

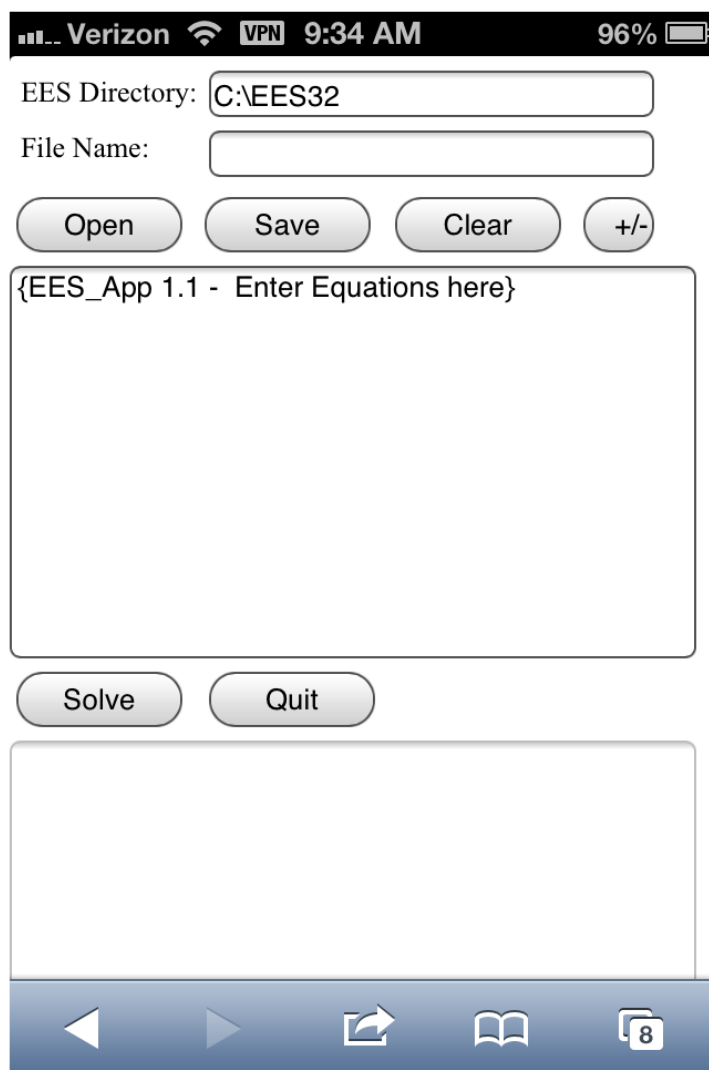
Instructions for Installing and Using EES_App

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EES_App creates a specialized web server on your computer to allow access to some of the features in your EES program. Using this web server, you will be able to solve equations and obtain EES property data from any web-enabled device using a browser program (e.g., Firefox, Internet Explorer, or Safari). EES does not need to be installed on this device. Note that EES version 9.443 or later is required for use with EES_App.

Introduction

The figure below shows the basic capability of EES_App and its appearance on an Apple iPhone. More detailed instructions will be provided in the **Starting and Running EES_App** section.



Enter equations in the upper edit box, just as you would if you were entering them into the EES equations window. Click the Solve button and the solution will appear in the lower edit box, as shown below.

EES Directory: C:\EES32

File Name: Test1

Open Save Clear +/-

{EESApp 1.1 - Enter Equations here}
 \$UnitSystem SI C kPa
 T[1]=100 [C]
 P[1]=50 [kPa]
 \$VarInfo h[1] units='kJ/kg'
 \$VarInfo s[1] units='kJ/kg-K'
 h[1]=enthalpy(Steam,T=T[1],P=P[1])
 s[1]=entropy(Steam,T=T[1],P=P[1])

Solve Quit

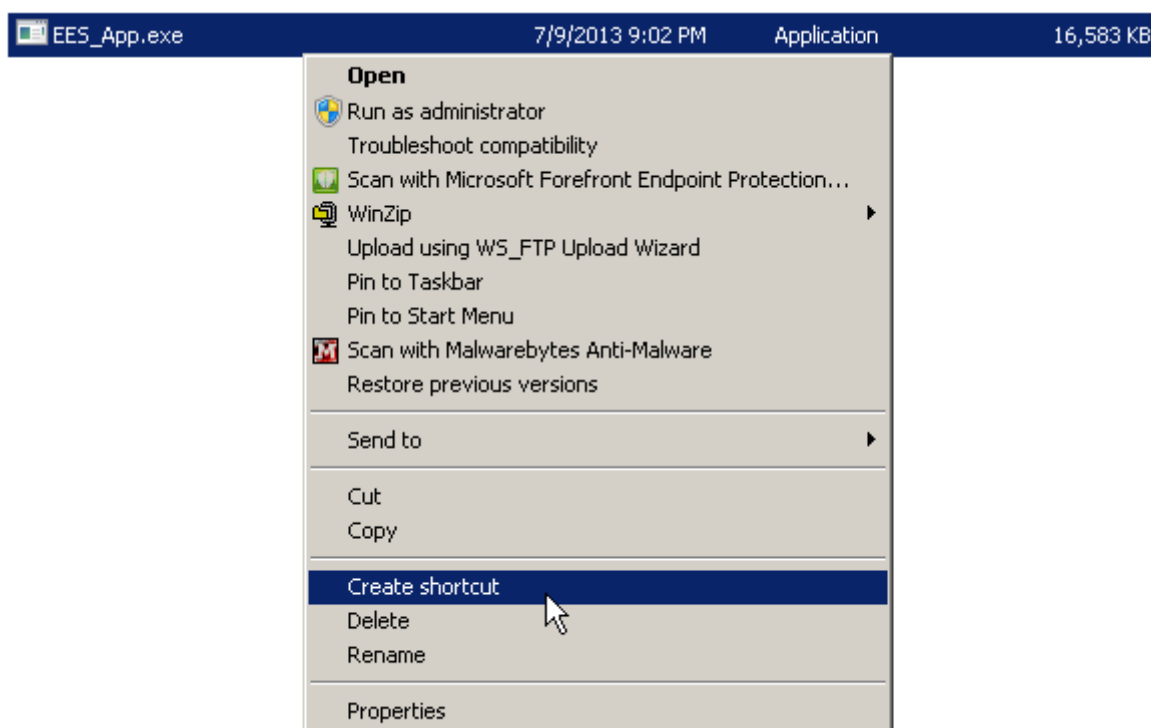
h[1]=2682 [kJ/kg]
 P[1]=50 [kPa]
 s[1]=7.694 [kJ/kg-K]
 T[1]=100 [C]

It is not possible to run Parametric tables or produce plots with EES_App 1.1. However, all of the equations solving capability provided in the EES Equations window is available on your remote device, including access to the property data. Note that the \$VarInfo directive can be used to set guess values, limits, units and the display format of the variables used in the program..





Installing EES_App

EES_App is installed as a Windows service program that will constantly monitor input on port 8888. It is necessary to carefully follow the steps listed below to install this capability. These instructions assume that your server is running the Windows 7 operating system and EES is installed on this computer. The process may appear different on other Windows operating stems. The installation needs to be done only once.

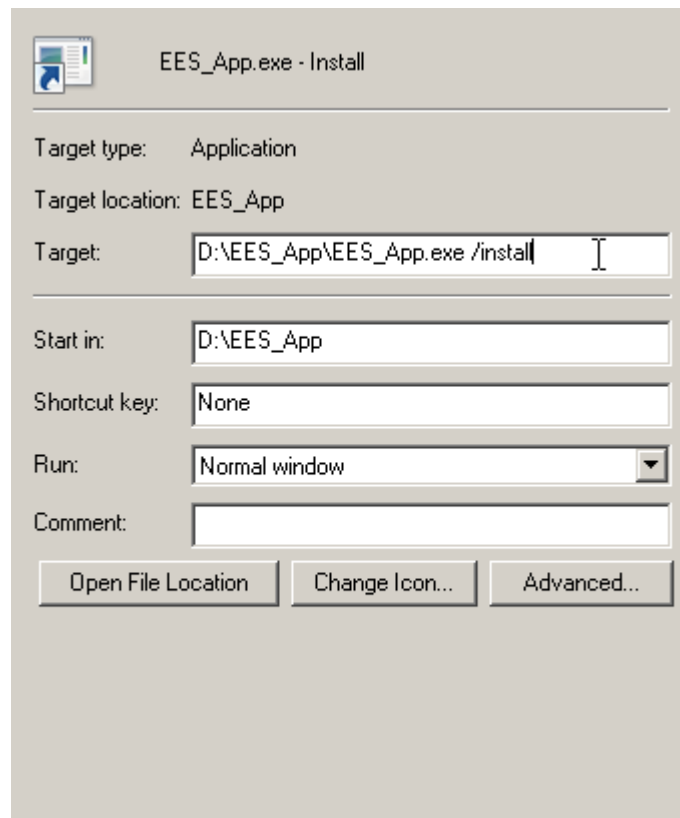
1. Create a folder on you server computer named EES_App.
2. Copy files EES_App.exe and EES_App.pdf (this file) to the EES_App folder.
3. Right-click the mouse button on the EES_App.exe file and select Create shortcut from the pop-up menu, as shown.



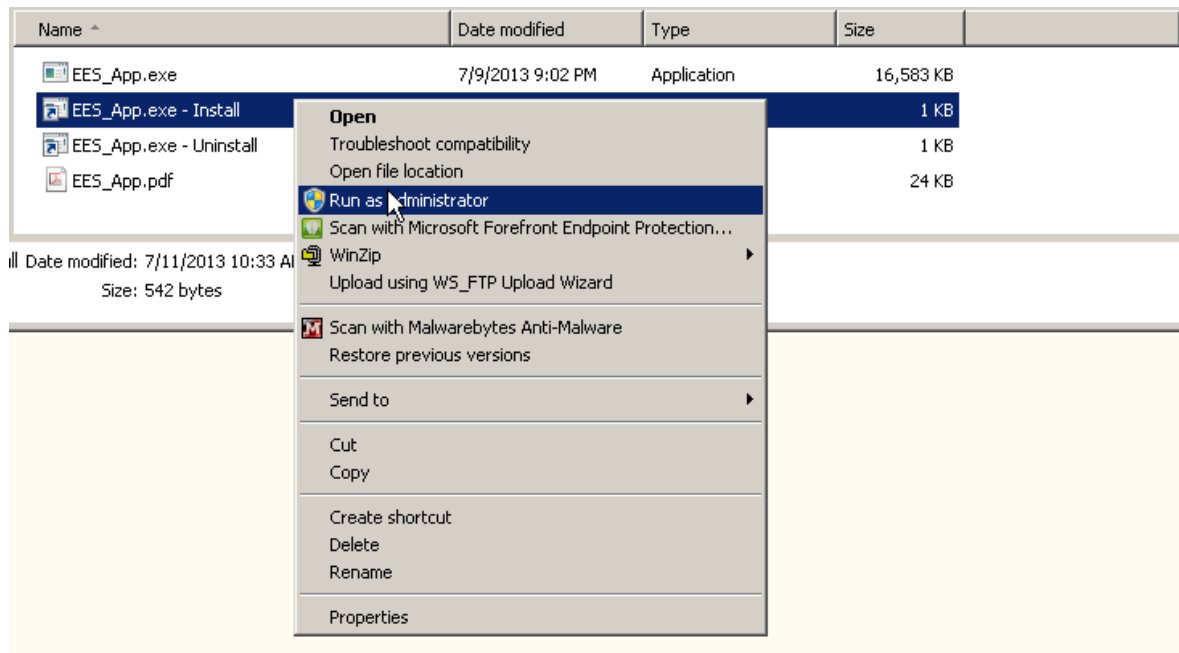
4. The shortcut created in step 3 will by default be named EES_App.exe – Shortcut. Right-click on this shortcut file and select the Rename menu command from the pop-up menu to change its name to EES_App.exe - Install
5. Repeat step 3 to create another shortcut. Repeat step 4, but this time, rename the shortcut to be EES_App.exe – Uninstall. At this time, your EES_App folder should contain the following files.

Name ^	Date modified	Type	Size
 EES_App.exe	7/9/2013 9:02 PM	Application	16,583 KB
 EES_App.exe - Install	7/11/2013 10:21 AM	Shortcut	1 KB
 EES_App.exe - Uninstall	7/11/2013 10:26 AM	Shortcut	1 KB
 EES_App.pdf	7/11/2013 10:28 AM	PDF File	24 KB

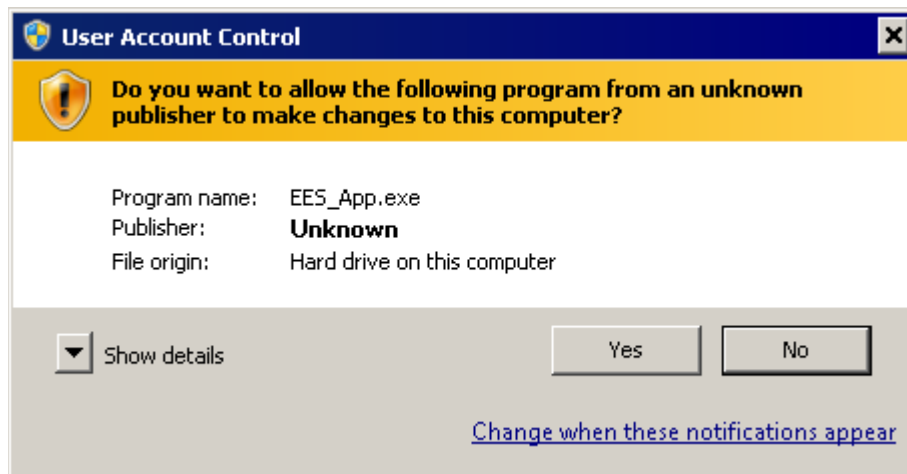
- Right-click on the EES_App.exe – Install file and select Properties from the pop-up menu. In the Target field, add /install after the name of the file, as shown.



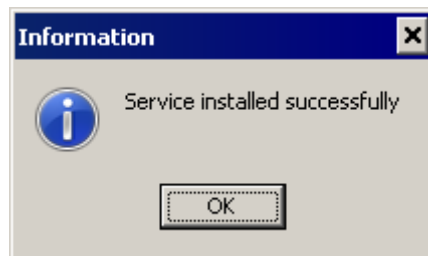
- Right-click on the EES_App.exe – Uninstall file and select Properties from the pop-up menu. In the Target field, add /uninstall after the name of the file in the Target field.
- Right-click on the EES_App.exe – Install file and select Run as Administrator



A Windows system dialog will appear asking for confirmation to install the program.



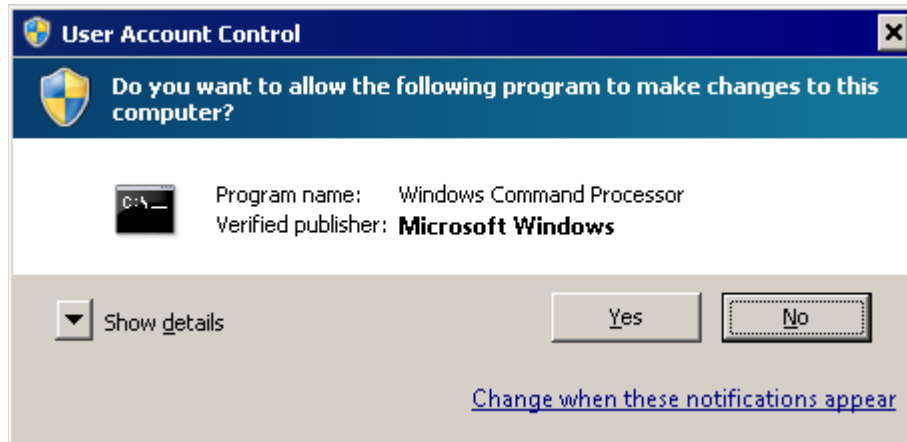
Click Yes. You should next see a confirmation that the EES_App service program has been installed.



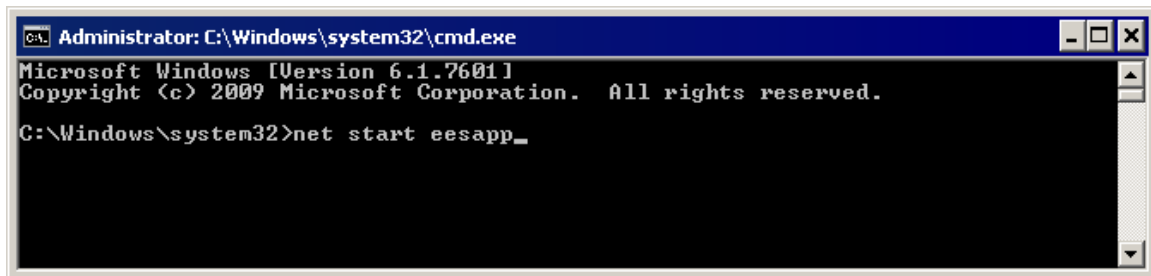
9. The EES_App service is installed. It is next necessary to restart your computer, which will start the service. As an alternative to restarting, you can do the following. Enter **cmd** in the edit box that appears when you click the Start button.



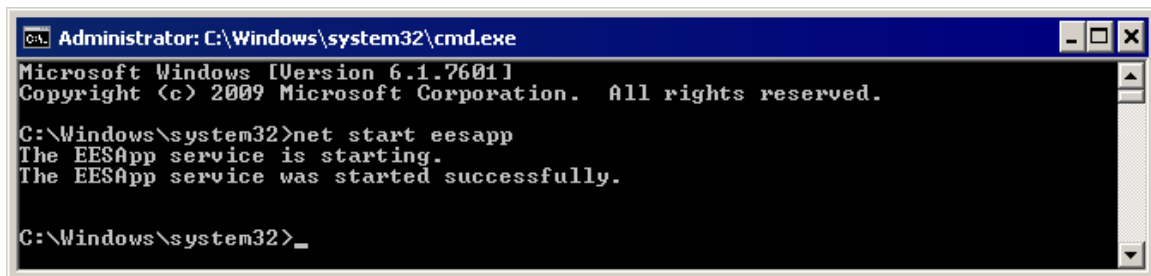
Hold the Ctrl and Shift keys down and then press the Enter button. The following system dialog will appear



Click the Yes button and you will be in the cmd window with Administrator privileges. Enter **net start eesapp** and press the Enter key. (Note there is no underscore character in eesapp.).



This will start the EES_App service



Once the service is installed, it should not be necessary to repeat these instructions.

10. It is next necessary to locate the IP address of the server. This can be most easily done by entering **cmd** into the edit box that appears when you click the Start button to bring up the CMD.exe window, as shown in step 9. (It is not necessary to press the Ctrl and Shift keys). Then enter **ipconfig** and press the Enter key. The IP address of the server is the series of numbers appearing to the right of IPv4 Address field. Write these numbers down as they will be needed to access EES_App.

```
Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 
    Temporary IPv6 Address. . . . . : 
    Link-local IPv6 Address . . . . . : 
    IPv4 Address. . . . . : XXX.XXX.XXX.XXX
    Subnet Mask . . . . . : 
    Default Gateway . . . . . :
```

Starting and Running EES_App

EES_App must be installed on the server, as indicated in instructions 1-10. To start EES_App, open a browser and enter in the space for a URL the IP address determined in step 10 followed by :8888/\$/. (Replace XXX.XXX.XXX.XXX with your server IP address.)



Press the Enter key and EES_App should start. *If it does not start, you may have to modify parameters in your server firewall to allow access to port 8888, as described in the next section.*

After starting EES the first time, it will be necessary to provide the name of the directory containing the EES application. By default, this directory is C:\EES32. EES_App will save the directory name when you quit in file EES_App.ini on the server so that you should not need to enter this information again.

A field is provided for a file name which is used with the Open and Save buttons below this field. The file name should be a simple name, e.g., test1, without a path or file name extension. EES_App will ignore the path if it provided in the file name. Clicking the Save button after entering a file name will save the contents of the equations edit box as a text file. Files can only be saved in the EES_App directory on the server. The file saved by EES_App is a .txt file, but it is not necessary to provide the .txt extension in the filename field, as EES_App will supply this extension. Clicking the Open button after entering the file name will attempt to locate the specified file in the EES_App directory

on the server and if it finds the file, it will replace the contents of the equations edit box with the information in that file.

After entering equations, click the Solve button. The solution should appear in the lower edit box. If an error occurs, the error message should appear in this field. However, the error detection capability of EES_App is limited and some error conditions may not be reported.

The +/- button adjusts the width of the application to a smaller or larger size. The smaller size is approximately the width of an iPhone screen. The larger size is 600 pixels. The Equations and Solutions window can be dragged to a larger size if desired and vertical scrollbars will appear if needed.

The Clear button clears the contents of both edit boxes. The Quit button will terminate the application.

Note that the EES Help files can be accessed through your browser at the following URL:
<http://fchart.com/ees/eeshelp/eeshelp.htm>

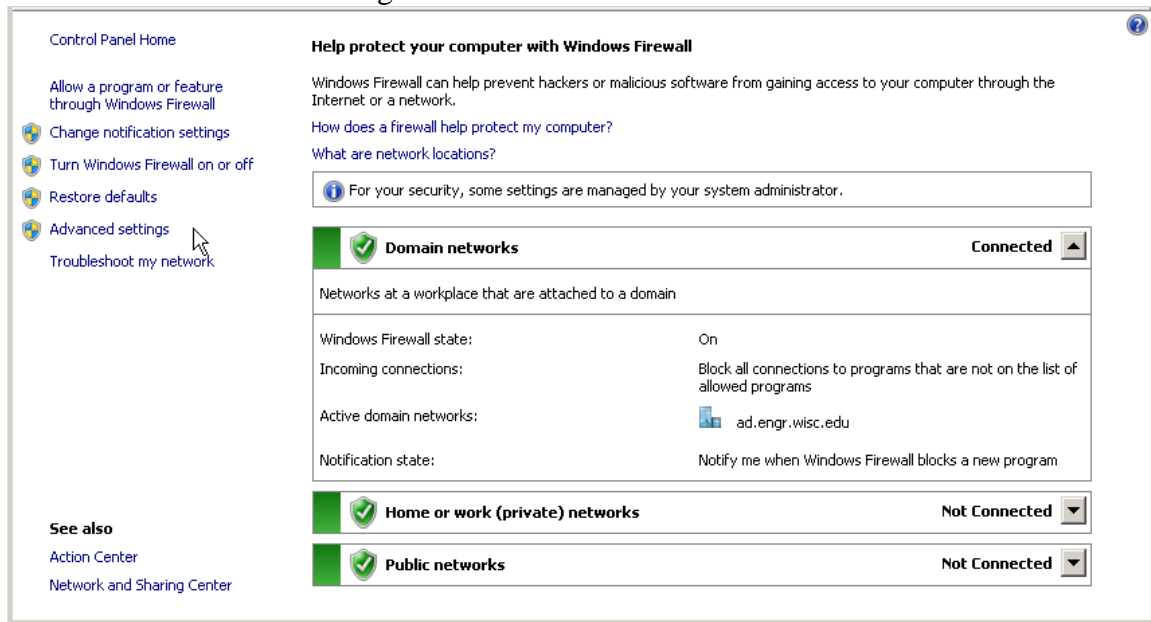
Modifying the Firewall Parameters

If your browser seems to hang when starting EES_app after following instructions 1-10, the problem is likely that access to your server is restricted by your firewall. It is necessary to provide a rule to allow access.

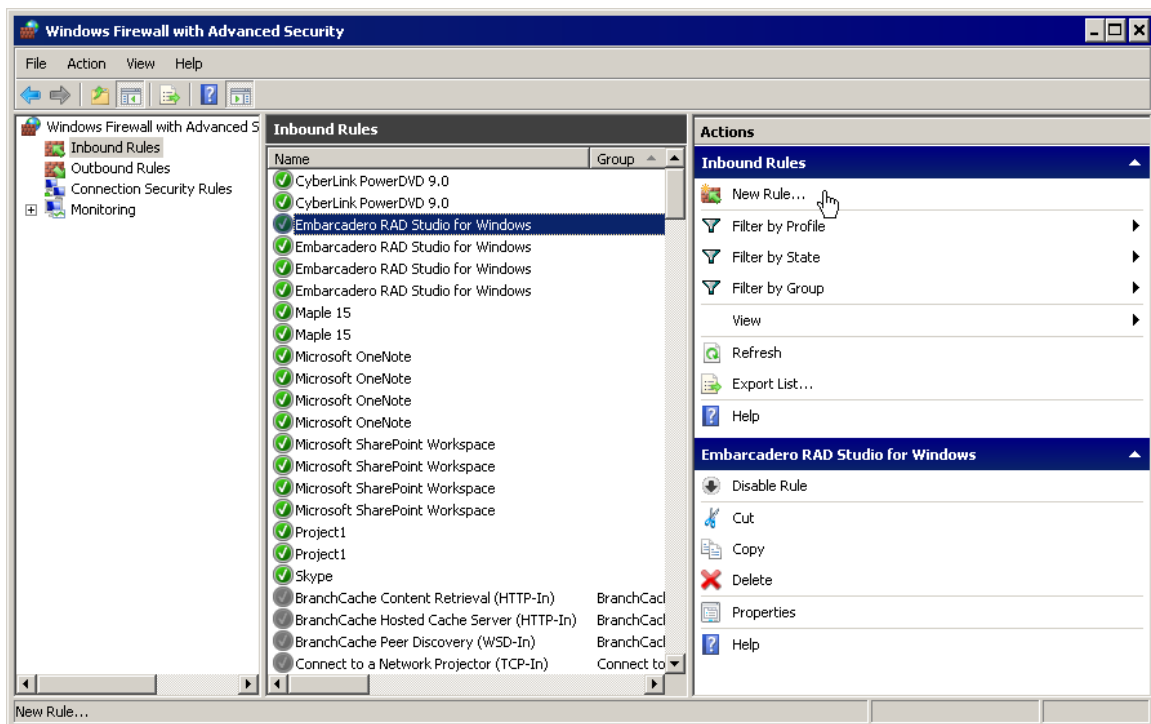
Open the Control Panel from the Start menu. Select the System and Security item. Then click on Windows Firewall.



Click on the Advanced setting item at the left of window.



Click on Inbound Rules in the panel at the left of the window. Now the Inbound Rules and Actions panels should be visible. Click on New Rule in the Actions pane.



Select Port as the type of rule you want to create. Then click the Next button

New Inbound Rule Wizard

Rule Type
Select the type of firewall rule to create.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

What type of rule would you like to create?

☐ **Program**
Rule that controls connections for a program.

☒ **Port**
Rule that controls connections for a TCP or UDP port.

☐ **Predefined:**

Rule that controls connections for a Windows experience.

☐ **Custom**
Custom rule.

[Learn more about rule types](#)

< Back Next > Cancel

Click the Specific local ports button and enter 8888. Then click Next.

New Inbound Rule Wizard

Protocol and Ports
Specify the protocols and ports to which this rule applies.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Does this rule apply to TCP or UDP?

☒ **TCP**

☐ **UDP**

Does this rule apply to all local ports or specific local ports?

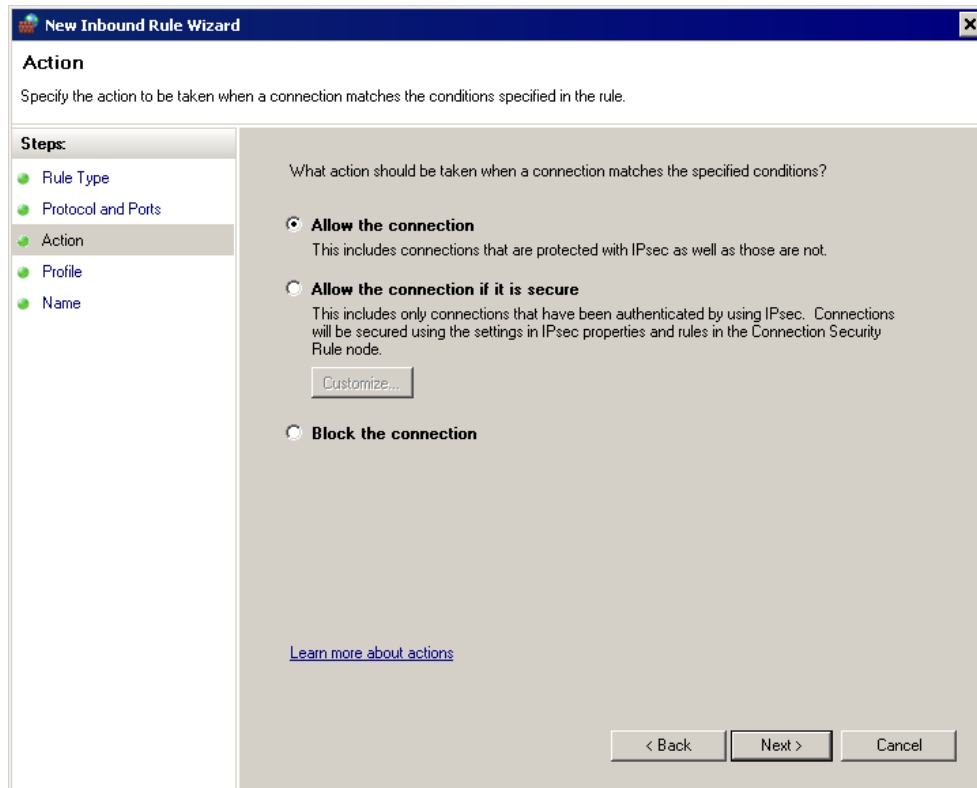
☐ **All local ports**

☒ **Specific local ports:**
Example: 80, 443, 5000-5010

[Learn more about protocol and ports](#)

< Back Next > Cancel

Select Allow the connection. Then click the Next button.



The screenshot shows the 'New Inbound Rule Wizard' window at the 'Action' step. The title bar reads 'New Inbound Rule Wizard'. The main heading is 'Action', with the instruction 'Specify the action to be taken when a connection matches the conditions specified in the rule.' On the left, a 'Steps:' list includes 'Rule Type', 'Protocol and Ports', 'Action' (highlighted), 'Profile', and 'Name'. The main area asks 'What action should be taken when a connection matches the specified conditions?' and offers three radio button options: 'Allow the connection' (selected), 'Allow the connection if it is secure', and 'Block the connection'. Descriptive text is provided for each option. A 'Customize...' button is next to the 'Allow the connection if it is secure' option. At the bottom right are '< Back', 'Next >', and 'Cancel' buttons. A link 'Learn more about actions' is at the bottom left.

Action
Specify the action to be taken when a connection matches the conditions specified in the rule.

Steps:

- Rule Type
- Protocol and Ports
- Action**
- Profile
- Name

What action should be taken when a connection matches the specified conditions?

☒ **Allow the connection**
This includes connections that are protected with IPsec as well as those are not.

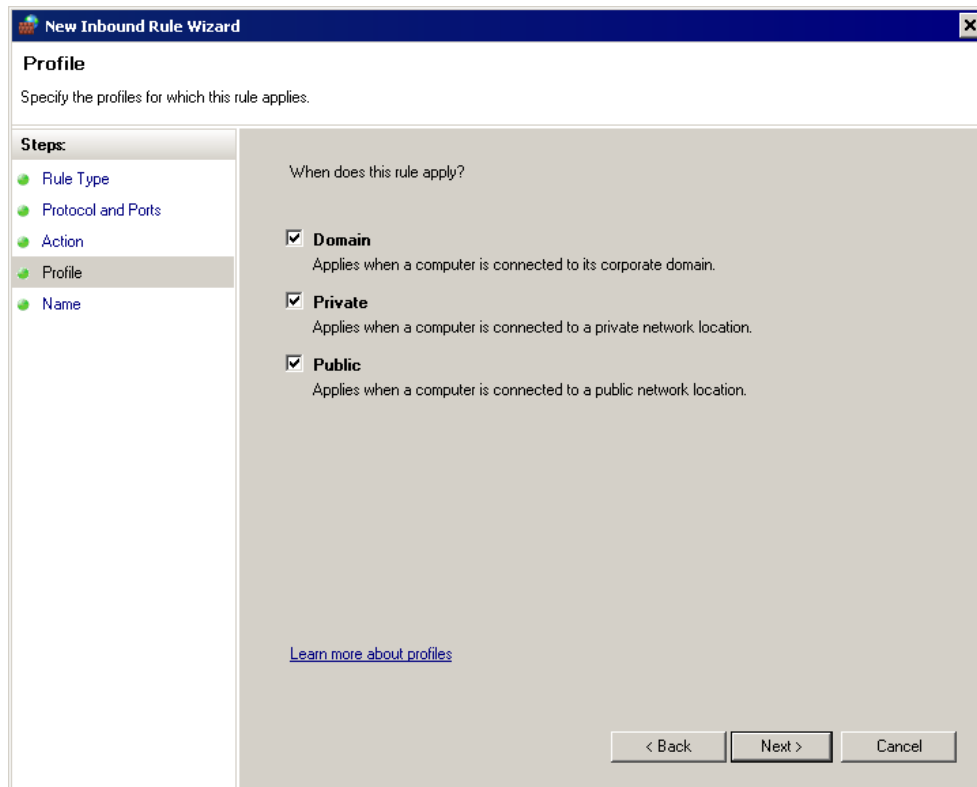
☐ **Allow the connection if it is secure**
This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node.
[Customize...](#)

☐ **Block the connection**

[Learn more about actions](#)

< Back Next > Cancel

Check the boxes for when the rule will be applied for your needs. Click Next.



The screenshot shows the 'New Inbound Rule Wizard' window at the 'Profile' step. The title bar reads 'New Inbound Rule Wizard'. The main heading is 'Profile', with the instruction 'Specify the profiles for which this rule applies.' On the left, a 'Steps:' list includes 'Rule Type', 'Protocol and Ports', 'Action', 'Profile' (highlighted), and 'Name'. The main area asks 'When does this rule apply?' and offers three checked checkbox options: 'Domain', 'Private', and 'Public'. Descriptive text is provided for each option. At the bottom right are '< Back', 'Next >', and 'Cancel' buttons. A link 'Learn more about profiles' is at the bottom left.

Profile
Specify the profiles for which this rule applies.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile**
- Name

When does this rule apply?

☒ **Domain**
Applies when a computer is connected to its corporate domain.

☒ **Private**
Applies when a computer is connected to a private network location.

☒ **Public**
Applies when a computer is connected to a public network location.

[Learn more about profiles](#)

< Back Next > Cancel

Enter EES_App into the Name field and a description. Click Finish.

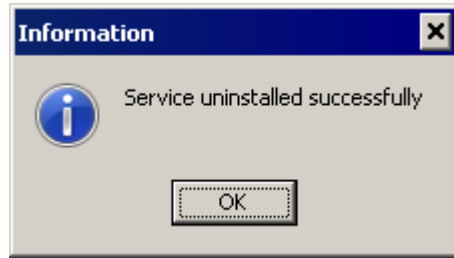
The screenshot shows the 'New Inbound Rule Wizard' window. The title bar reads 'New Inbound Rule Wizard'. Below the title bar, the 'Name' step is selected in the 'Steps' list on the left. The main area contains two text boxes: 'Name:' with the value 'EES_App' and 'Description (optional):' with the value 'Allow access on port 8888'. At the bottom right, there are three buttons: '< Back', 'Finish' (which is highlighted), and 'Cancel'.

Restart EES_App by entering the IP number followed by :8888/\$/ in your browser as described above. EES_App should now appear.

Uninstalling EES_App

Follow these instructions if you no longer wish to use EES_App and you want to remove it from your server.

1. Right-click on the EES_App.exe – Uninstall shortcut file created in step of the Installation instructions.
2. Select Run as Administrator from the pop up menu. Enter Yes in the User Account Control dialog. You should then see the following dialog.



3. If you entered a firewall rule, you should remove it by locating the EES_App rule in the Input Rules panel of the Windows Firewall dialog. Click on EES_App then then press the Delete key.
4. Restart your server.
5. Delete the EES_App directory and its contents.

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Please email and comments or suggestion related to EES_App to <mailto:info@fchart.com>