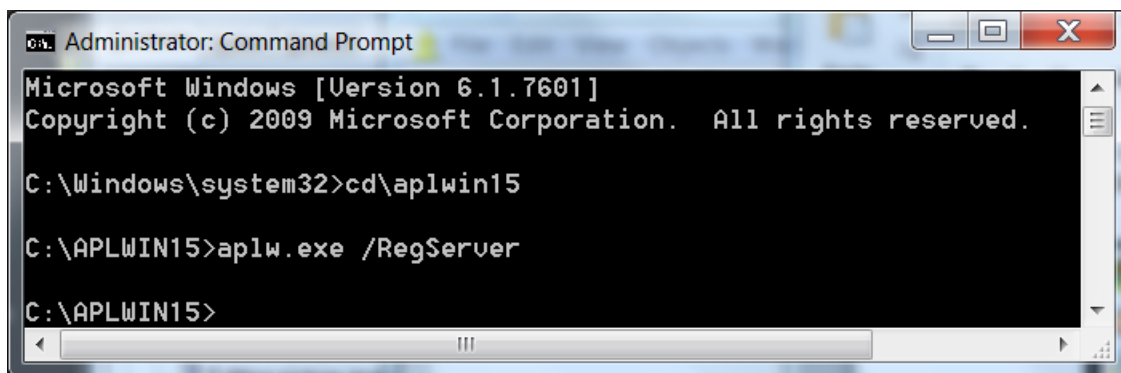
Install APL+Win & Register It as an ActiveX Server

As of 07/2015 AAS and ADS require at least APL+Win v15 to be registed as an ActiveX server on the target server machine because AAS and ADS create instances of APL+Win ActiveX Engine to run programmer-created APL+Win functions to satisfy client requests transmitted to the server.

Assuming the appropriate APL+Win executable has been installed to the target server, use Windows Start > All Programs > Accessories to access the context menu [right click] of the Command Prompt and select the 'Run as Administrator' option:
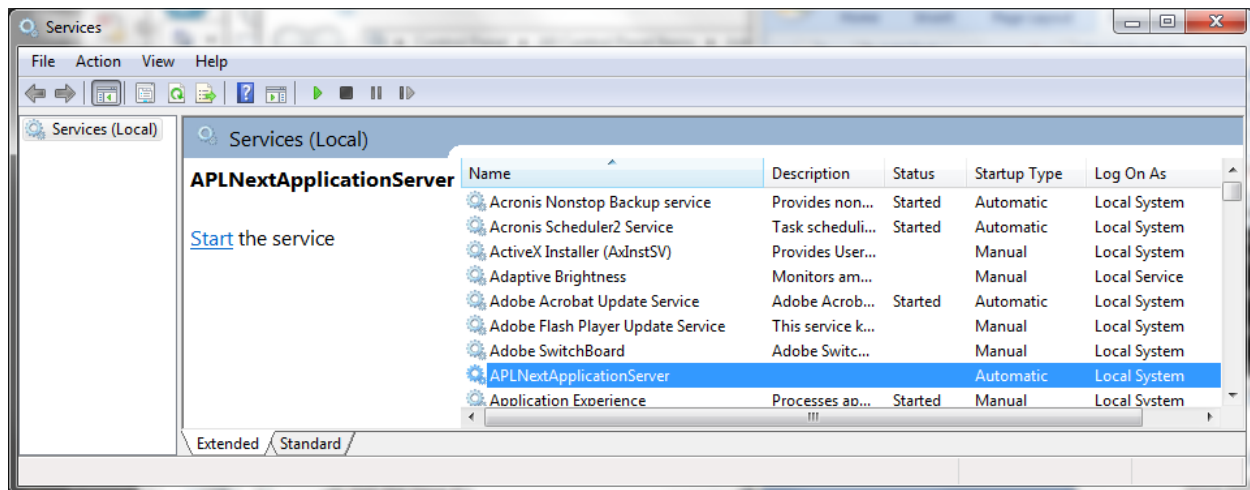

When the Command Prompt window is presented, use the 'cd' command to change to the folder containing the appropriate APL+Win executable, i.e. developer or run-time version, and execute the APL+Win ActiveX Engine registration command. There will be no response to this command.
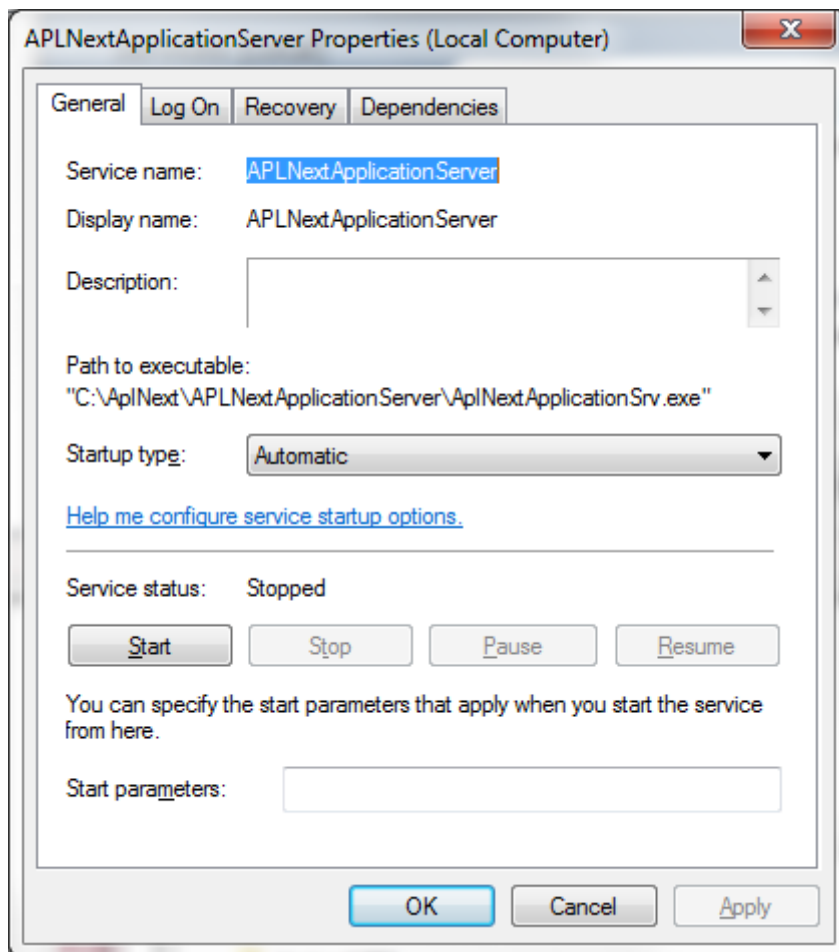

Check for Successful Installation of AAS or ADS

Since AAS runs as a Windows service the status of this service may be examined using the application Windows dialogs:

Use Start > Control Panel > Administrative Tools > Services to display the Windows Services dialog and double click the APLNext Application Server item:
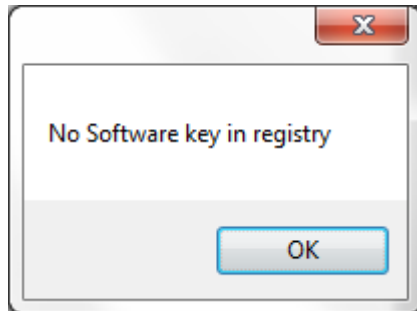
The 'APLNextApplicationServer Properties' dialog will be displayed, from which the service can be started, stopped, and other top-level control of the AAS Windows service:
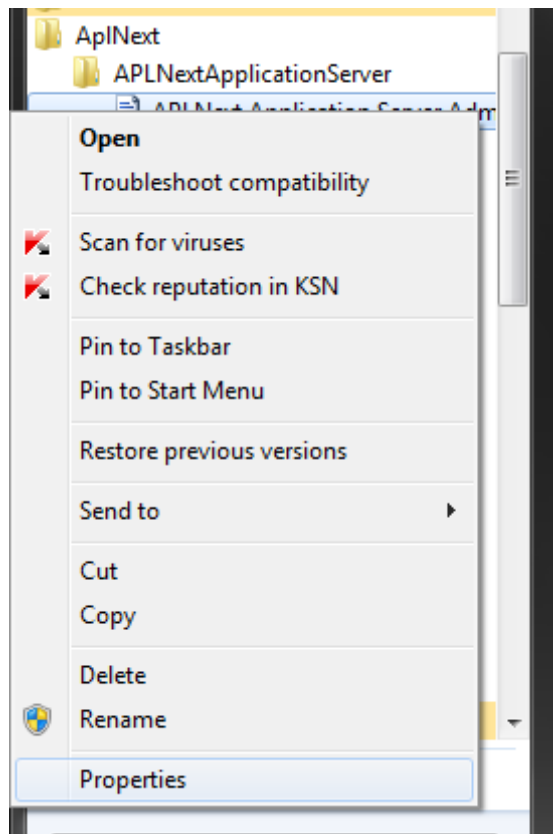
The AAS or ADS installer will have created Windows menu items for the APLNext server administration tools. The administration tools provide full-functionality to an APL+Win programmer to configure, start and stop the web services implemented on the target machine.
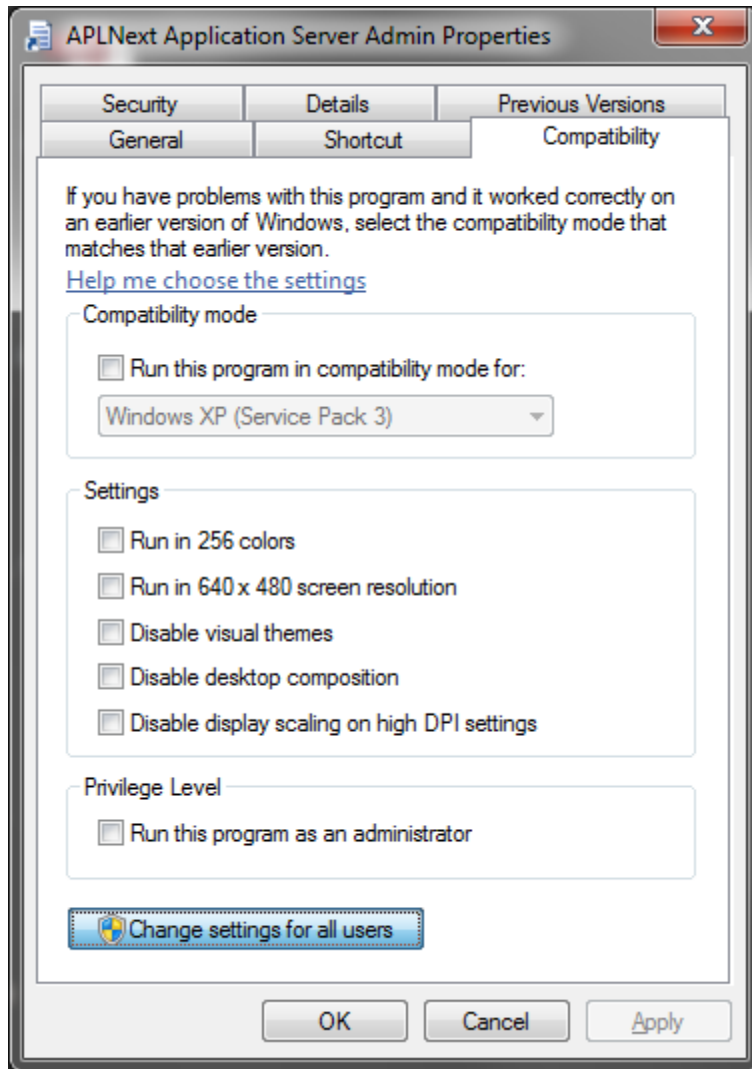
Run the Administration Tool as Administrator

The APLNext Application Server Administration tool and the APLNext Desktop Server Administration tool must be 'run as administrator'. Failure to run these tools as administrator, will result in the following error message:
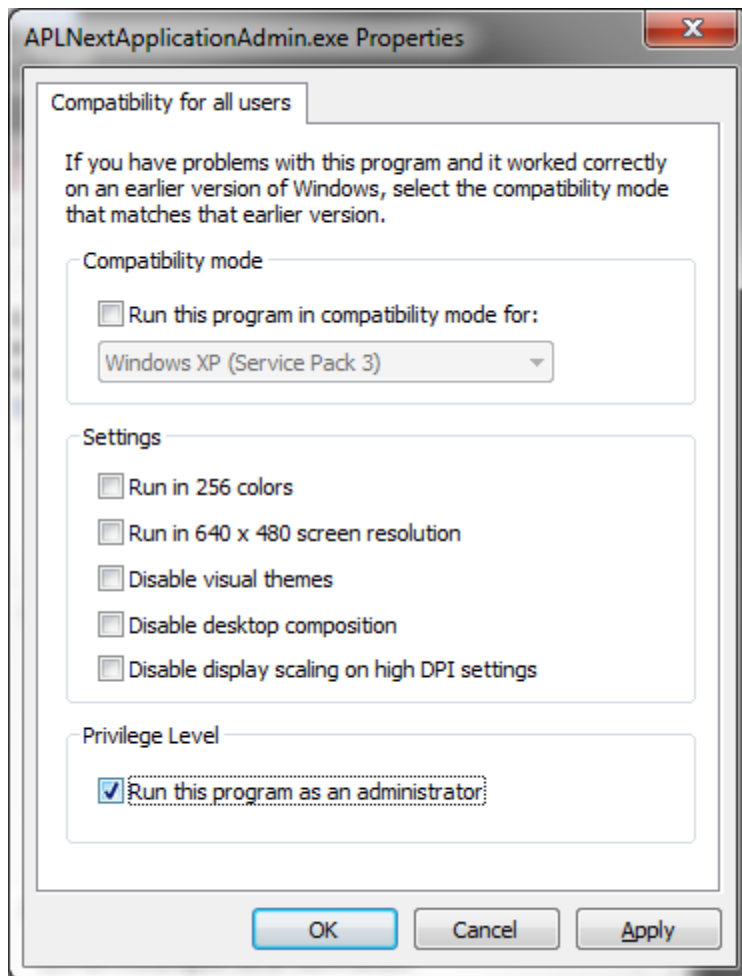

For example use Start > All Programs > APLNext > APLNextApplicationServer to display the context menu [right click] of the 'APLNext Application Server Admin' menu item and select the Properties option.

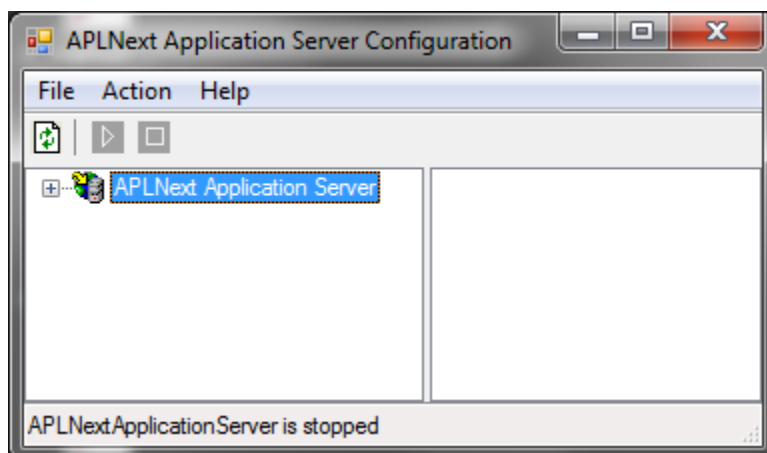On the context dialog, click the 'Compatibility' tab and click the 'Change settings for all users' button:

On the 'Compatibility for all users' dialog, check the 'Run this program as an administrator' and click the 'OK' button on this dialog and the 'OK' button on the 'APLNext Application Server Admin Properties' dialog.
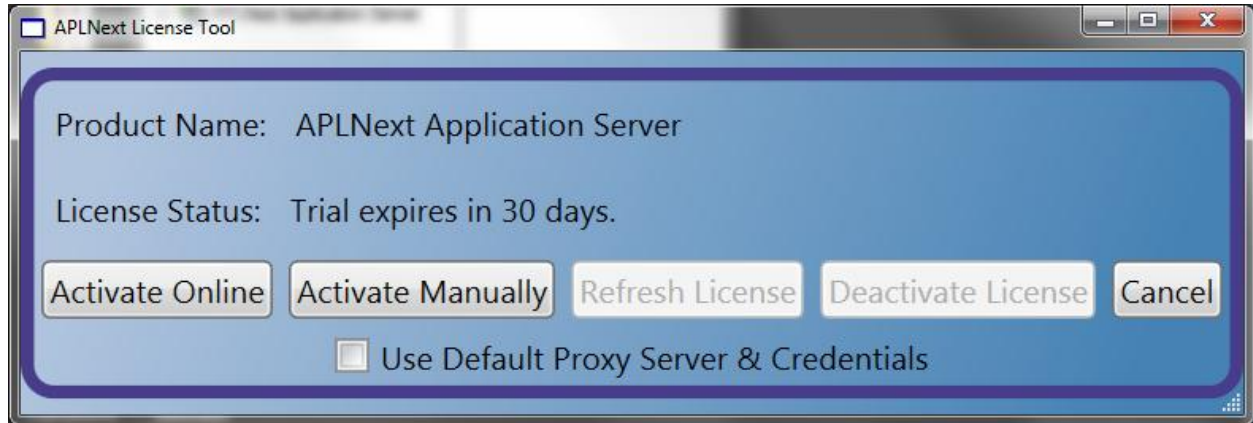
Start the AAS or ADS Server Administration Tool

To run the APLNext Application Server Admin tool, click the Start > All Programs > APLNext > APLNextApplicationServer > APLNext Application Server Admin menu item to display the main form of the tool:
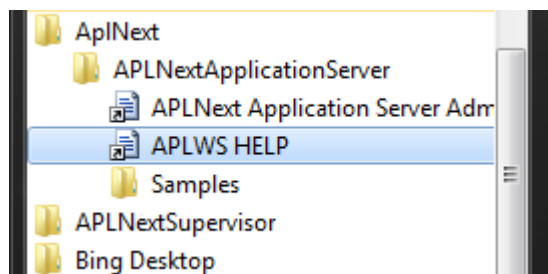
Activate the Software

If the software has not yet been activated, the APLNext License Tool dialog will be presented. If necessary activate this installation of AAS or ADS with the license key and password provided by APL2000.

Build Sample Web Sites using the included Admin tool documentation

The AAS or ADS installer will have created a menu item for the 'APLWS_HELP.pdf' file. This document provides comprehensive information about the features of AAS and ADS as well as complete instructions to create a sample web site using the AAS or ADS Administration tool. The document includes detailed reference material as well as sample web site recipes which are easy to build.

For example click Start > All Programs > APLNext > APLNextApplicationServer > APL WS menu to display the 'APLWS_HELP.pdf' documentation file:

Build a simple static content web site

Use the 'Quick Sample Static Content Web Site Setup' section of the document to build a static content web site:

Build a simple dynamic content web site

After successfully creating the 'Quick Sample Static Content Web Site', use the 'Expose and APL+Win function as a web service' section of the document to create a web site which provides dynamic content using an APL+Win function:

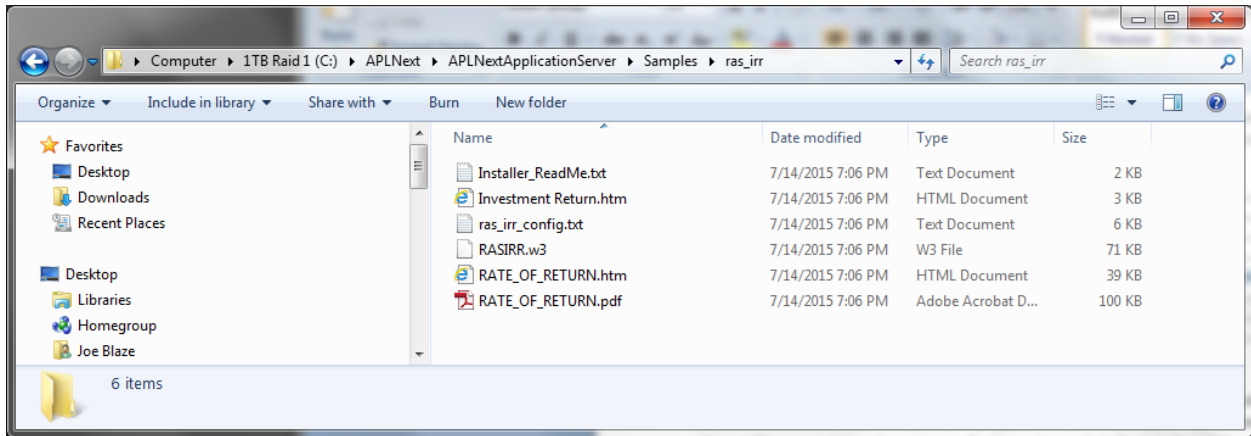# Set up the Included Complete Application System Samples

The above two simple sample web sites illustrate the fundamental technologies involved in using AAS or ADS to create web sites, but they are relatively trivial application system examples. The AAS and ADS installers also install the components of two complete web services application systems which illustrate how AAS and ADS can provide web sites with a high level of client functionality.

Build a dynamic content web site with an HTML or PDF Form Client GUI

The 'Internal Rate of Return' sample web site illustrates how AAS or ADS can be used to create a web site which:

- Presents an HTML- or PDF form-format client user interface to capture the required input and display the web service outpu
- Uses a server-side APL+Win function to perform the business rules algorithm and format the result as an HTML-format page.

The step-by-step recipe for this sample have been installed in the AAS or ADS installation folder:
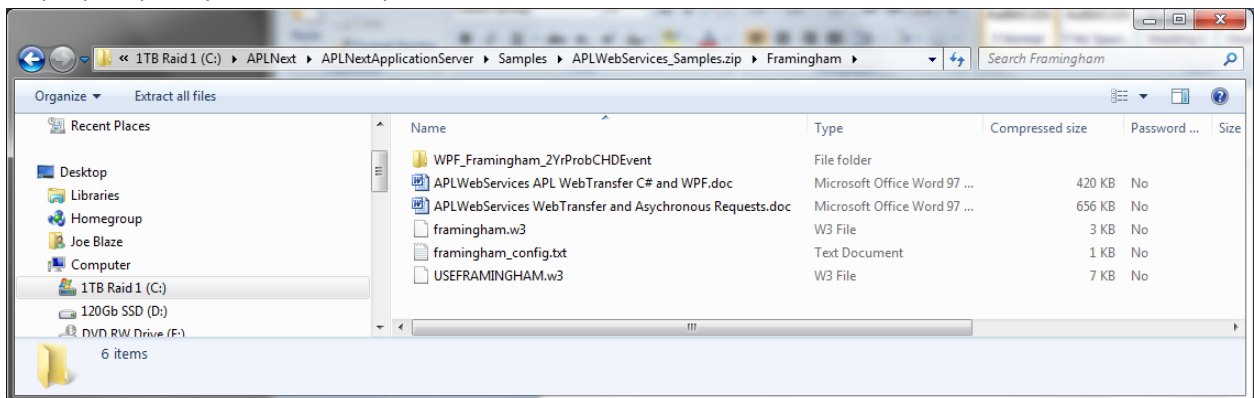
Build a dynamic content web site with an APL+Win client GUI

The 'Framingham' sample web site illustrates how AAS or ADS can be used to create a web site which:

- Presents an APL+Win forms client user interface to capture the required input and display the web service output
- Uses the APLNext WebTransfer ActiveX component in APL+Win to access the AAS or ADS web service to send and receive data from APL+Win functions as web services

The step-by-step recipe for this sample has been installed in the AAS or ADS installation folder:

More Information is available

The APL2000 Web Services Forum provides additional examples and documents which subscribers can access at any time. APL2000 technical support and sales support staff members are also available to assist APL+Win programmer customers.