Configuring a Windows 2003 Server for IAS

When setting up a Windows 2003 server to function as an IAS server for our demo environment we will need the server to serve several functions. First of all we will configure the server to be a Domain Controller so that we can use Active Directory to define users and/or machines. Next we will configure the server to act as a Certificate Authority for providing certificate services for our demo environment. In order for the certificate services to operate fully, we will also need to enable IIS to all web access for certificate requests. Finally we need to enable IAS to allow the server to function as a Radius server.

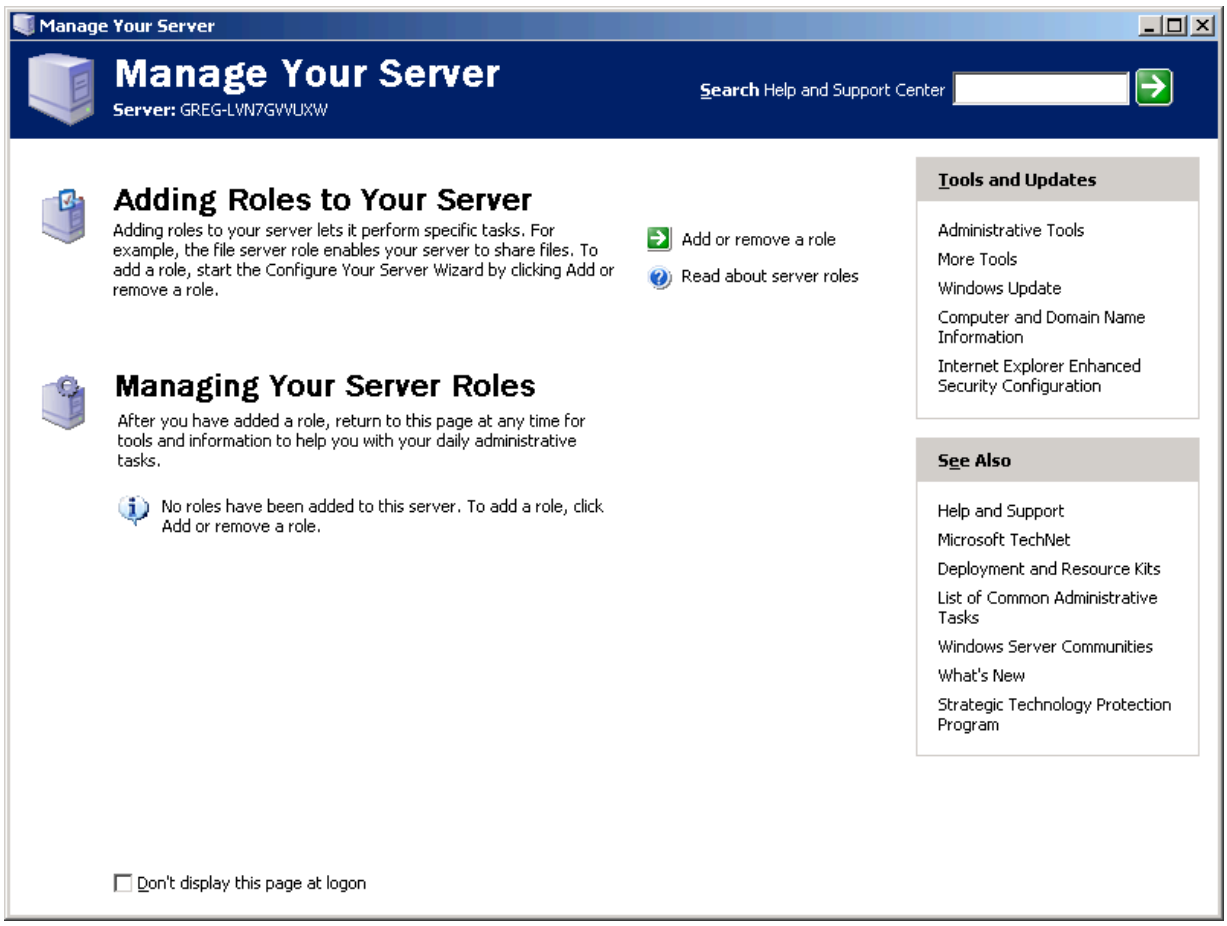
The following tasks should be done in the order shown.

1. **Configure the Server as a Domain Controller**
2. **Enable IIS on the Server**
3. **Configure the Server as a Certificate Authority**
4. **Download the CA Certificate**
5. **Enable and configure IAS**

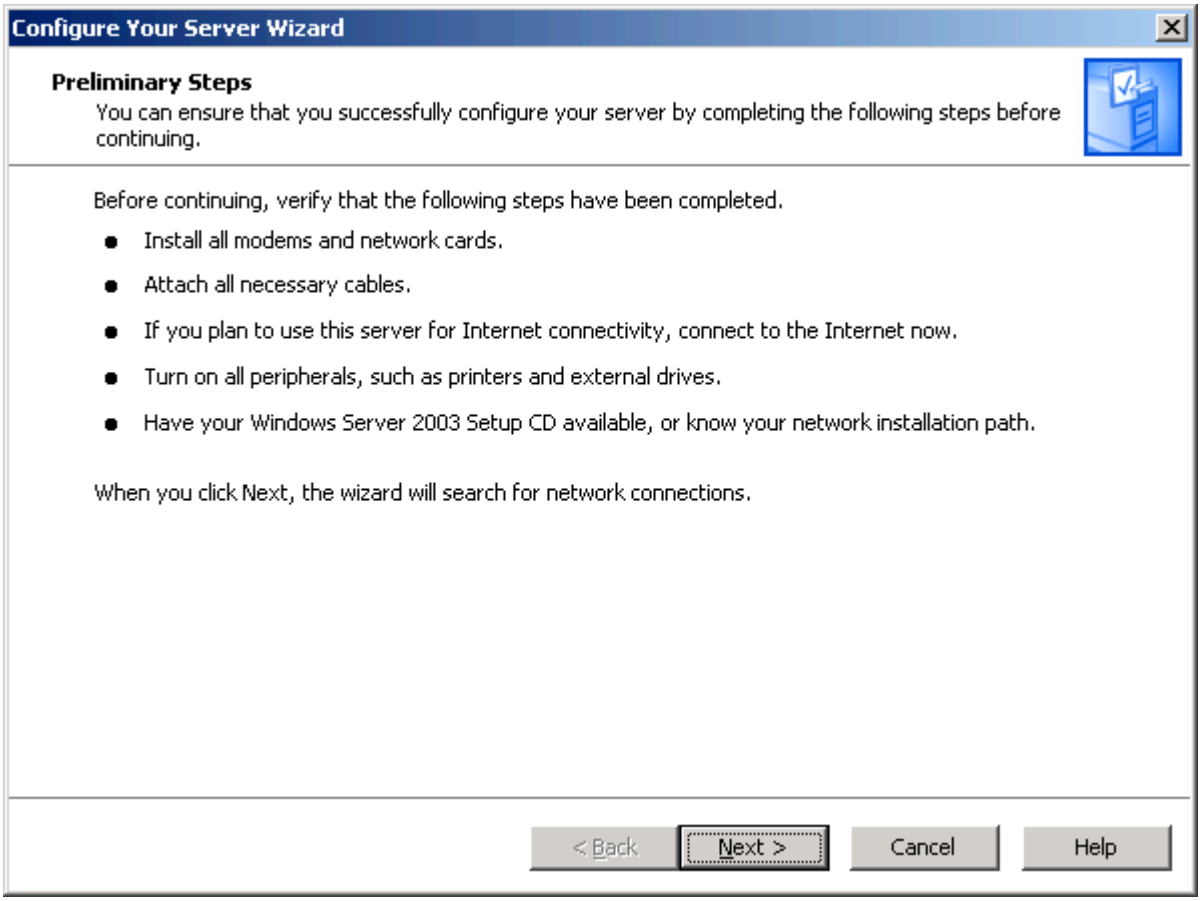
The remainder of this document will show the step by step process required to complete each of these tasks. It is assumed that we will be starting from a freshly installed Windows 2003 Server.

Configure the Server as a Domain Controller

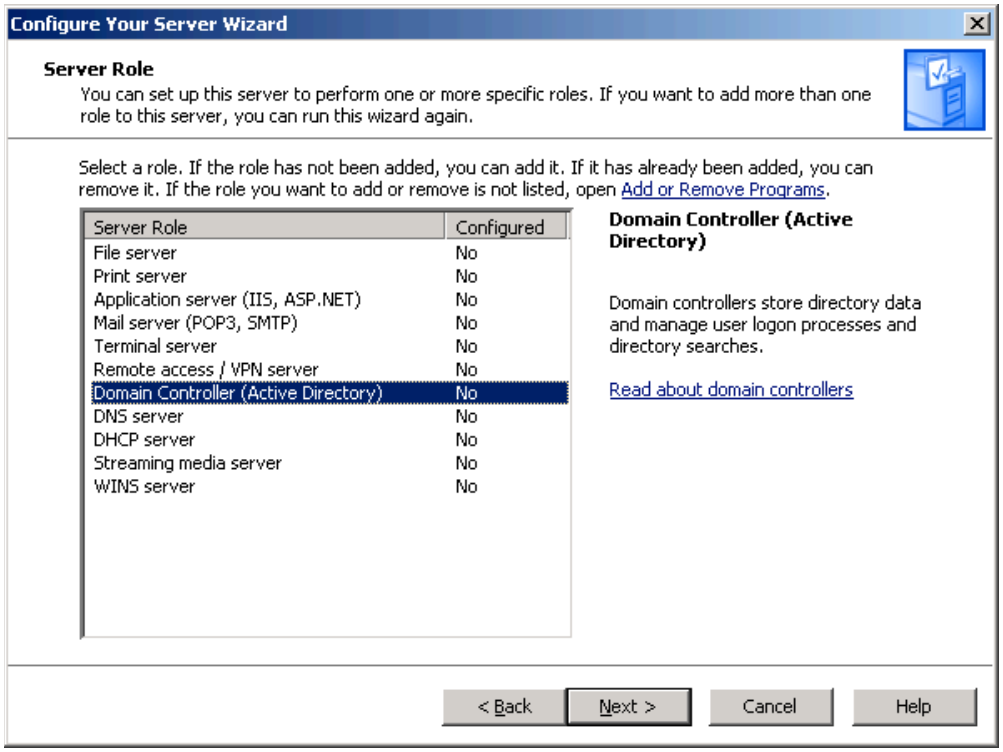
When a newly installed 2003 server is first logged into, the following window will be opened. This Manage Your Server window will allow you to change the role that your server plays on the network. In order to configure the server to be a Domain Controller we need to start the process by selecting the Add or remove a role option in this window.



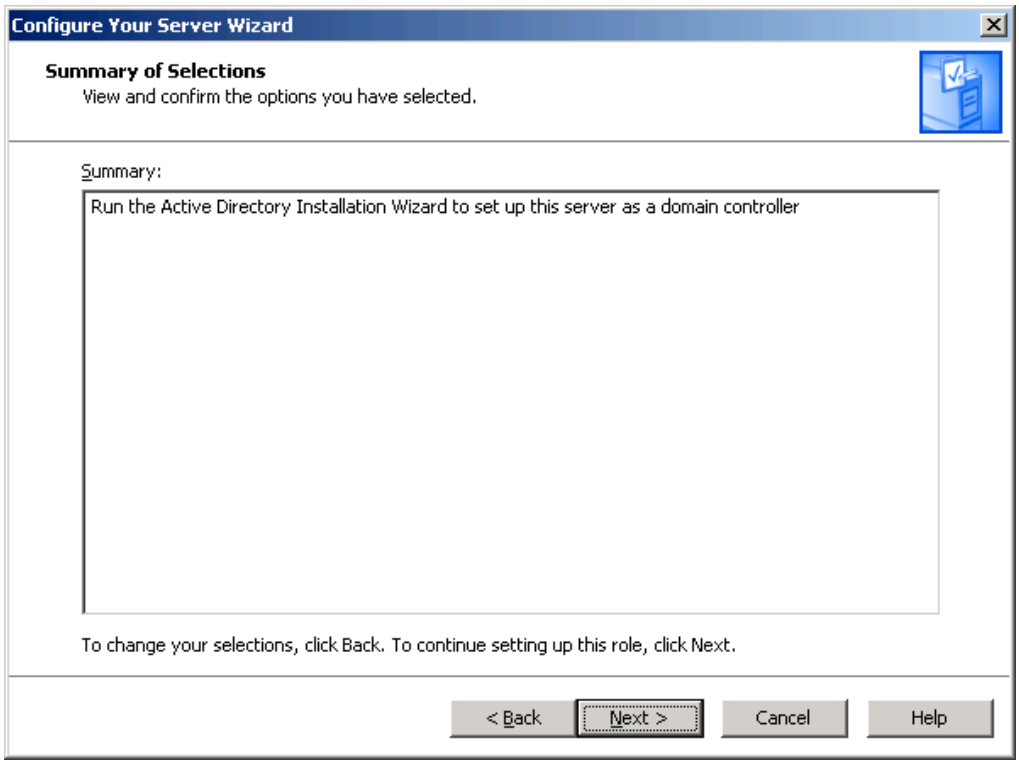
The configuration wizard will now start and ask you to verify that preliminary steps have been completed. Hit “Next” to continue.



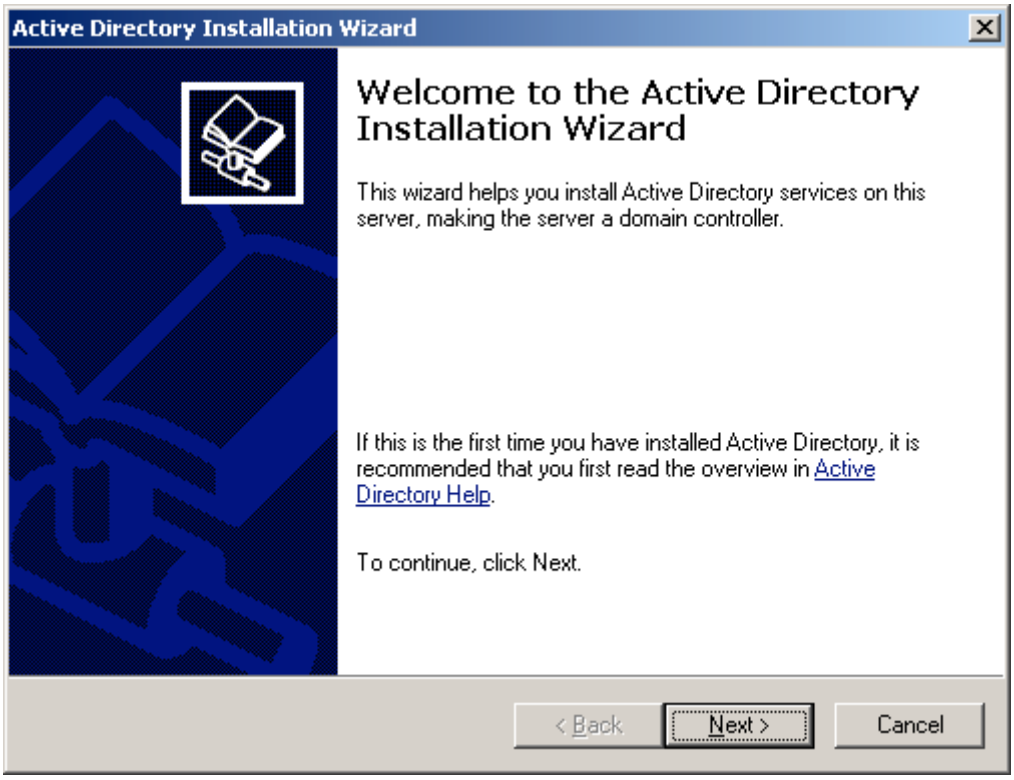
The wizard will then provide a list of server roles that can be configured. As shown below, select "Domain Controller" from the list and hit the "Next" Button.



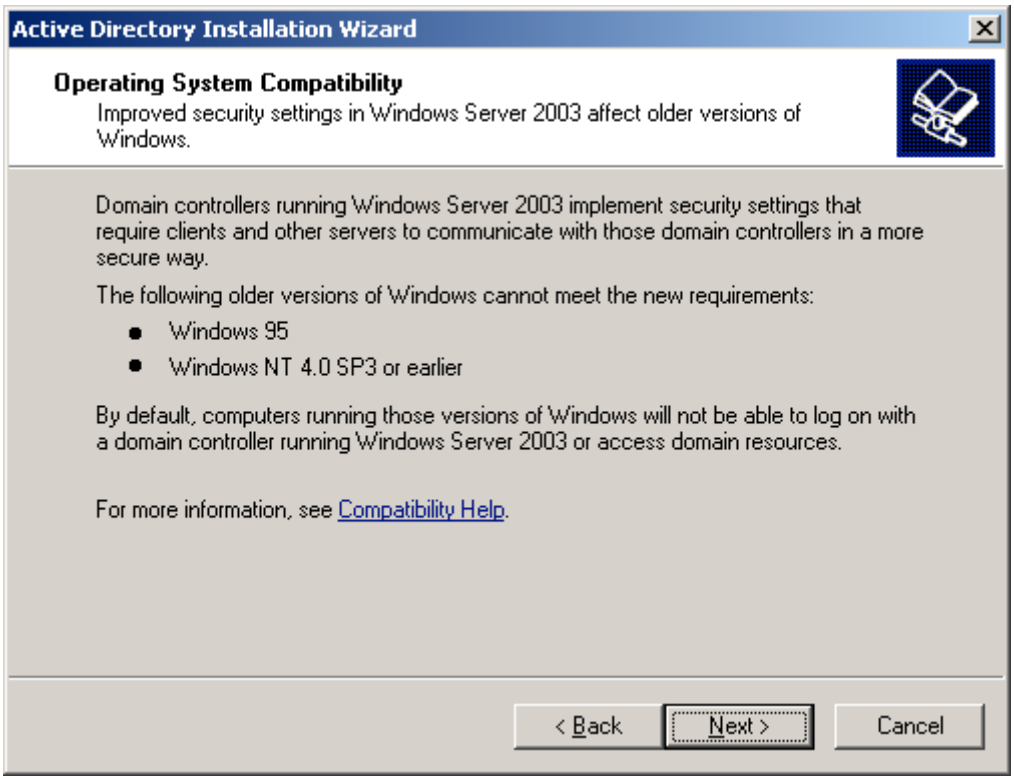
The Wizard will ask you to confirm your selection. Press "Next" to confirm and continue.



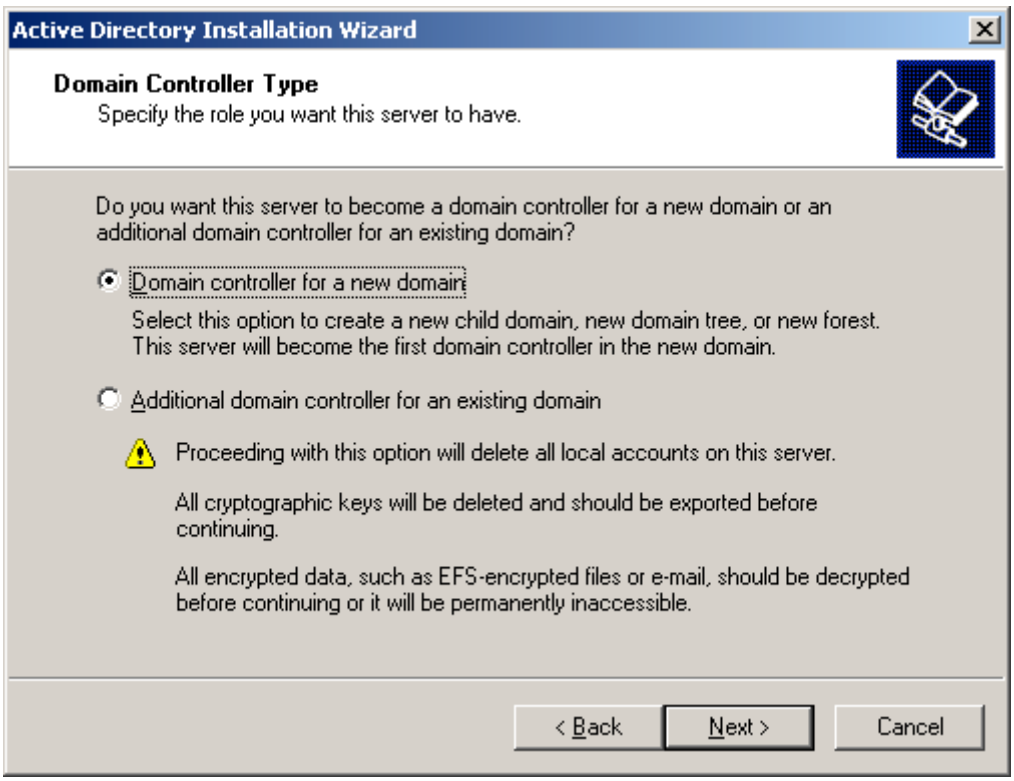
The Active Directory Installation Wizard will now start. Select “Next” to continue.



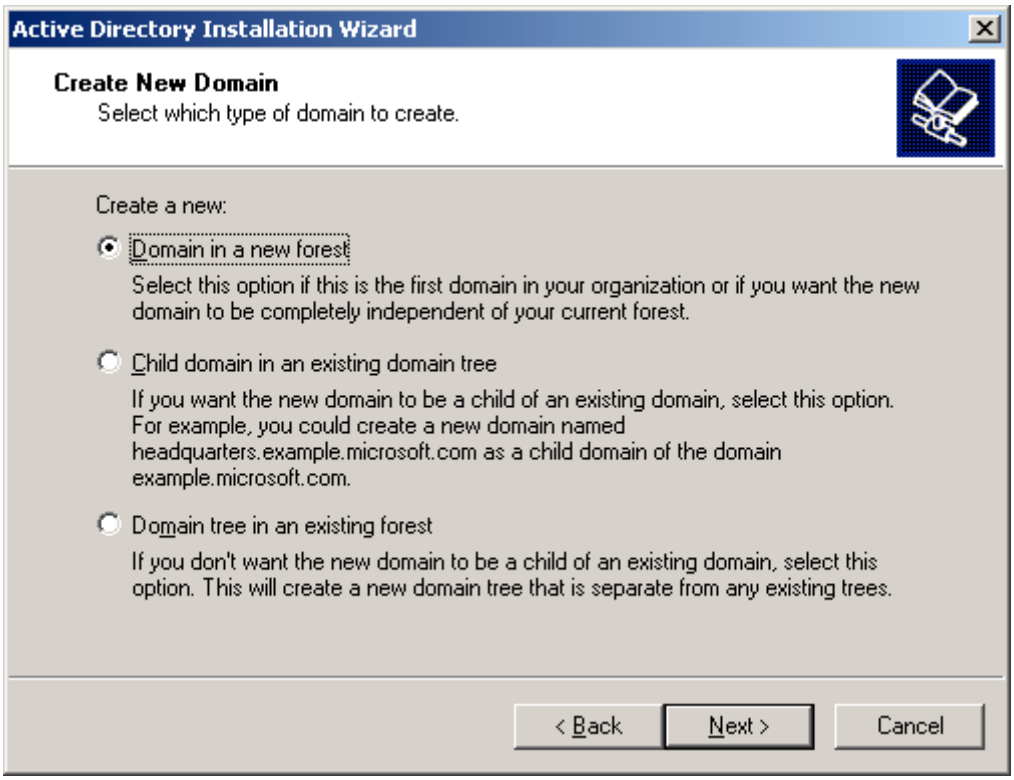
A warning window will now be displayed. Press “Next” to continue.



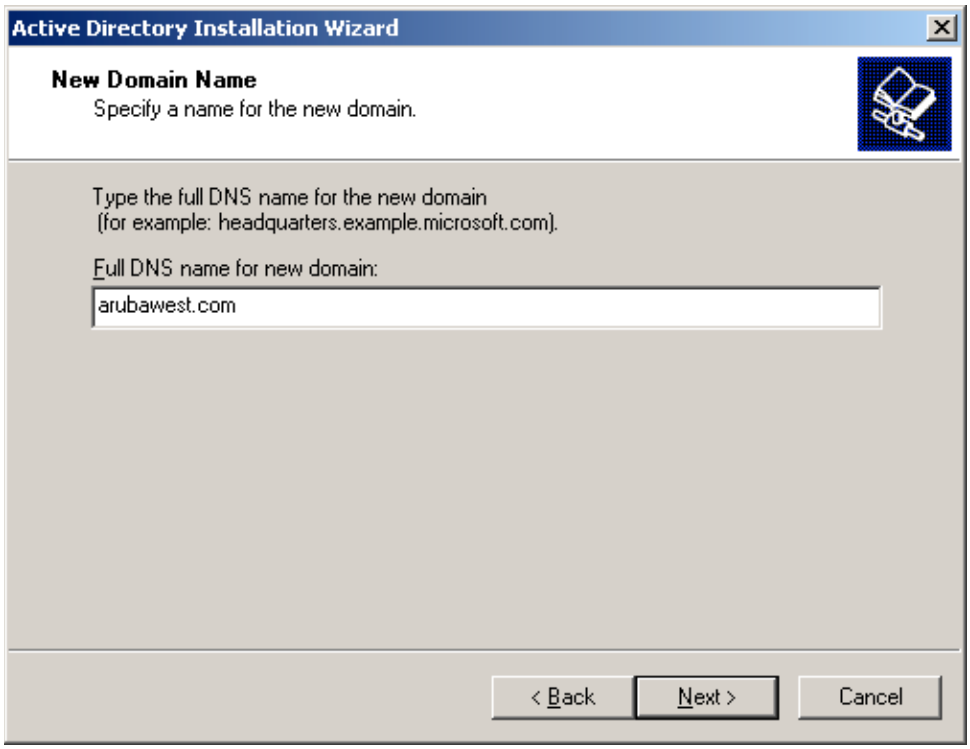
You will now be asked to specify a Domain Controller Type. Here we will want to select the Domain controller for a new domain radio button, and select “Next” to continue.



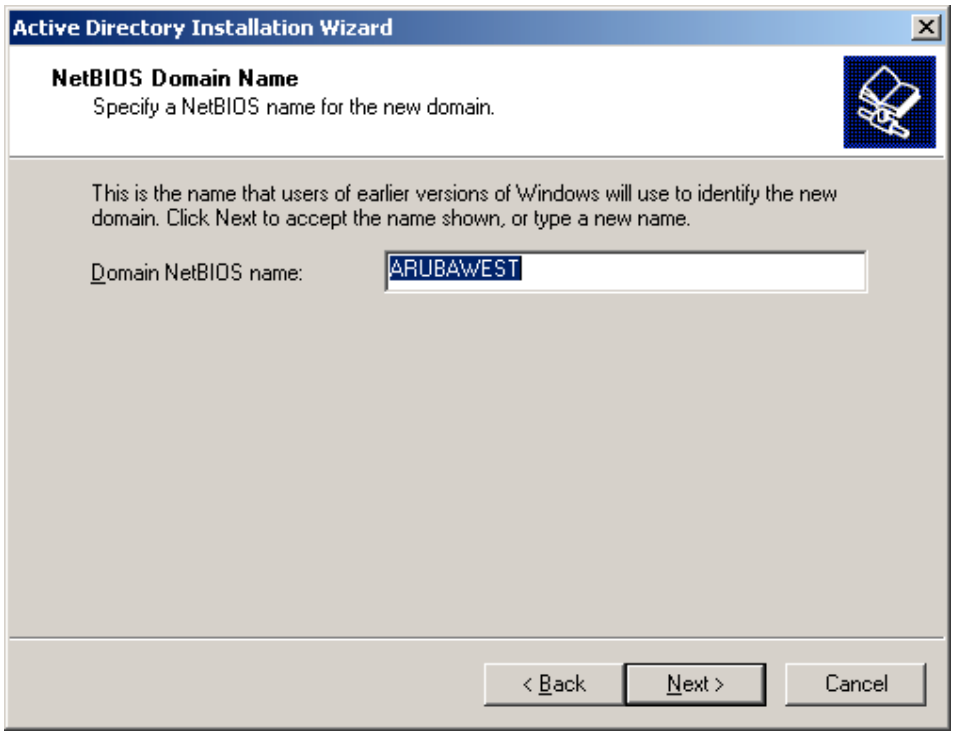
Next select the “Domain in new forest” radio button, and select “Next” to continue.



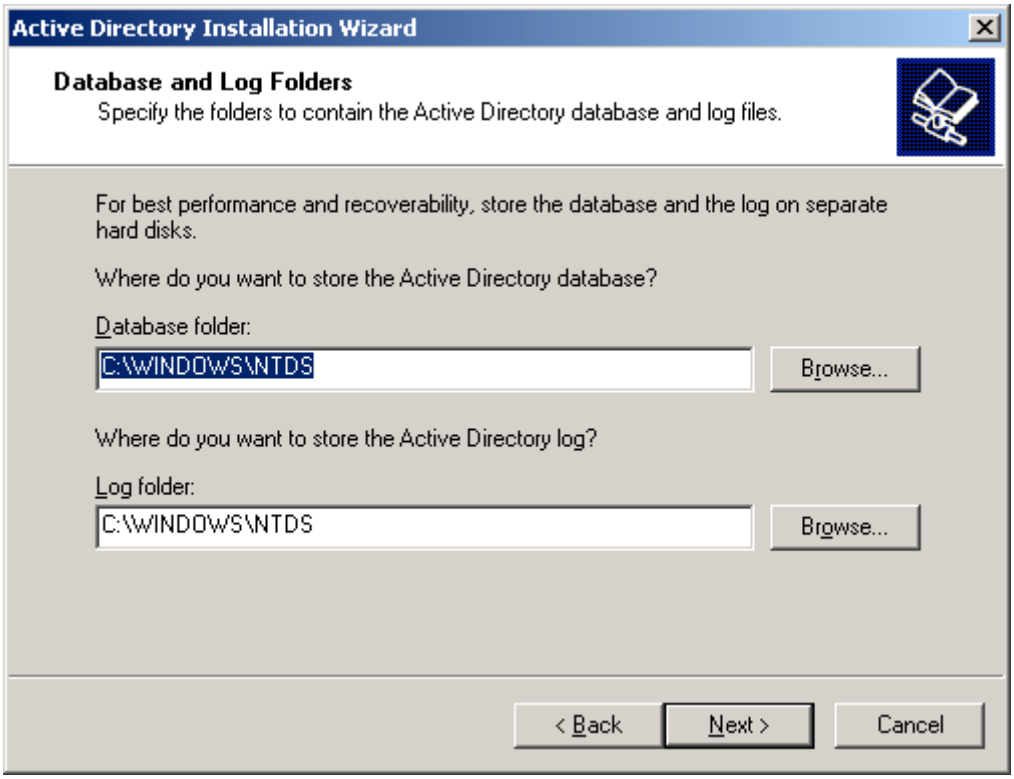
At this point you will be asked for the DNS name of the new domain to be created. Enter the desired domain name and select “Next” to continue.



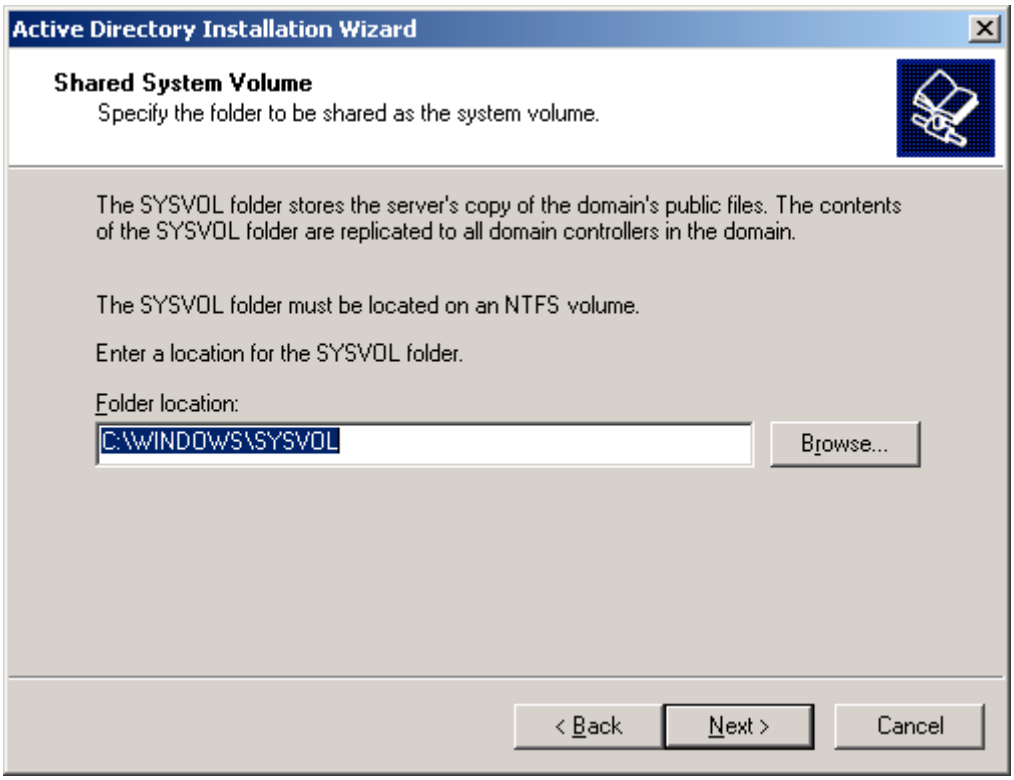
Next you will be shown the NetBIOS name that will be used for this domain. Select “Next” to continue.



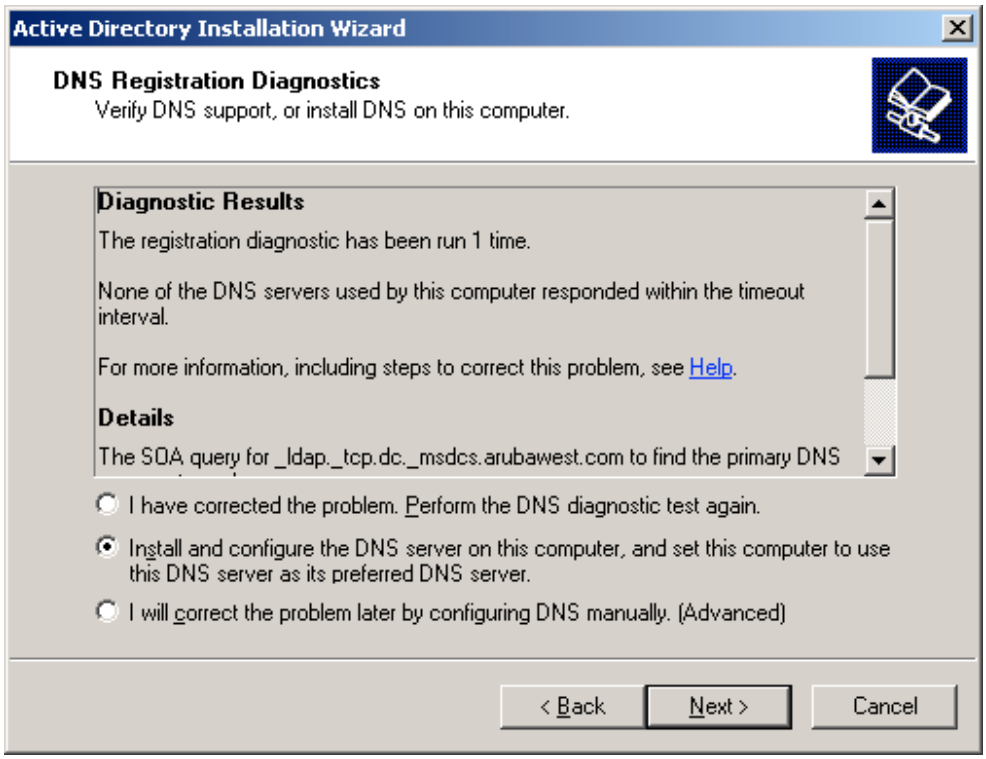
Now you will be given the option to change the location of the Active Directory database and directory. Just keep the defaults and select “Next” to continue.



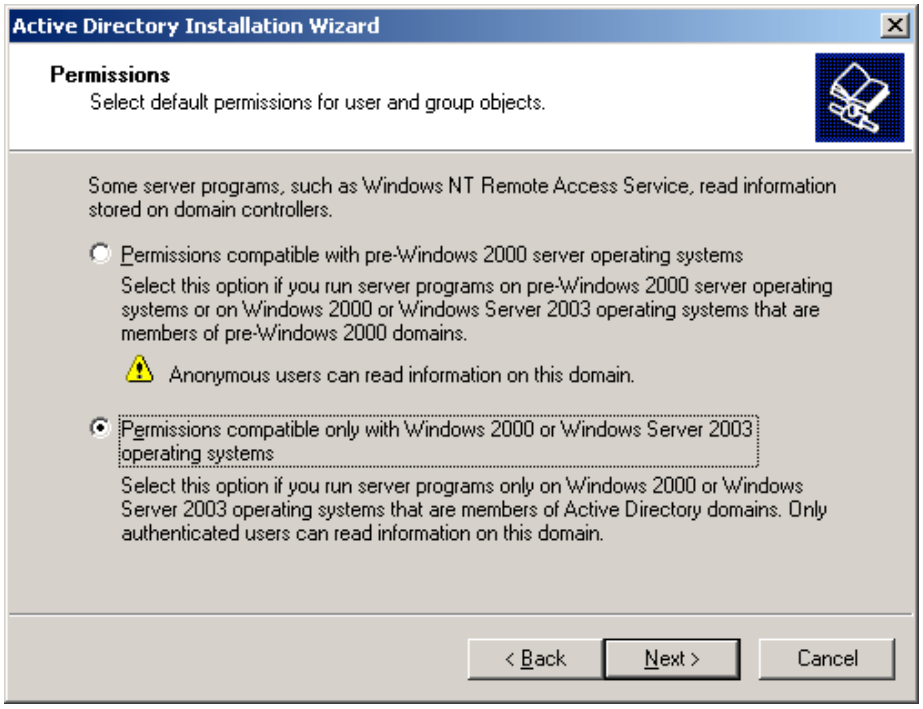
Now you can change the location of the Shared System Volume. Select “Next” to continue.



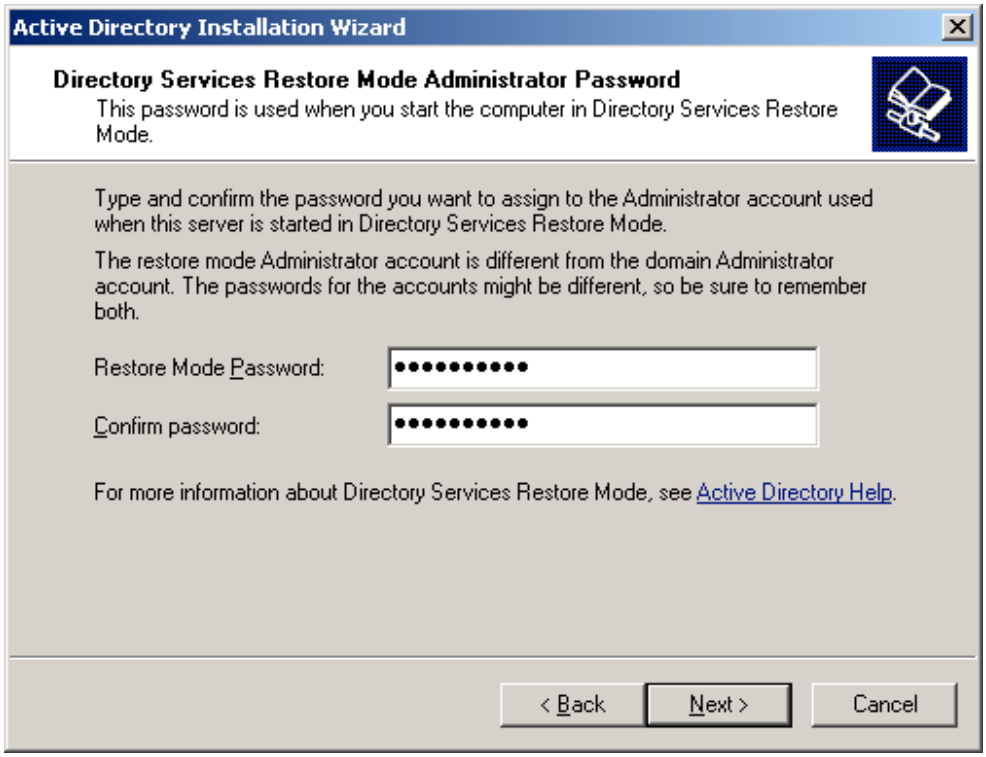
At this point the wizard will give you the option of installing DNS on this server. If you ever want to add a computer to this domain, it will be necessary for that computer to have access to the DNS for this domain. Since this is a fictious domain, it works best if this server also acts as the DNS server. Select “Install and configure the DNS server” as show below and select “Next” to continue.



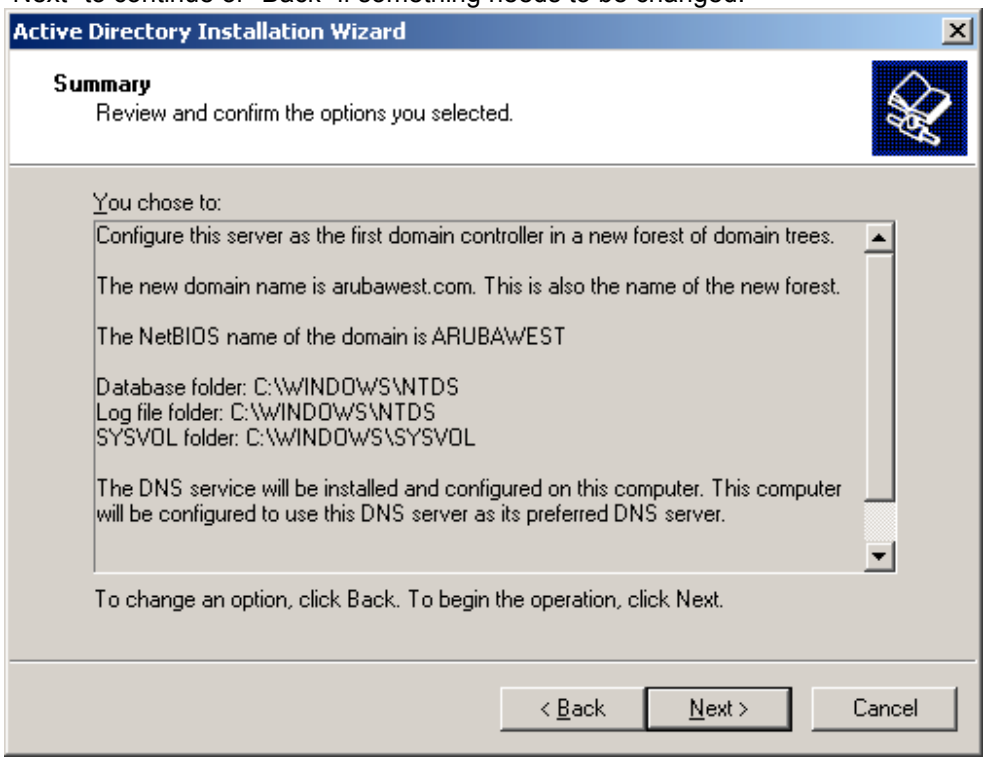
You will be asked if you need to support any pre-Windows 2000 operating systems will need to be supported. Select “Next” to continue.



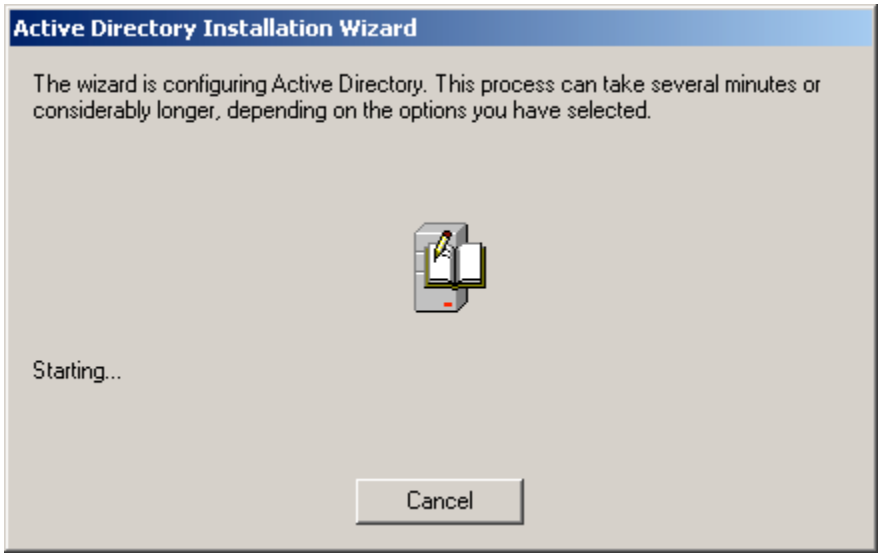
You will now be prompted for a Restore Mode Password. Enter and confirm the password and select “Next” to continue.



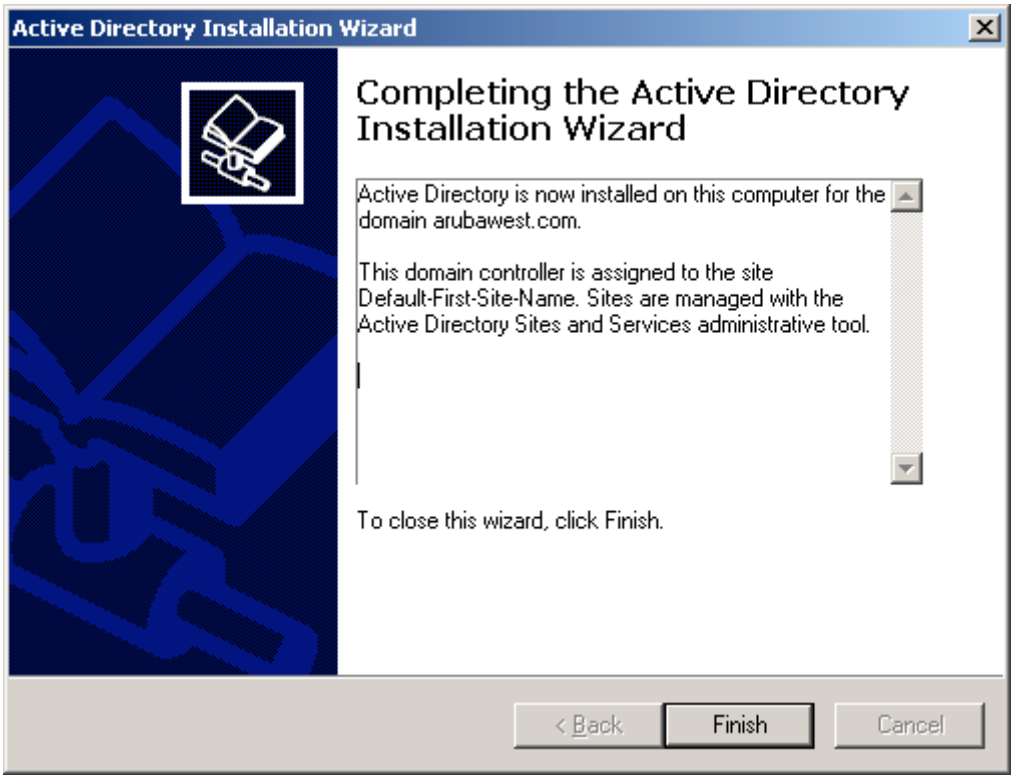
You will now be given an opportunity to review your config options before they are applied. Press “Next” to continue or “Back” if something needs to be changed.



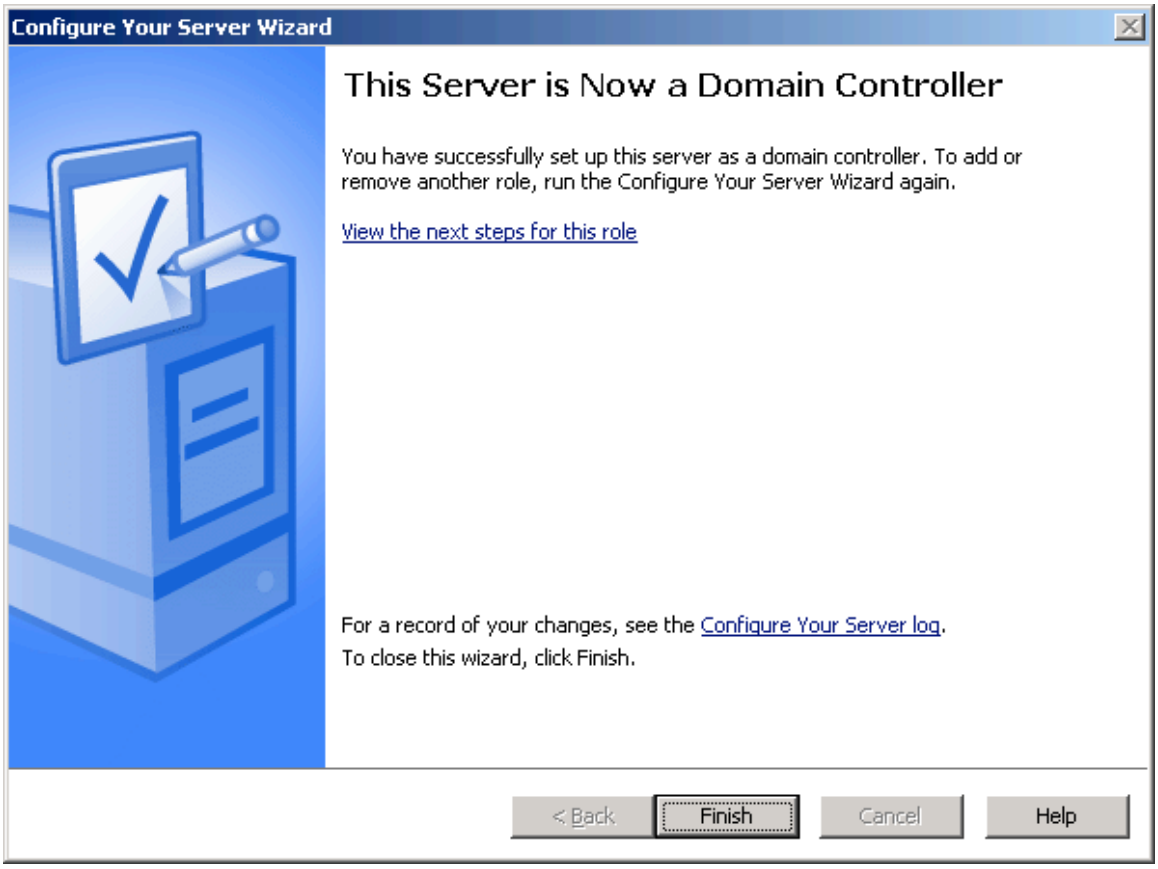
At this point the Active Directory Installation Wizard will install and configure AD based on all of your previous selections. This could take several minutes to complete.



When the Wizard finished the following window will be displayed. Select “Finish” to continue.



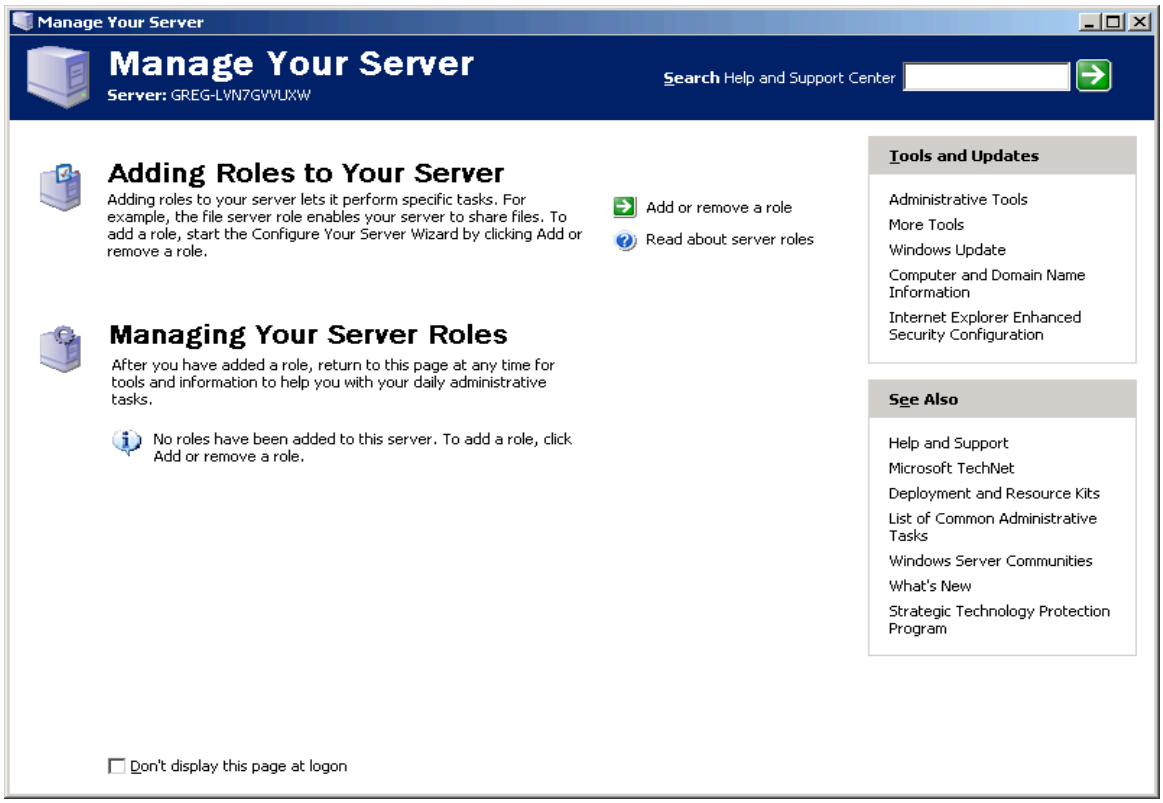
You are now finished with the Active Directory configuration, and your server is now a Domain Controller. Select “Finish” to continue.



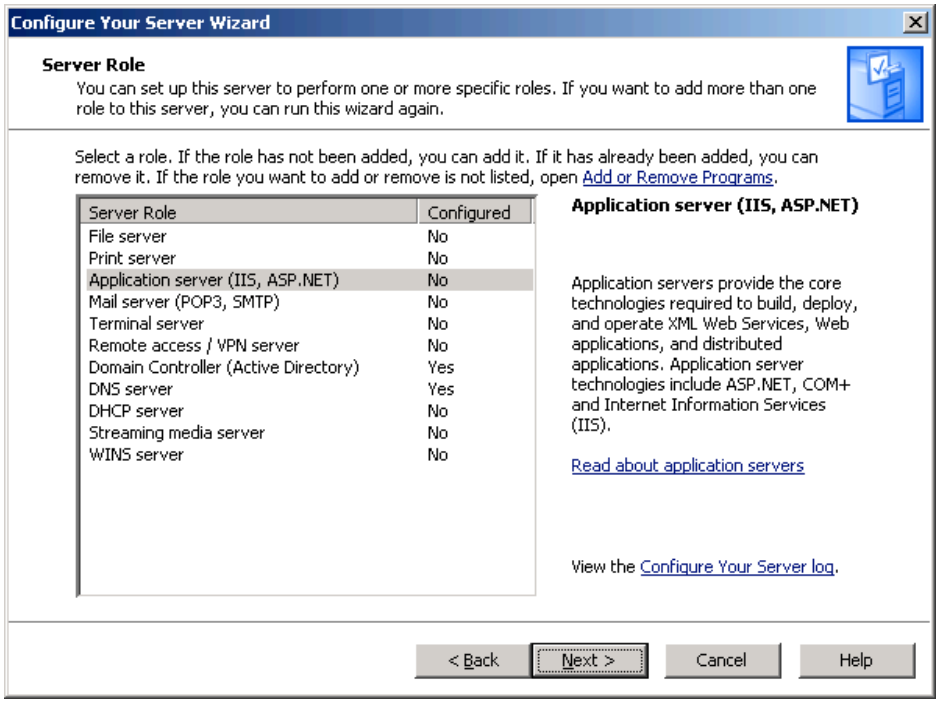
At this point you must restart the system. Select “Restart Now” and the server will reboot.

Enable IIS on the Server

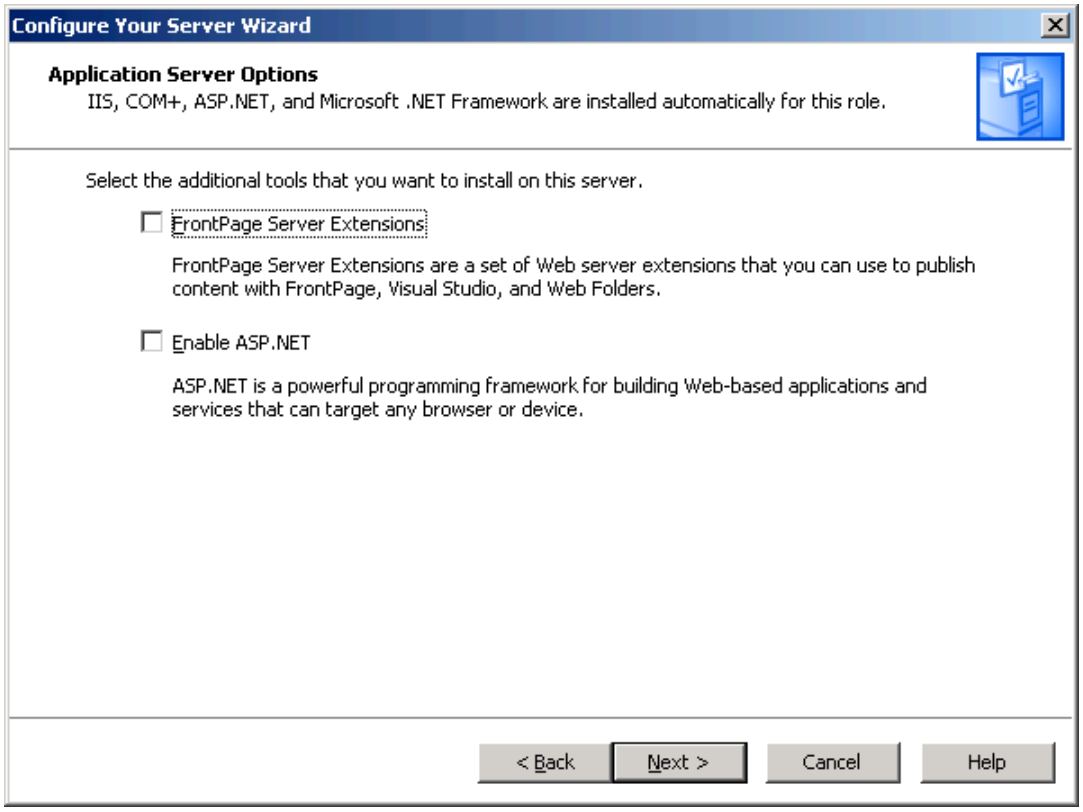
As Discussed before you will need to enable IIS so that Certificate Services are available via the web once we configure the server to be a Certificate Authority. This should be done before Configuring the CA so that all CA components are installed properly. This install will start by adding another role for your server using the window below. Select “Add or remove role” to start adding the IIS features.



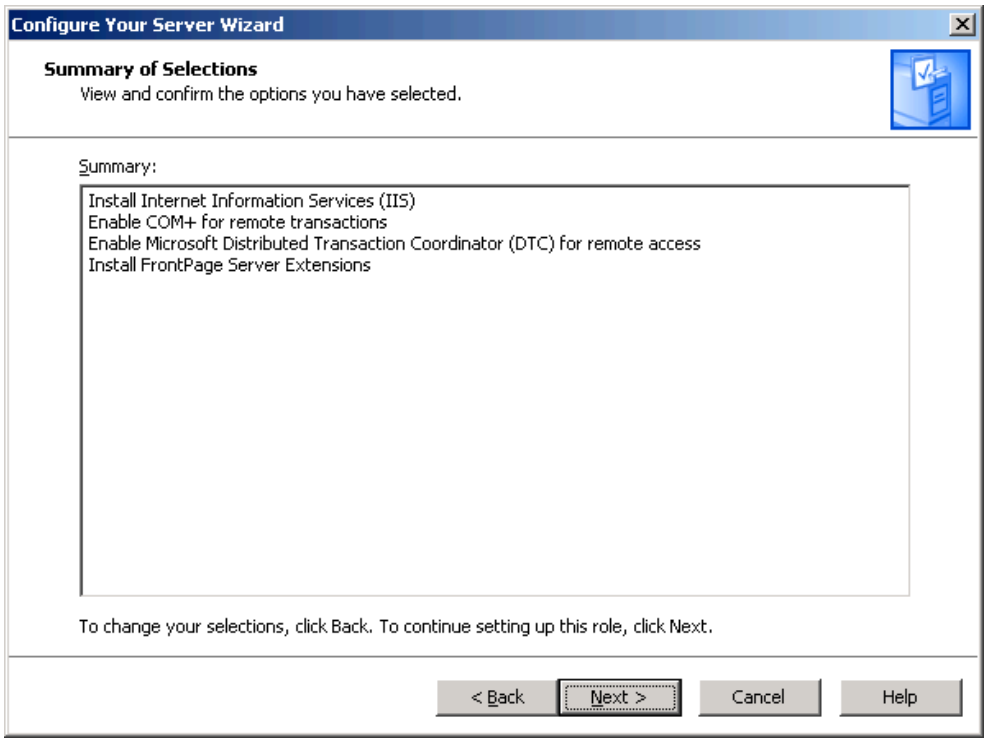
Now select “Application server(IIS, ASP.NET)” and select “Next” to continue.



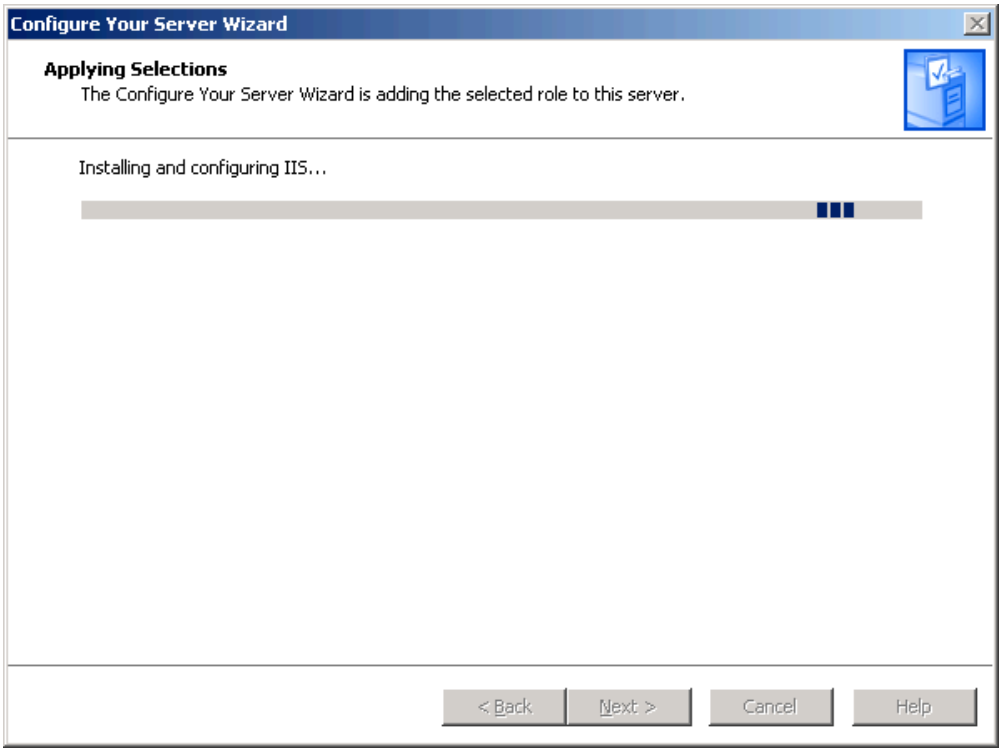
You will then be asked if you want to install any other tools on the server. You don’t need any of these, so just select “Next” to continue.



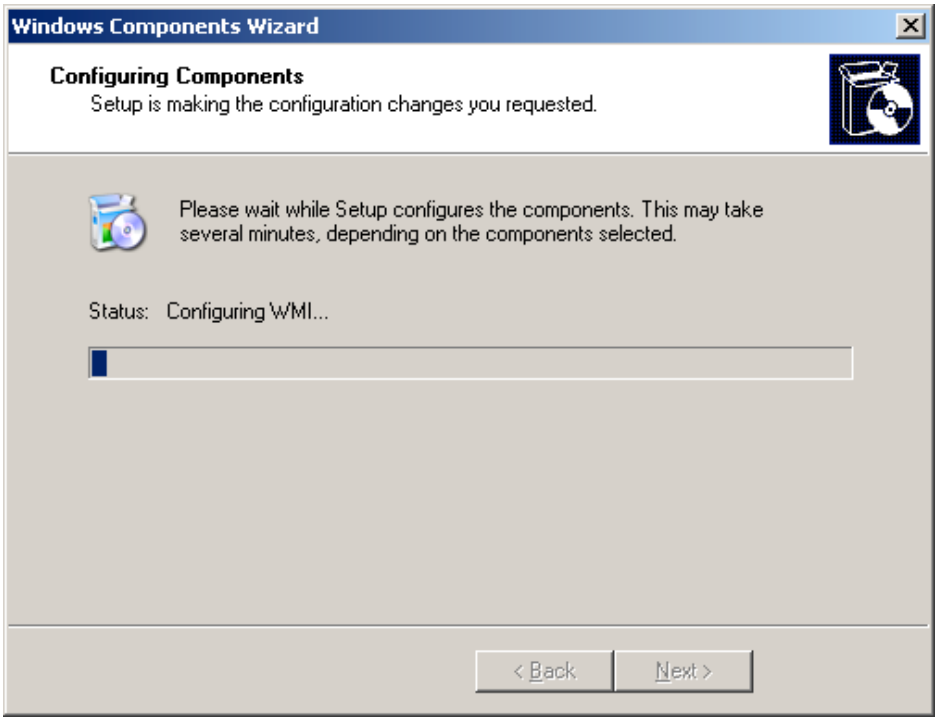
You will now have an opportunity to review your selections. Select “Next” to continue.



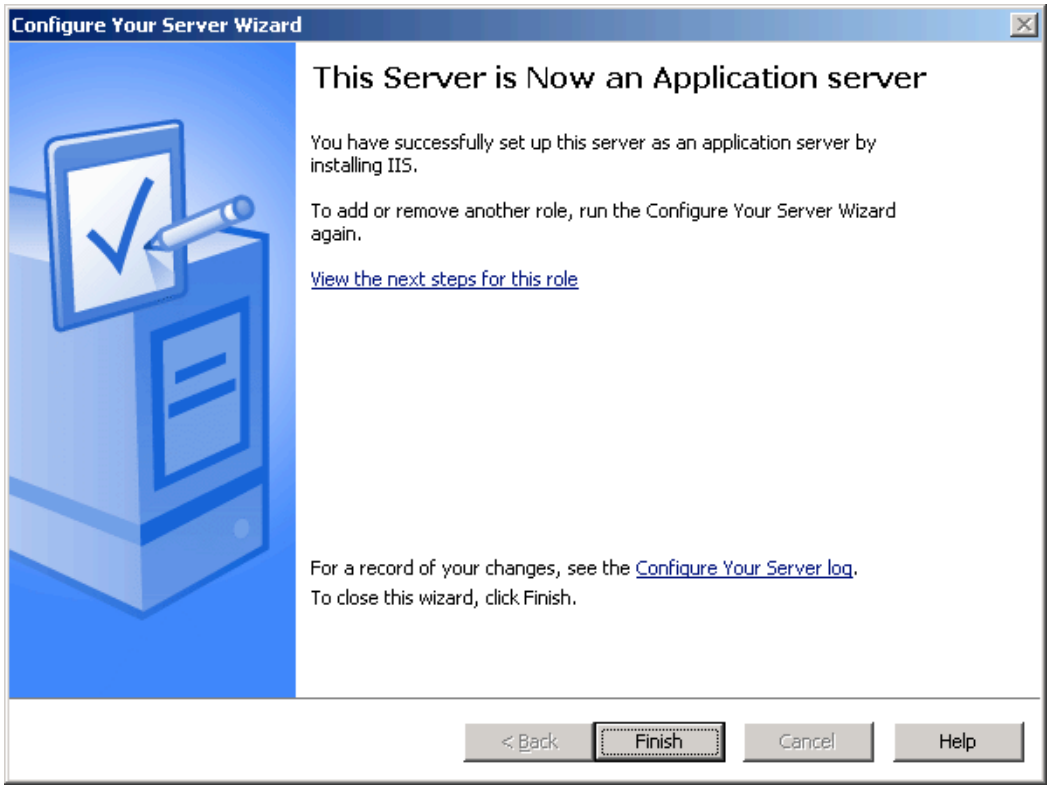
IIS will now be installed.



The wizard will change as IIS continues to be installed.

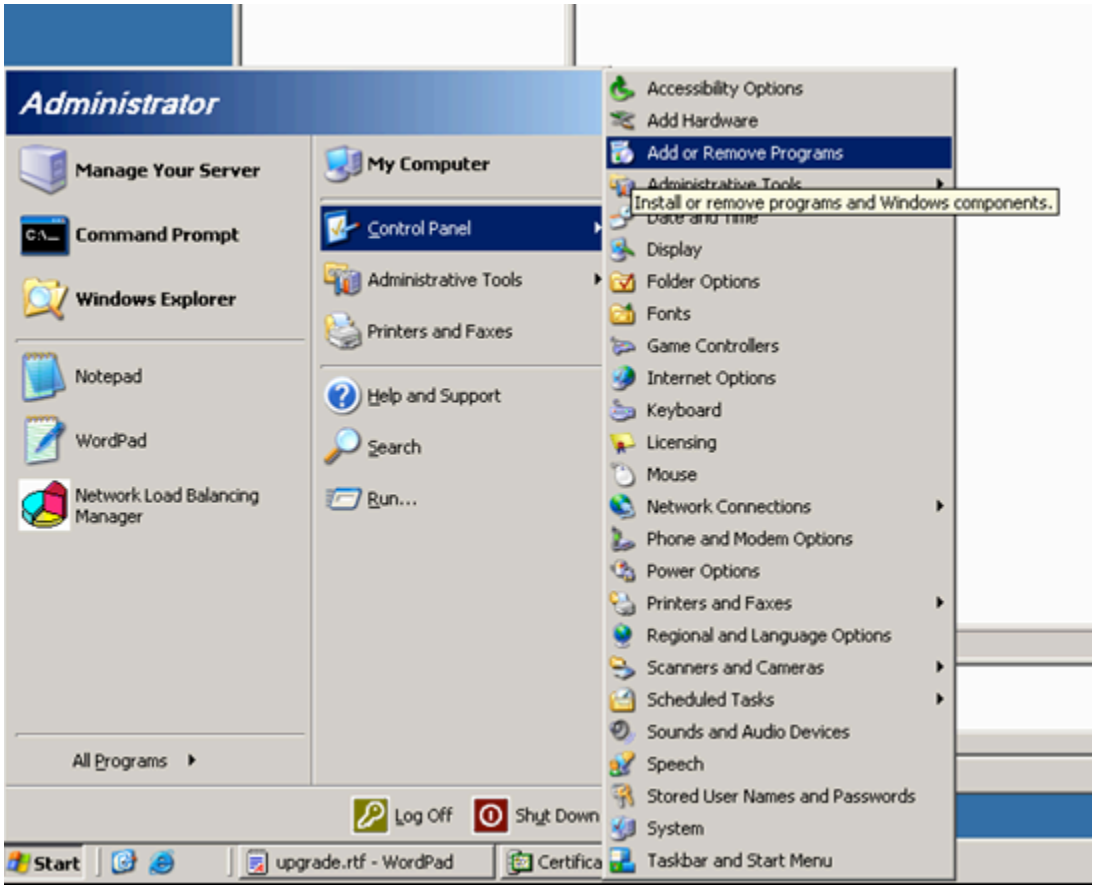


When IIS is finished installing you will see the window below.

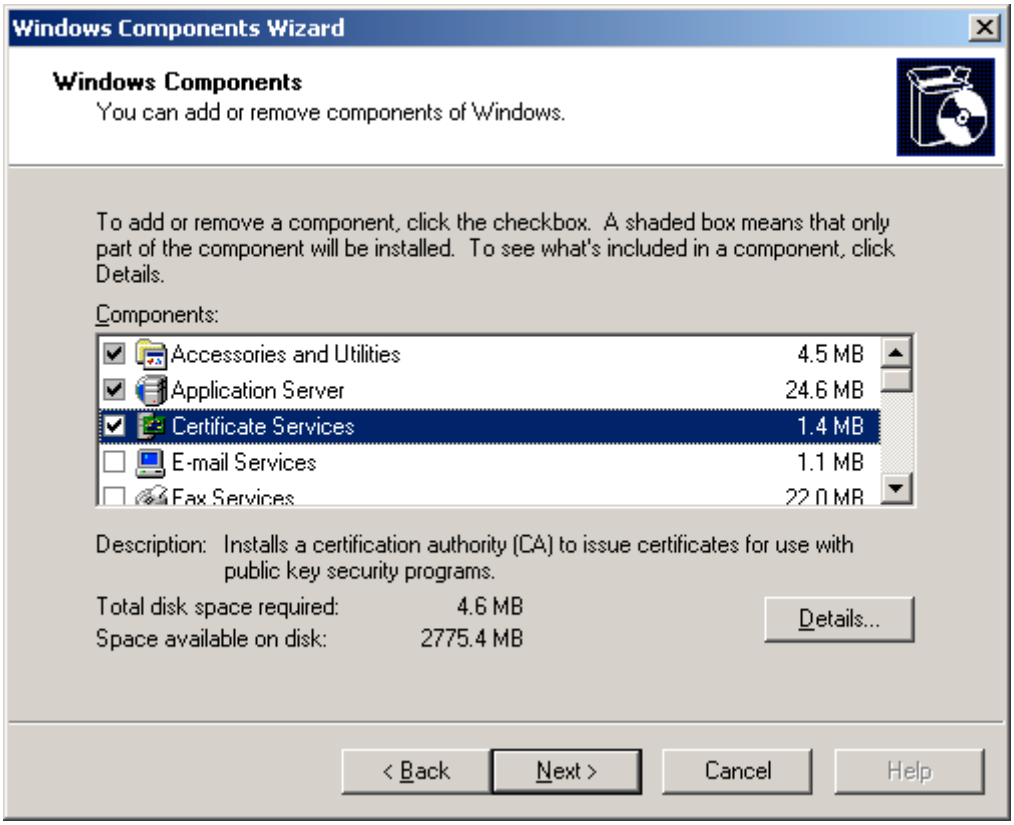


Configure the Server as a Certificate Authority

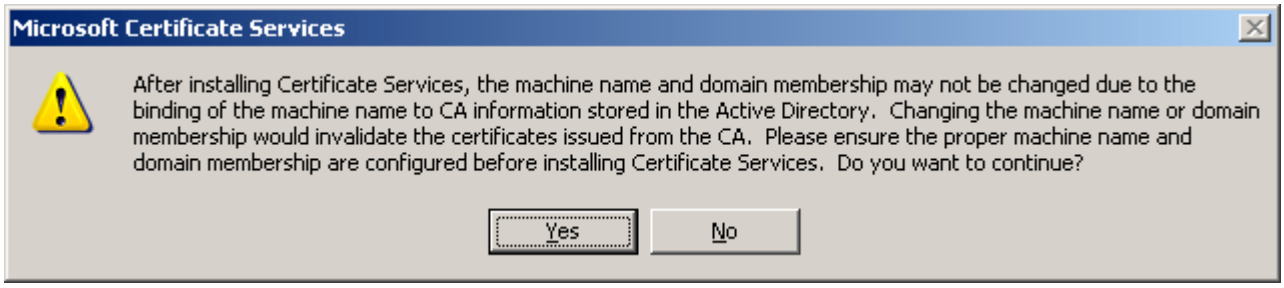
You can now configure the server to be a Certificate Authority. Start the process by selecting Start> Control Panel> Add or Remove Programs as shown below.



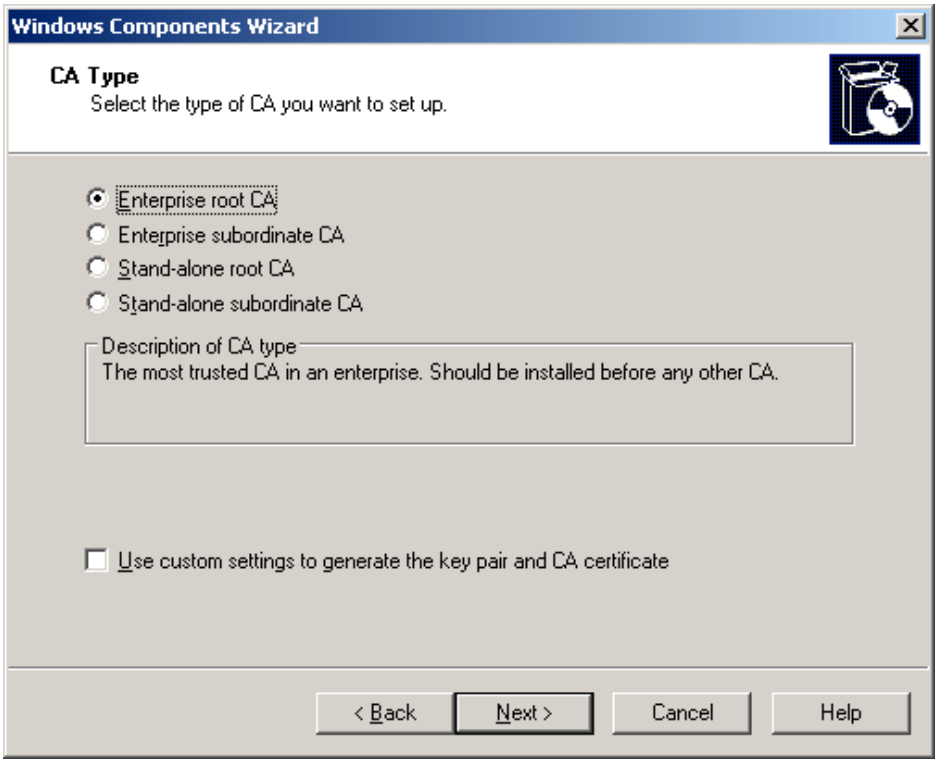
Select “Windows Components” and a list of windows components will be displayed. Now check the box next to “Certificate Services” and select “Next”.



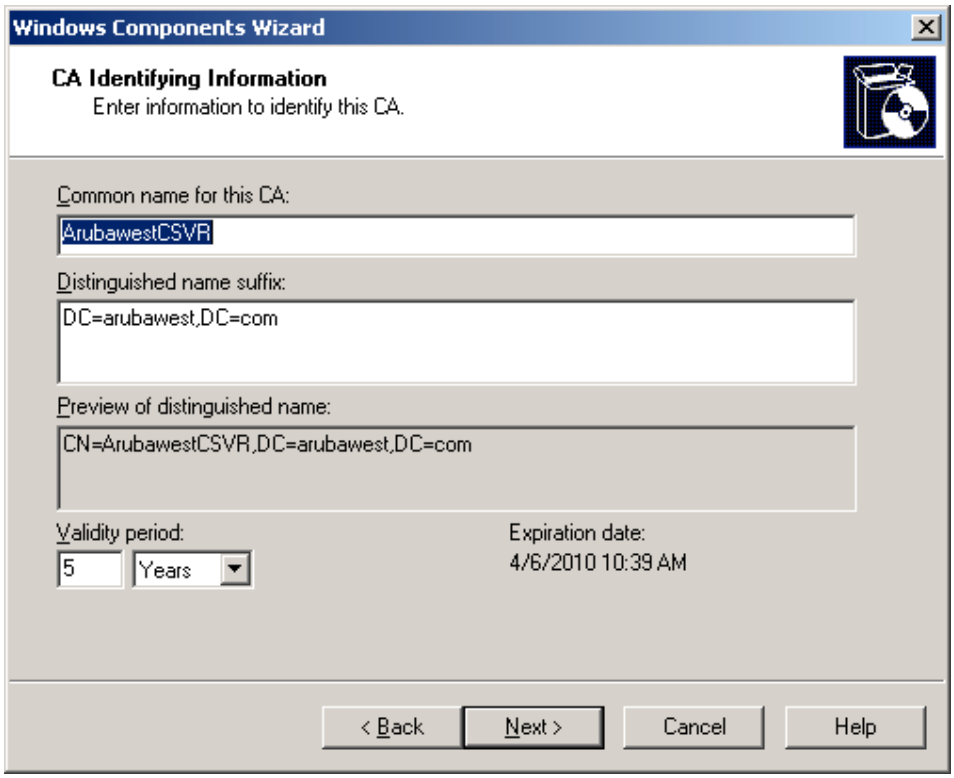
You will see the following message. Press “Yes” to continue.



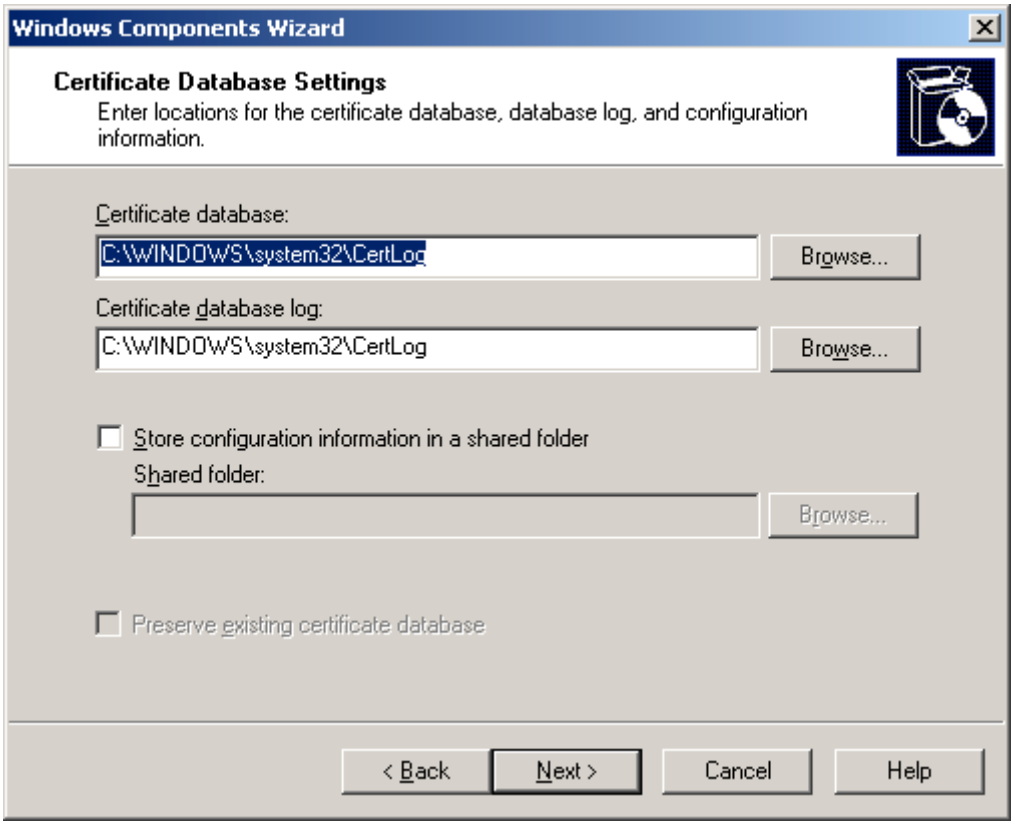
Now select the “Enterprise root CA” radio button, and select “Next” to continue.



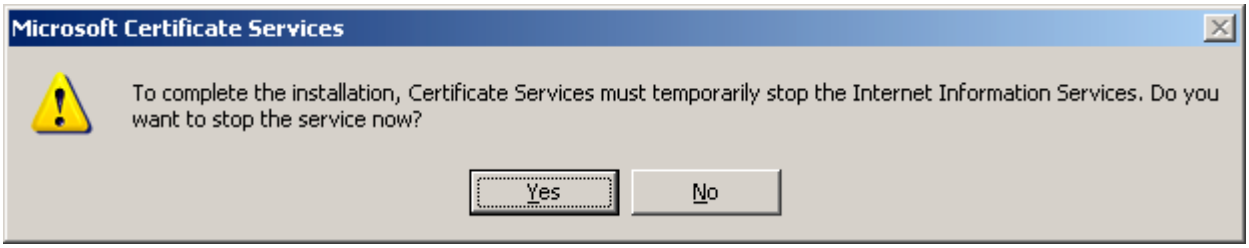
At this point you will ask for the Common Name for the CA. The CN “ArubawestCSVR” was used in the example below. Select “Next” to continue.



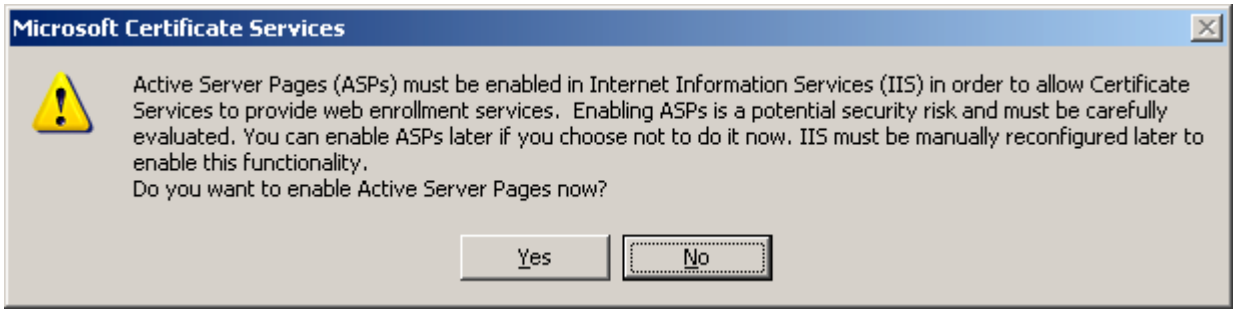
You will now be given an opportunity to change the location of the database and log files. Just select “Next” to continue.



You will get a warning that IIS will need to be stopped. Select “Yes” to continue.



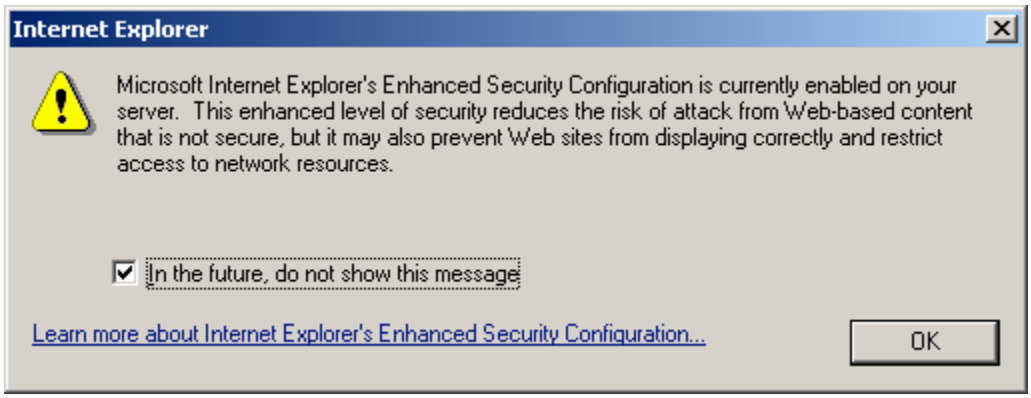
You will get a message stating that Active Server Pages needs to be enabled. Select “Yes” to continue.



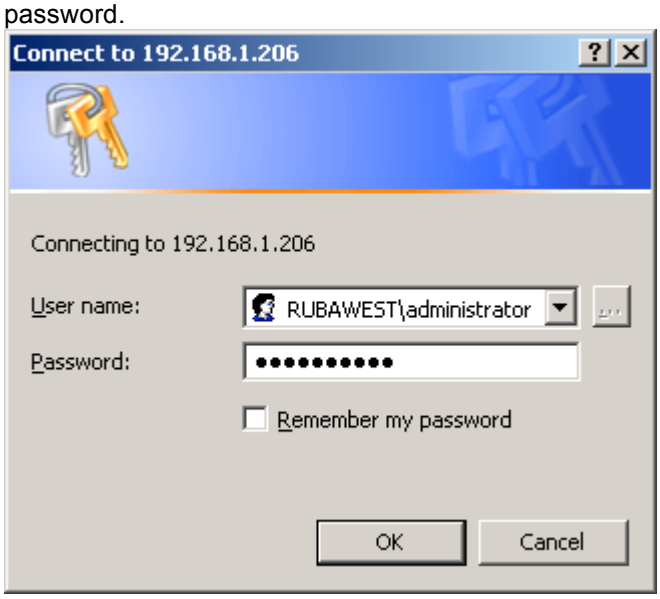
At this point the wizard is finished, and the server will now function as a CA.

Download the CA Certificate

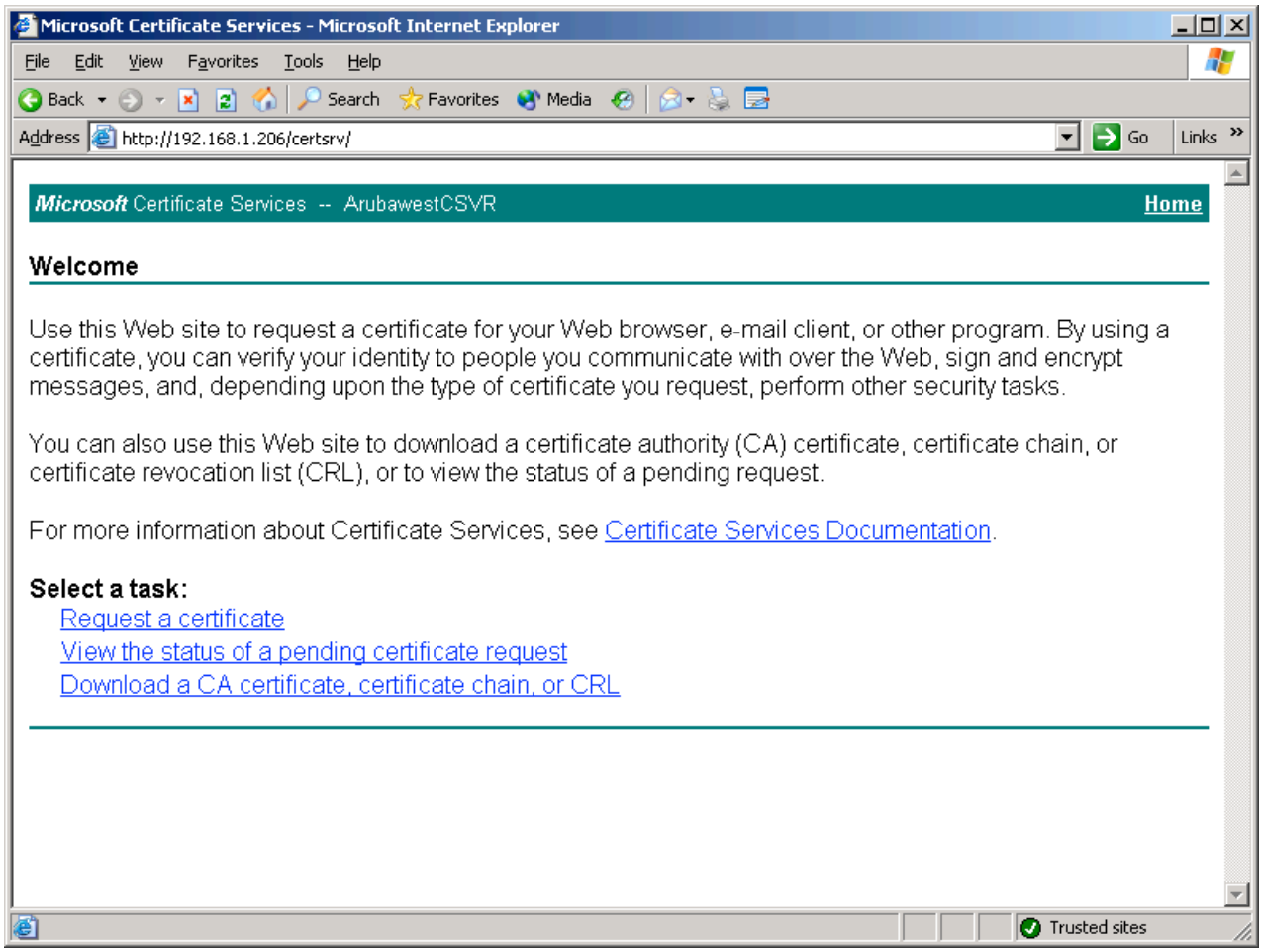
At this point you will need to Download the CA Certificate to make this server a trusted CA on this local machine. To do this you need to open a web browser and browse to the IP of this server and to the /certsrv page. In my case I needed to browse to http://192.168.1.206/certsrv/. Internet explorer may show the following warning. Select “OK” to continue.



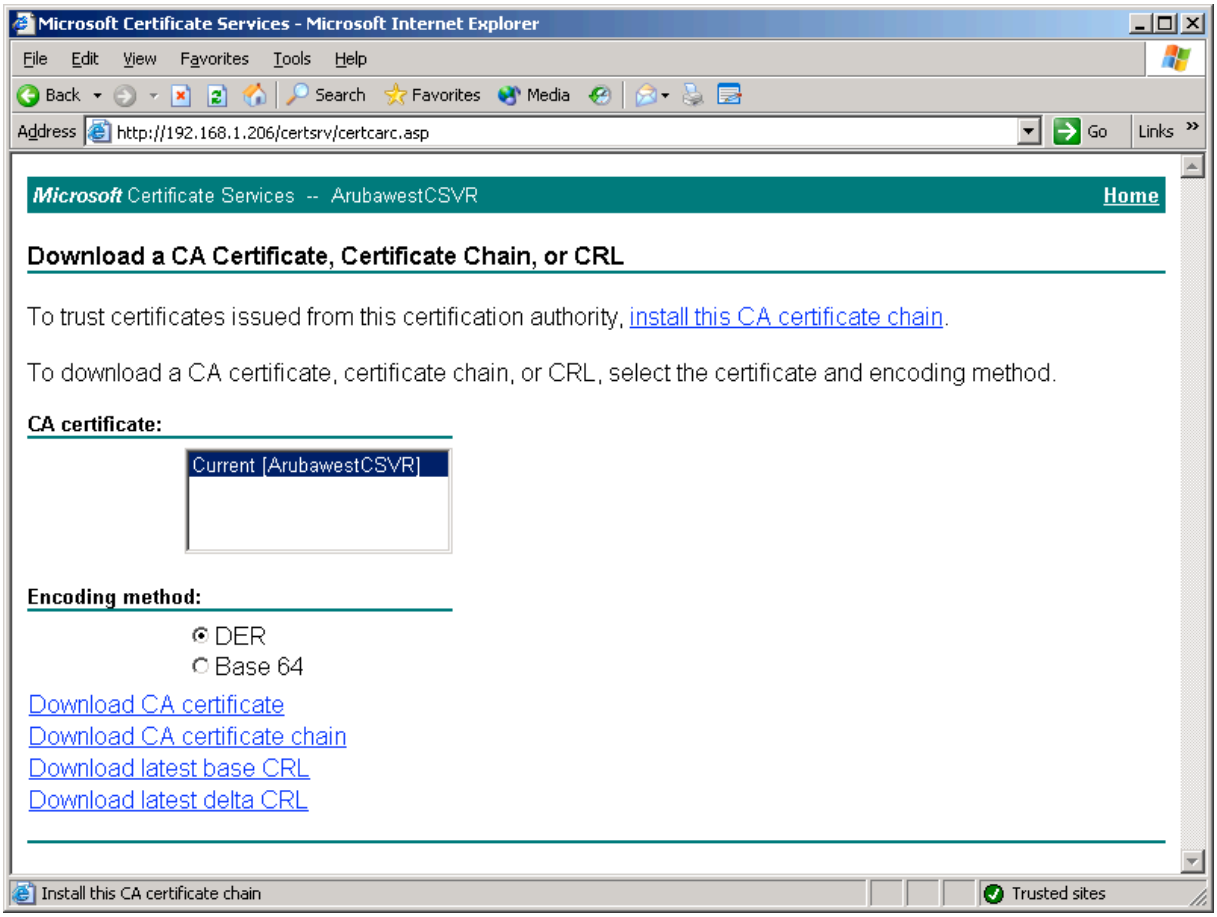
At this point you may prompted with a login screen. You can use the administrator account and password.



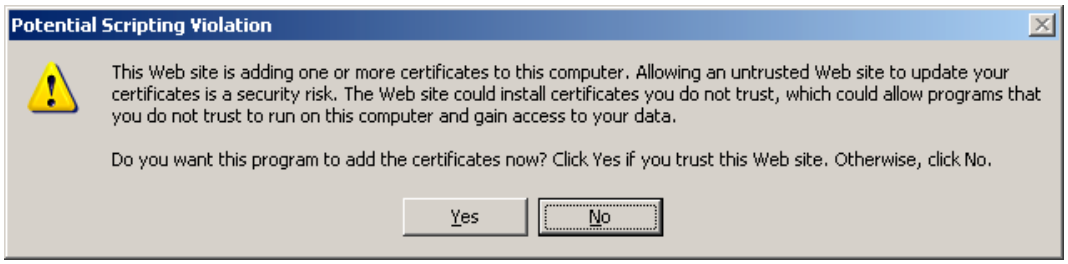
At this point you should see the web page as shown below. Select the link “Download a CA certificate, certificate chain, or CRL.



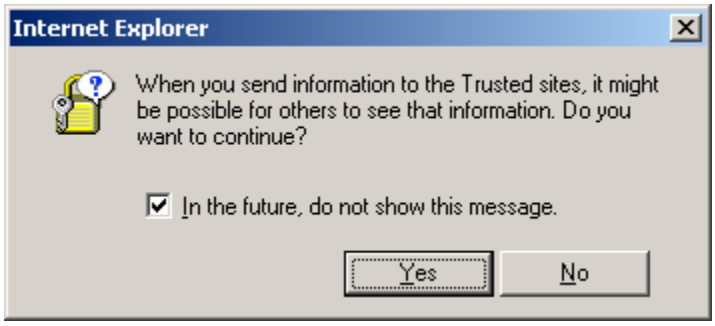
Now you will see the following page. Select the link “Install this CA certificate chain”.

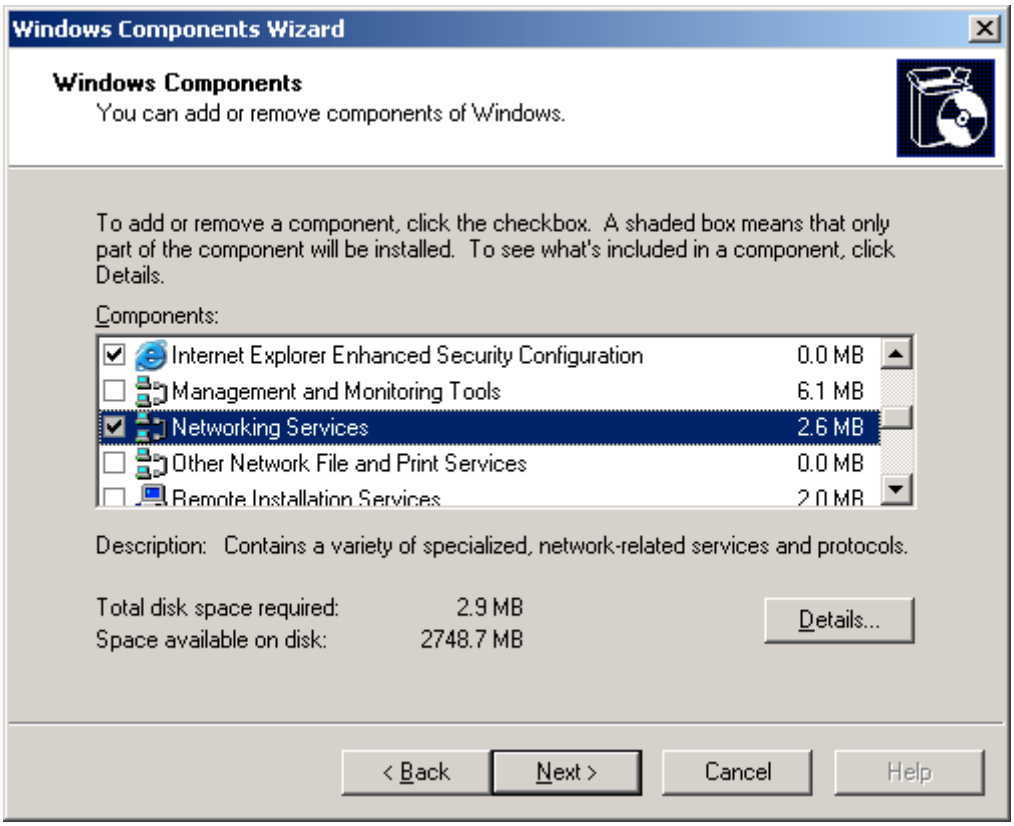


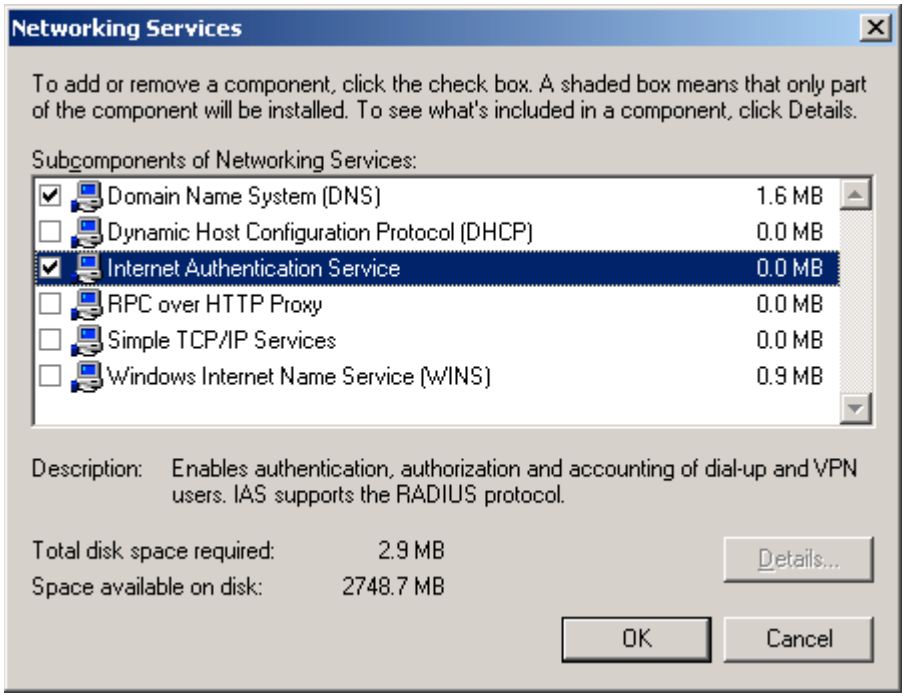
You will be prompted asking if you want to add the certificate. Select “Yes” to continue.



You may also see the following message. Select “Yes” to continue.

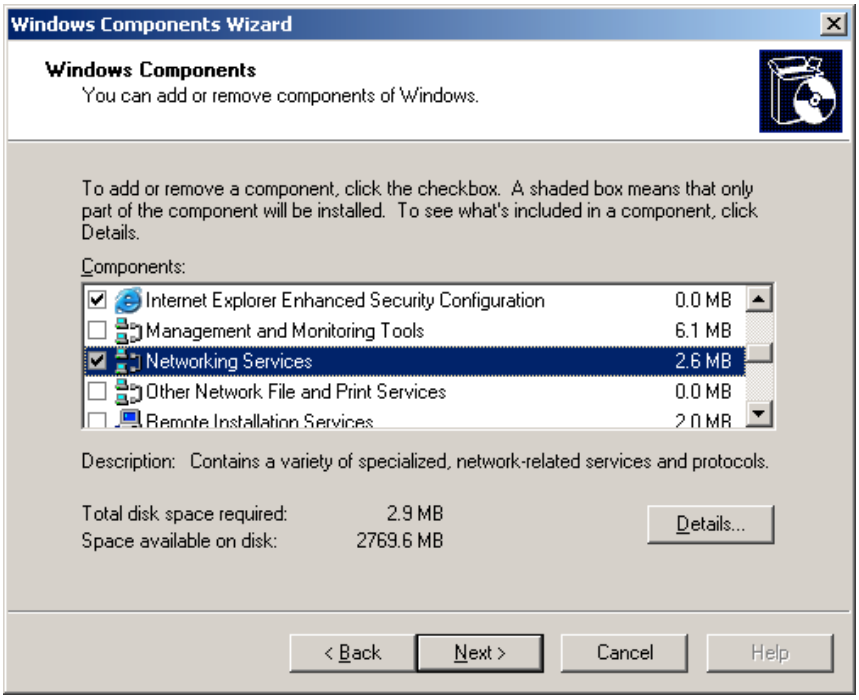



Windows Components Wizard
Windows Components
You can add or remove components of Windows.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Internet Explorer Enhanced Security Configuration 0.0 MB
Management and Monitoring Tools 6.1 MB
Networking Services 2.6 MB
Other Network File and Print Services 0.0 MB
Remote Installation Services 2.0 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 2.9 MB
Space available on disk: 2748.7 MB
Details...
< Back
Next >
Cancel
Help


Networking Services
To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Subcomponents of Networking Services:
Domain Name System (DNS) 1.6 MB
Dynamic Host Configuration Protocol (DHCP) 0.0 MB
Internet Authentication Service 0.0 MB
RPC over HTTP Proxy 0.0 MB
Simple TCP/IP Services 0.0 MB
Windows Internet Name Service (WINS) 0.9 MB
Description: Enables authentication, authorization and accounting of dial-up and VPN users. IAS supports the RADIUS protocol.
Total disk space required: 2.9 MB
Space available on disk: 2748.7 MB
Details...
OK
Cancel

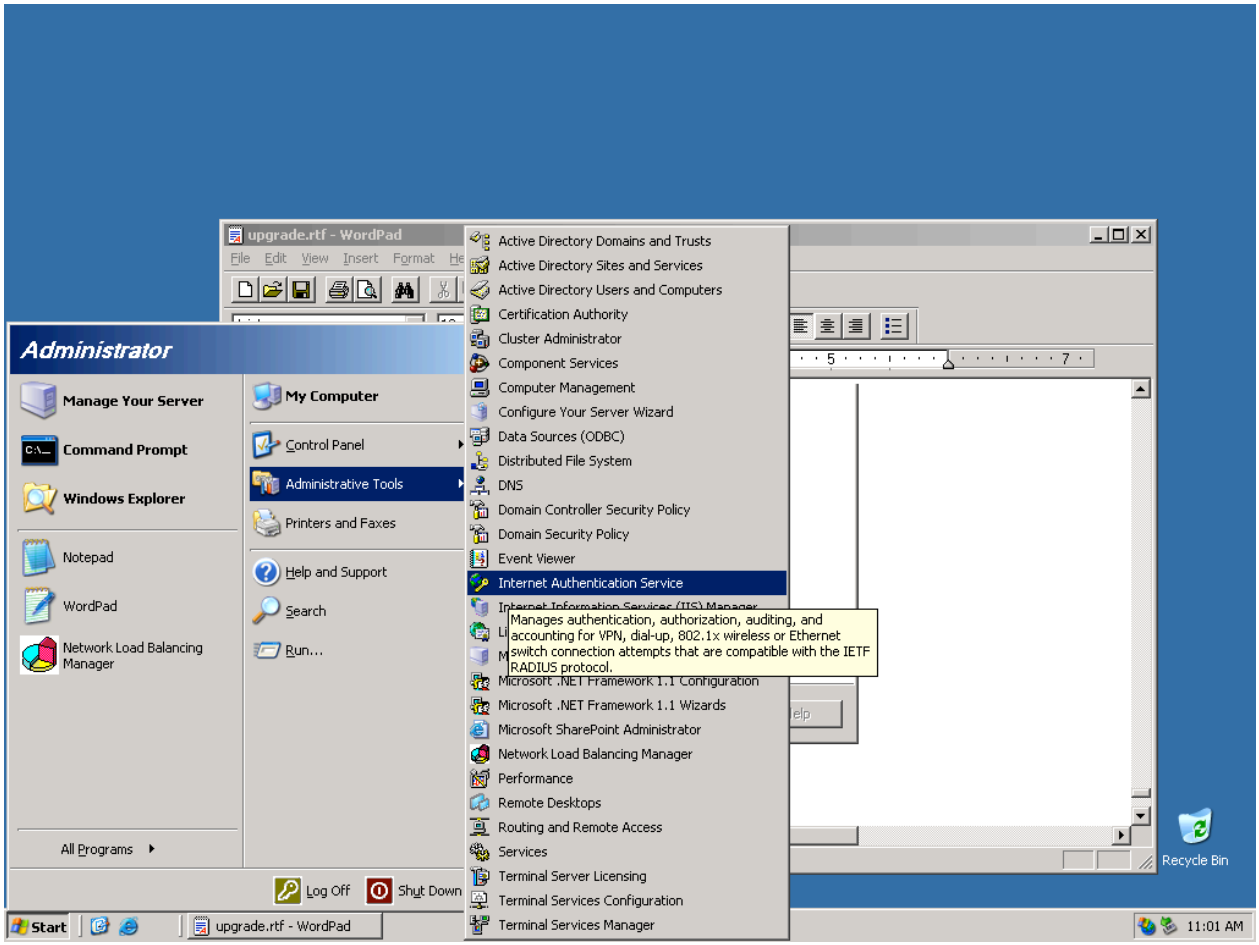
Enable and configure IAS

Now we are ready to install and configure IAS. Start the process by bring us the windows component wizard just as we did earlier for installing Certificate Services. Here you need to click on the “Networking Services” line to view all of the available services. Check the box next to “Internet Authentication Service” and select “Next” to continue.



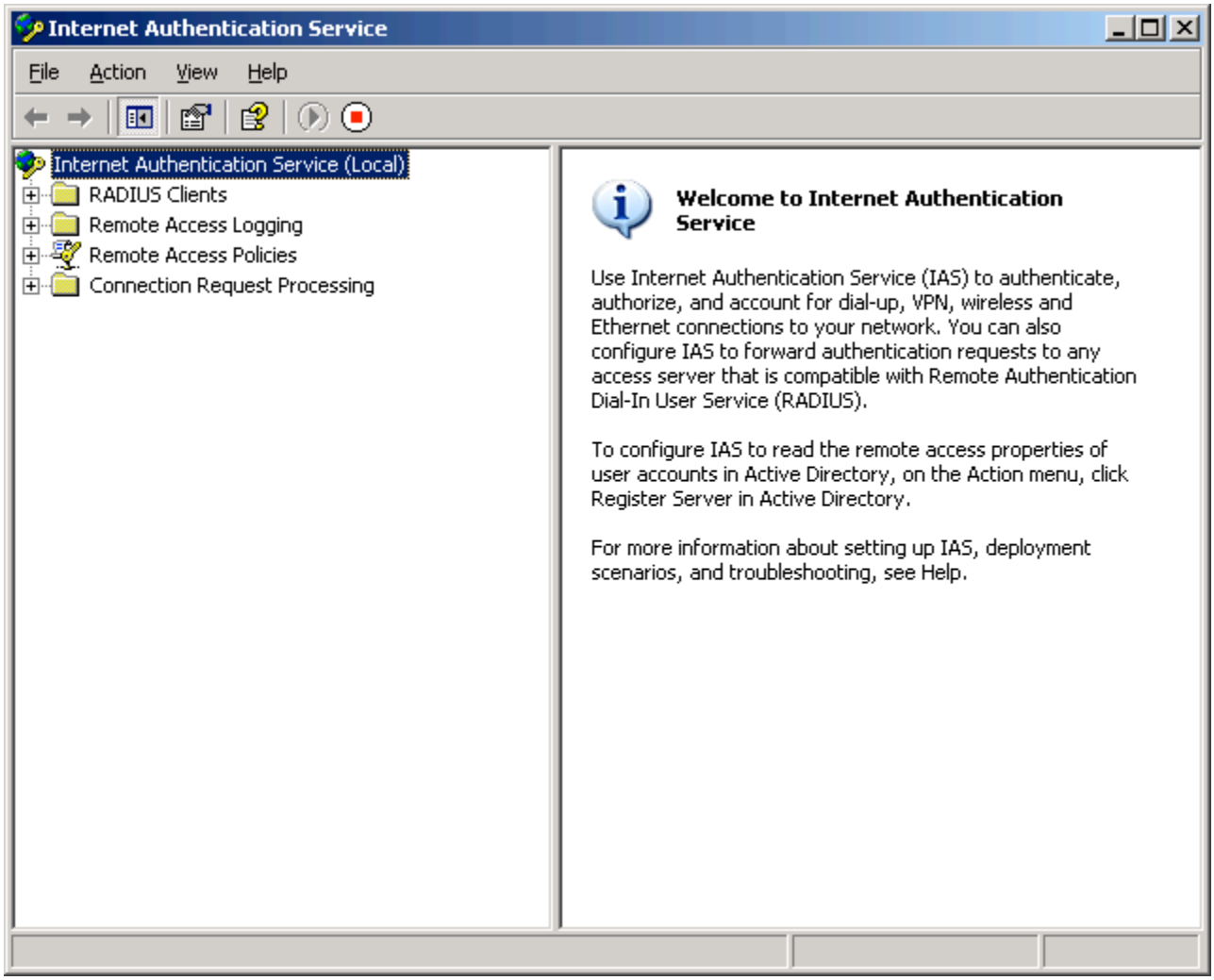
The wizard will complete and you should see the following message.

You can now configure IAS by going to Start>Administrative Tools>Internet Authentication Service> .

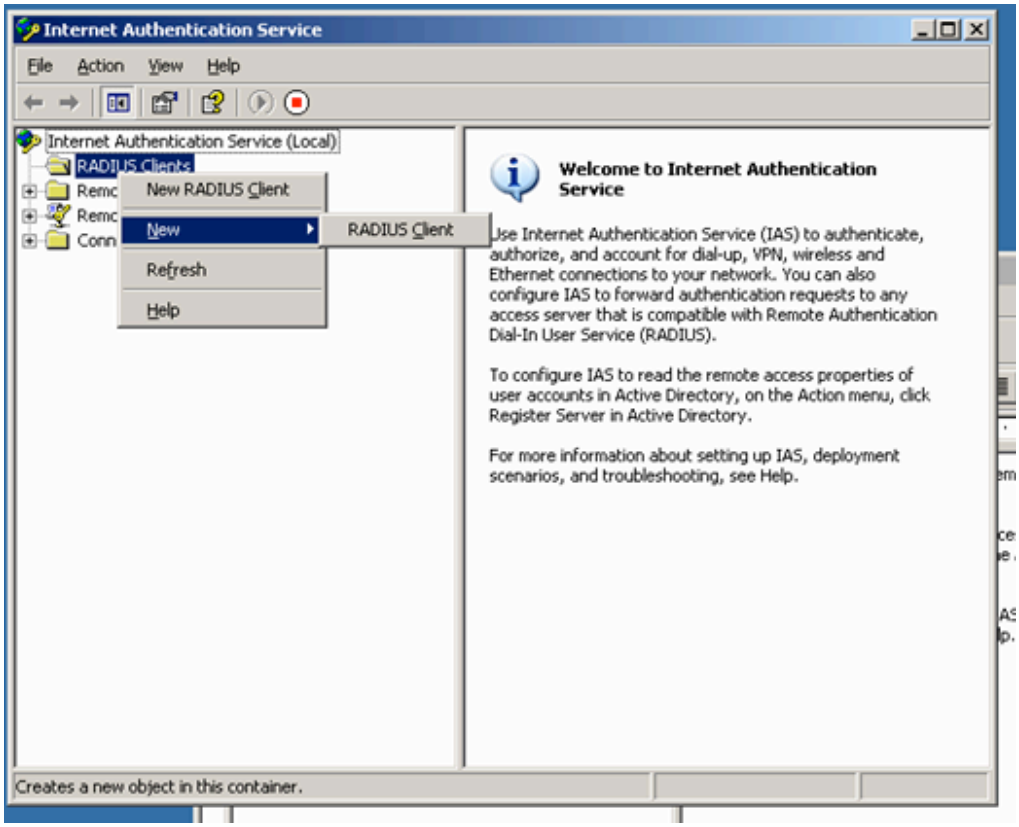


Here you will be presented with the IAS setup GUI.

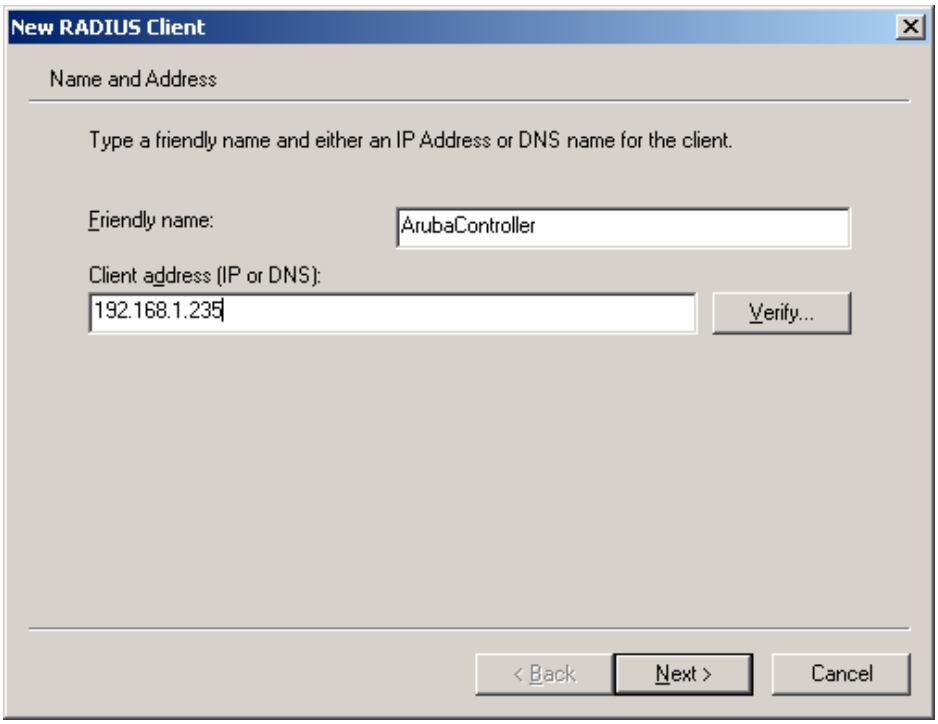
We will need to setup a Radius Client (The Aruba Controller) and a Remote Access Policy to be applied when users are authenticating.



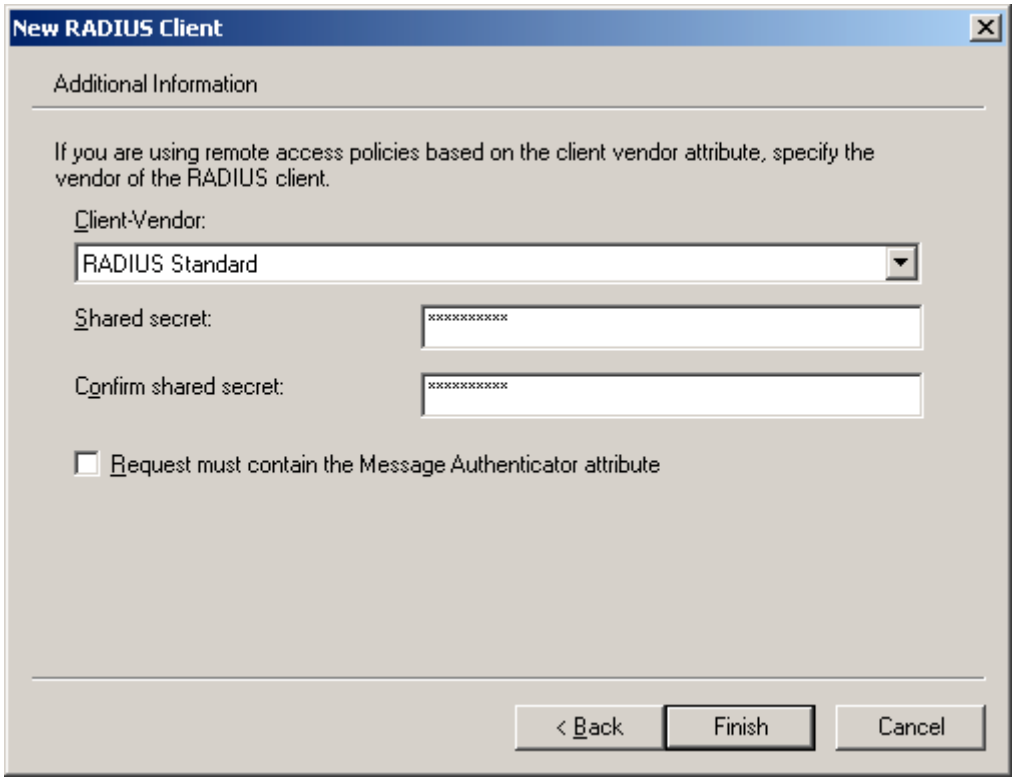
To add a radius client right click on the “Radius Client” folder and select New>Radius client.



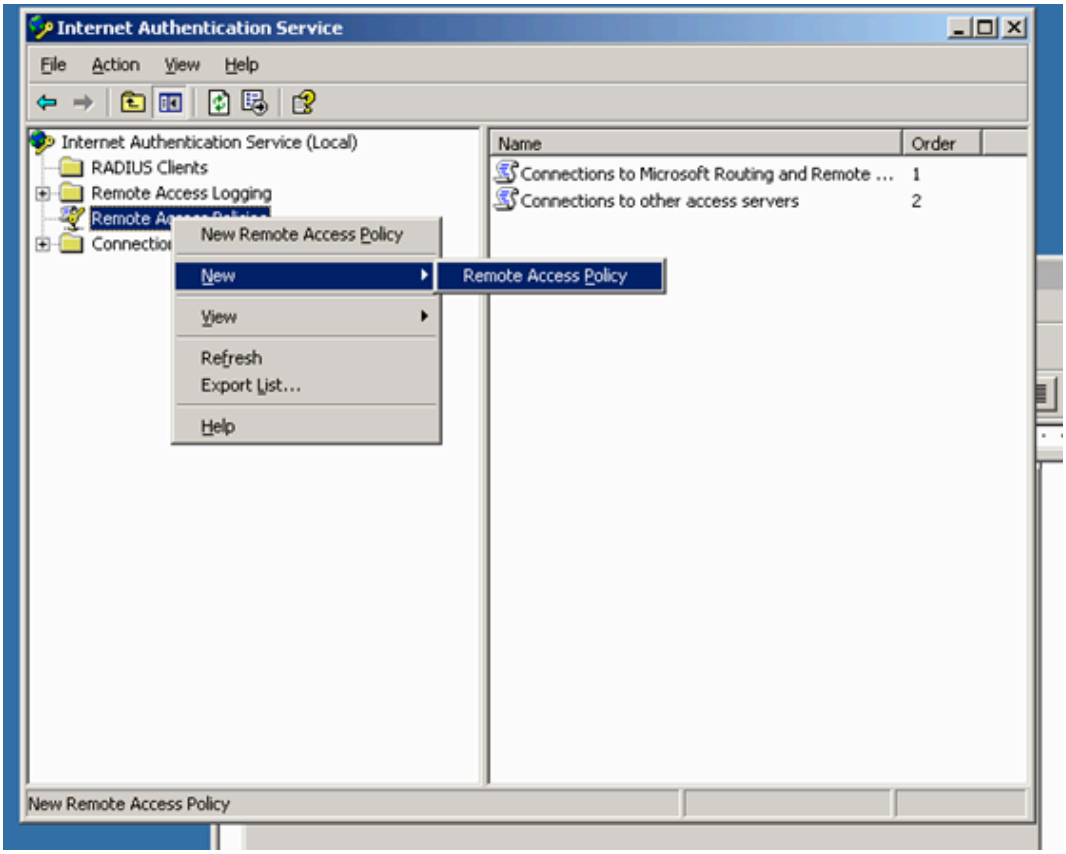
You will now see a menu allowing you to assign a Friendly Name, and IP address for the client. Select “Next” to continue.



Next you will be asked to select a Client-Vendor, and to define a shared secret. Use RADIUS Standard, and any shared secret you wish. Select “Finish” and the client is now created.

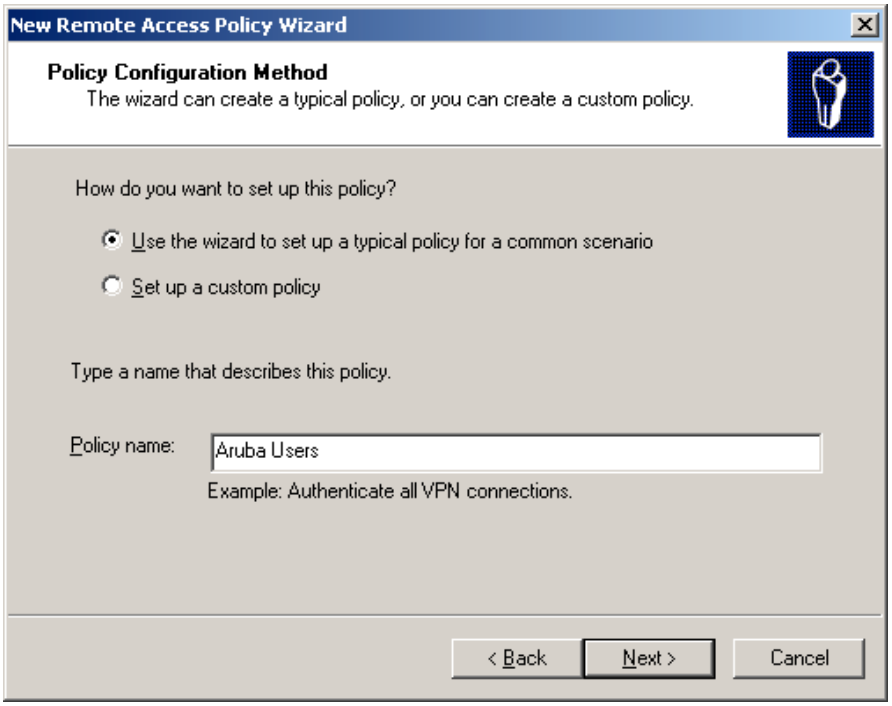


Next we need to create a Remote Access Policy. Again, right click on the Remote Access Policy line, and select New>Remote Access Policy.

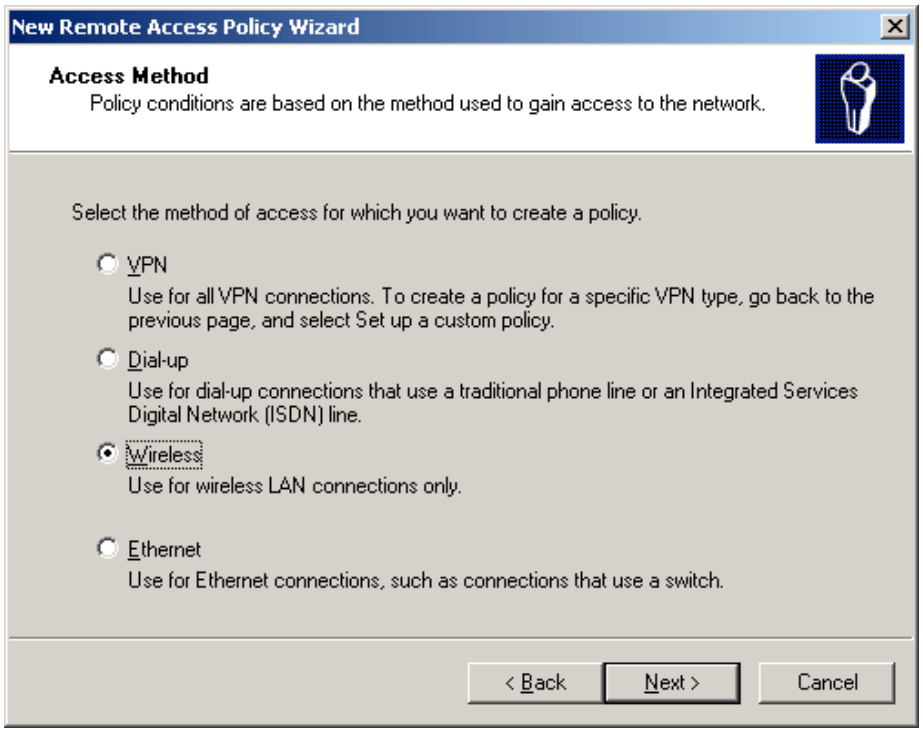


Now the Remote Access Policy Wizard will start, Select “Next” to continue.

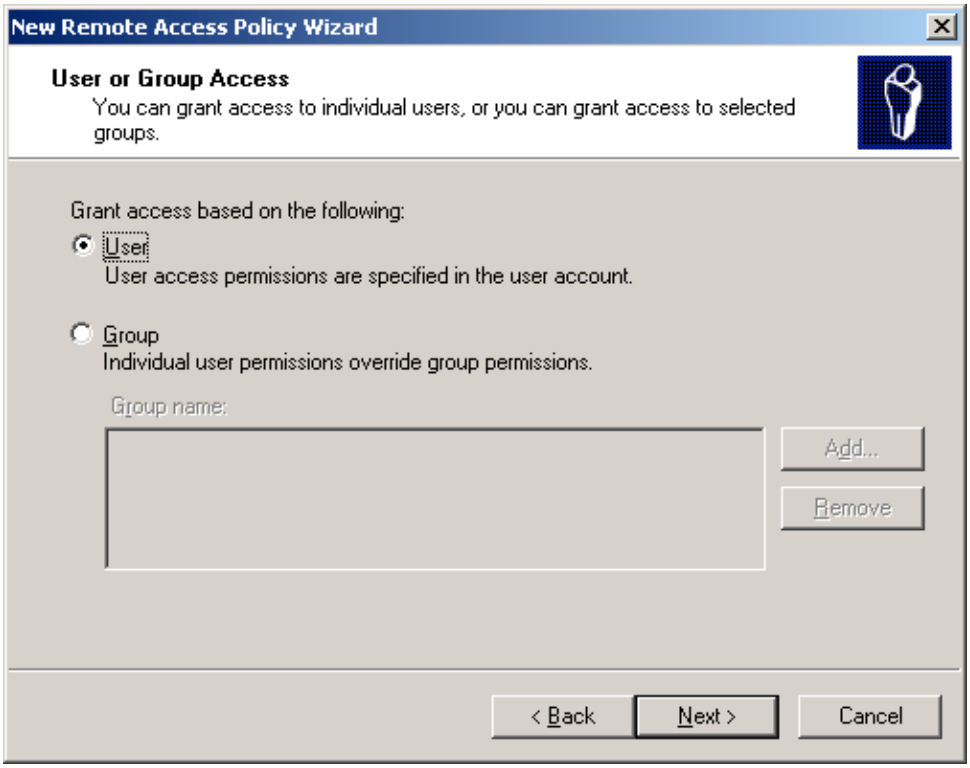
First you need to give the policy a name, and select “Next” to continue



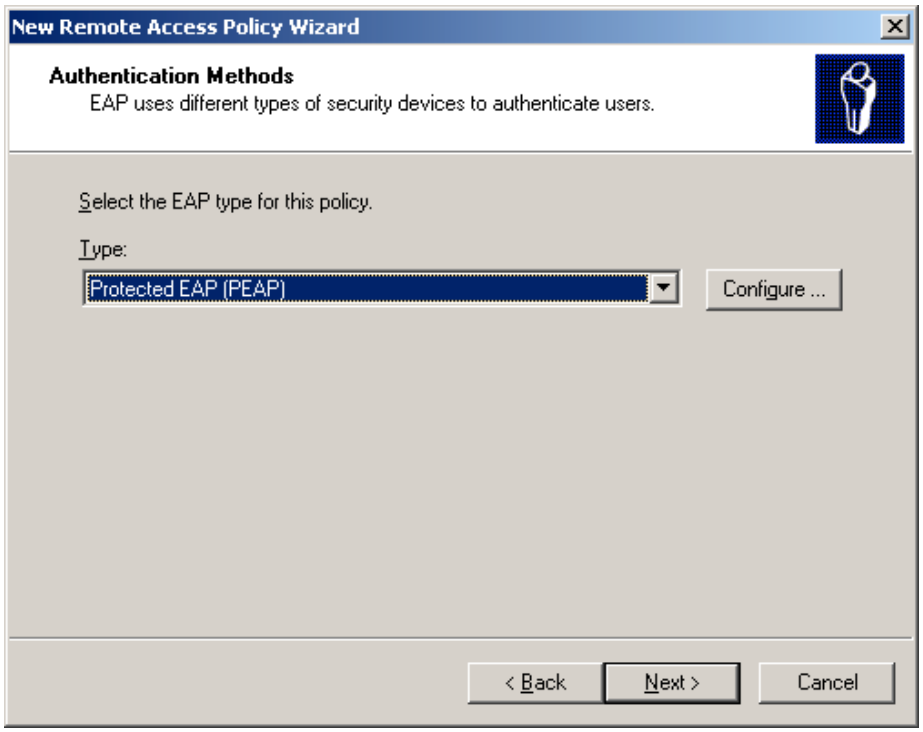
Next select “Wireless” as the access method, and select “Next” to continue.



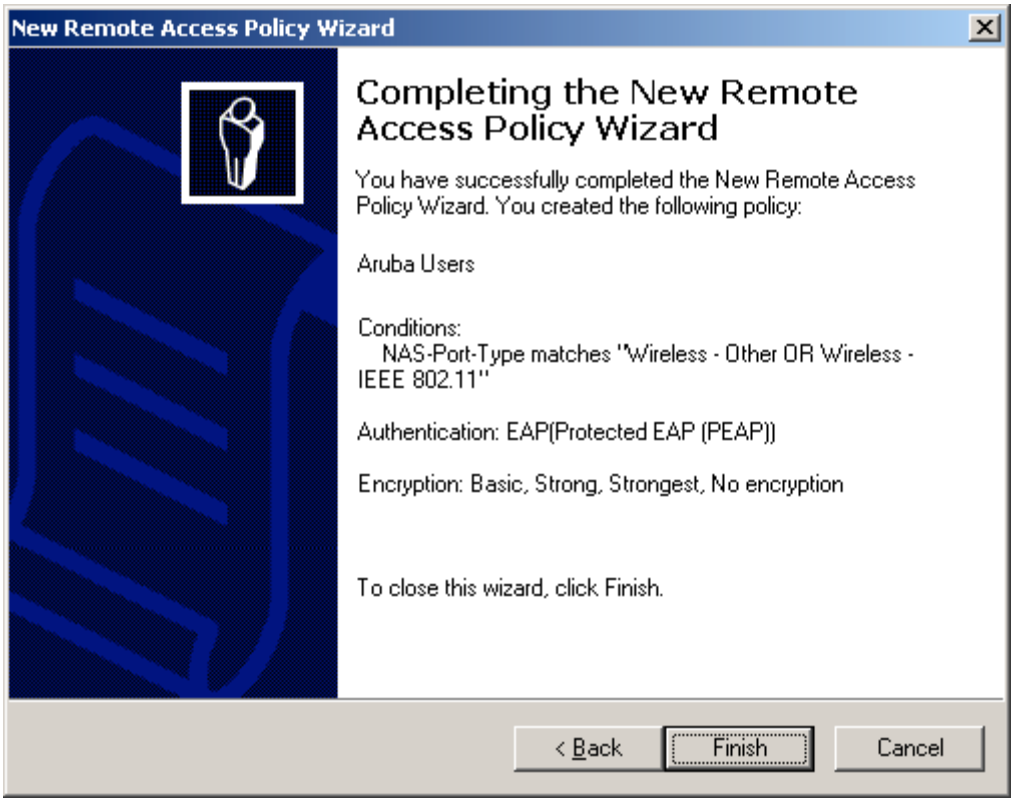
Now you will be asked if you want to grant access by individual user or by groups. In the example below, User is chosen. Select “Next” to continue.



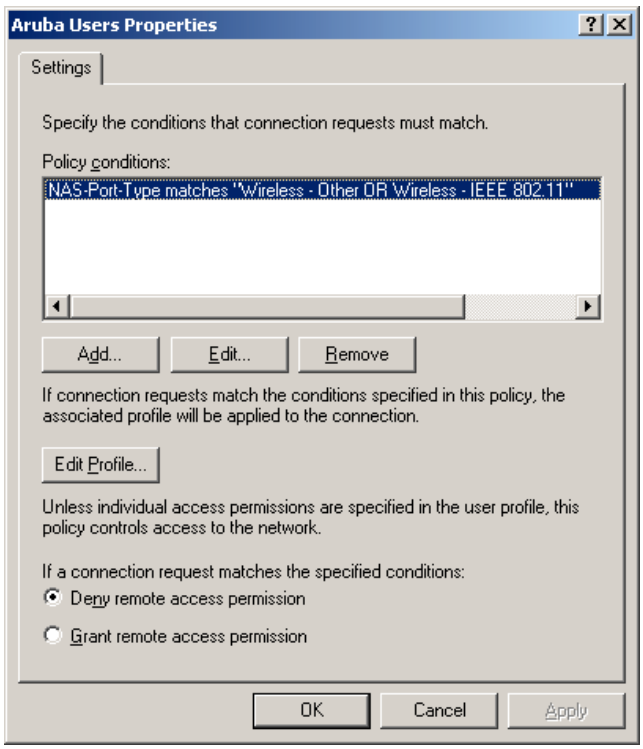
Now you will be asked what EAP type to use. IAS only supports PEAP and EAP-TLS. In this example PEAP is selected. Select “Next” to continue.

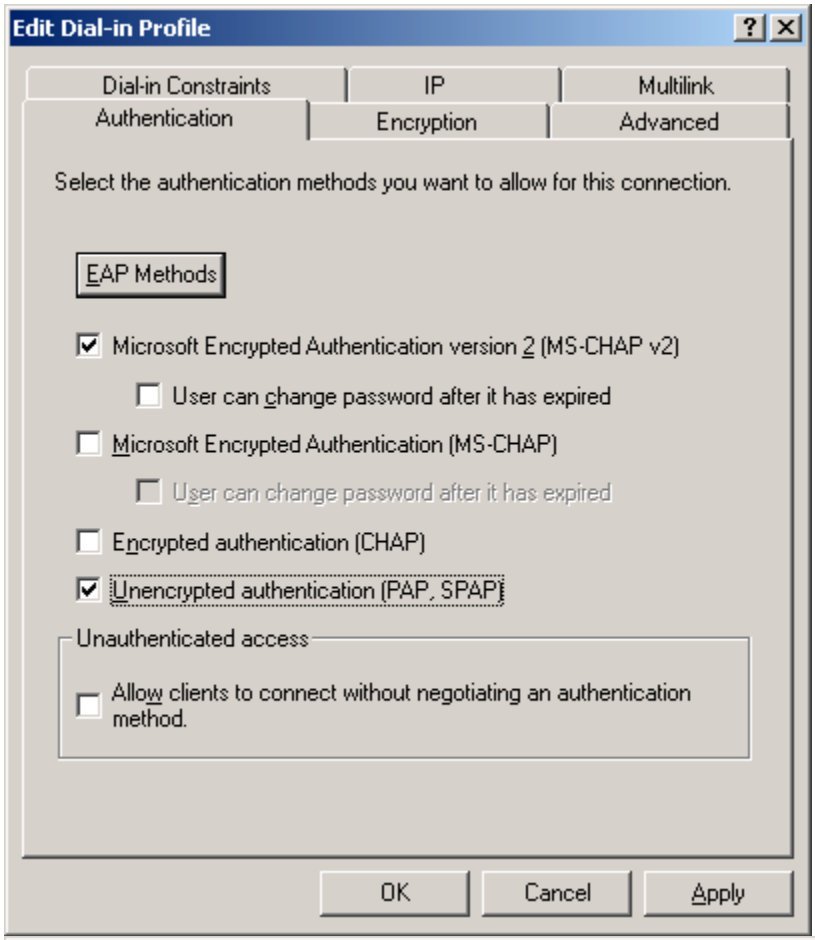


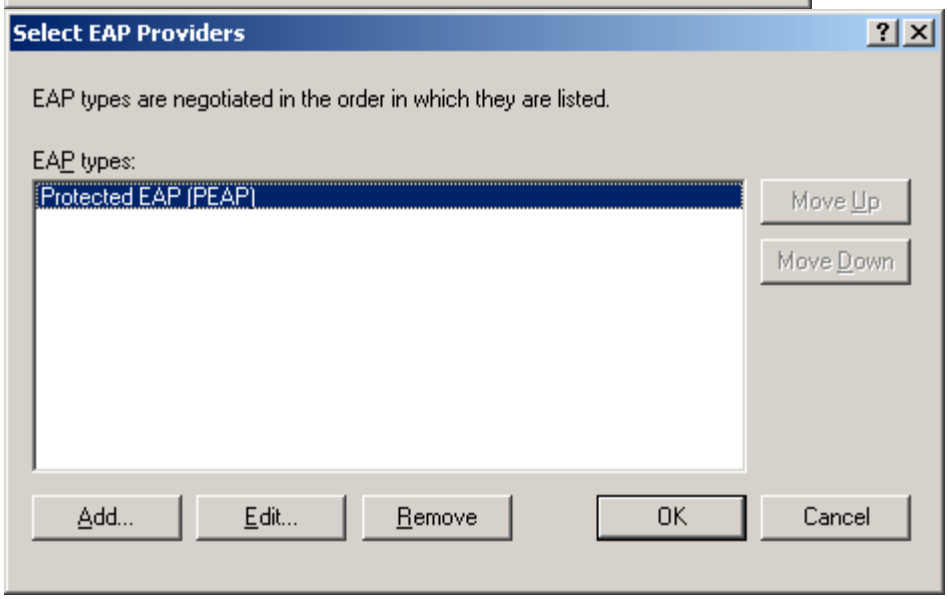
The following window will be displayed. Select “Finish”.

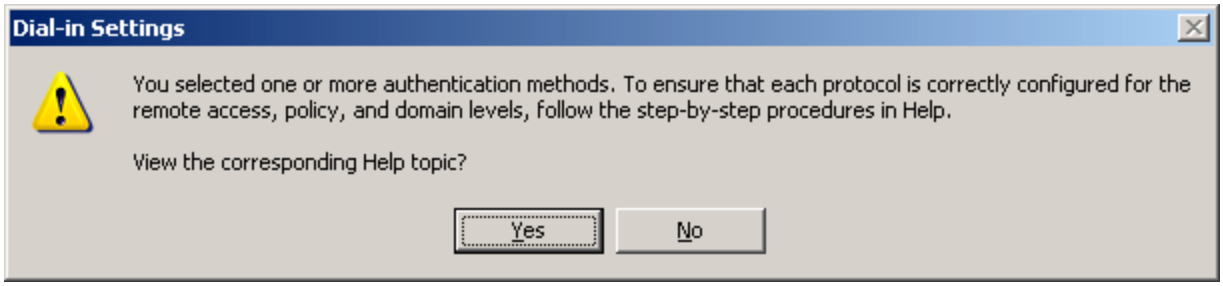


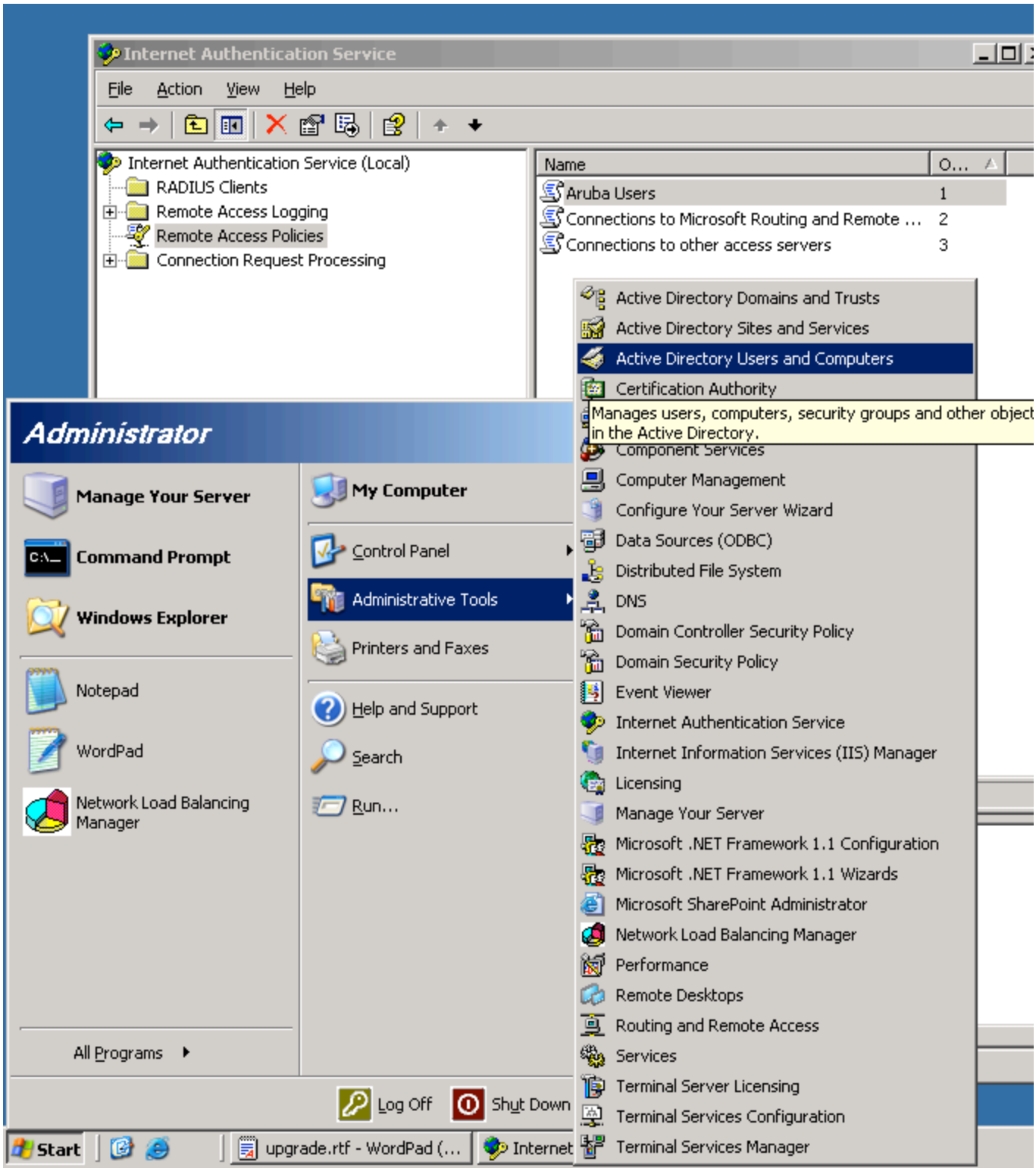
The new policy will be added

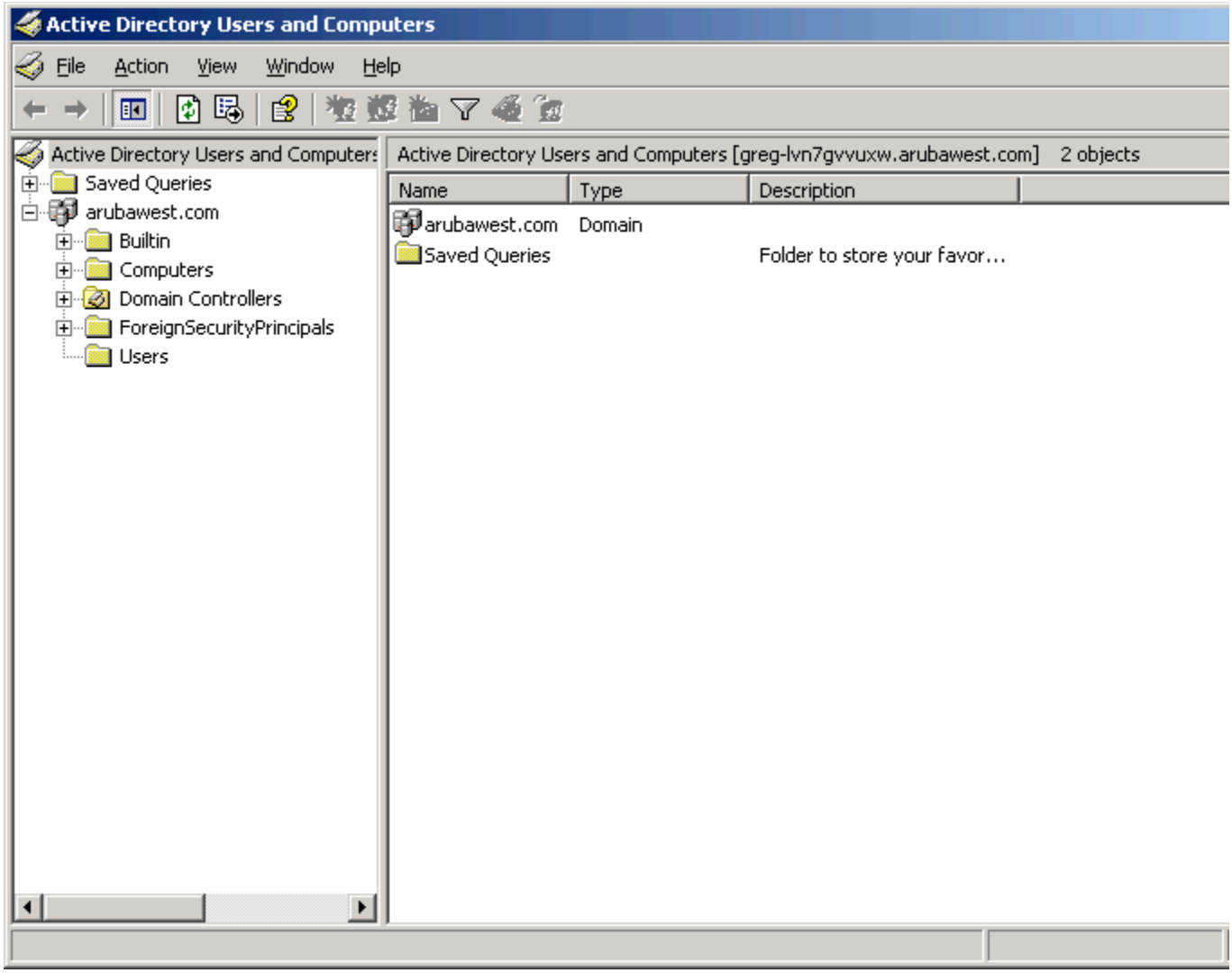


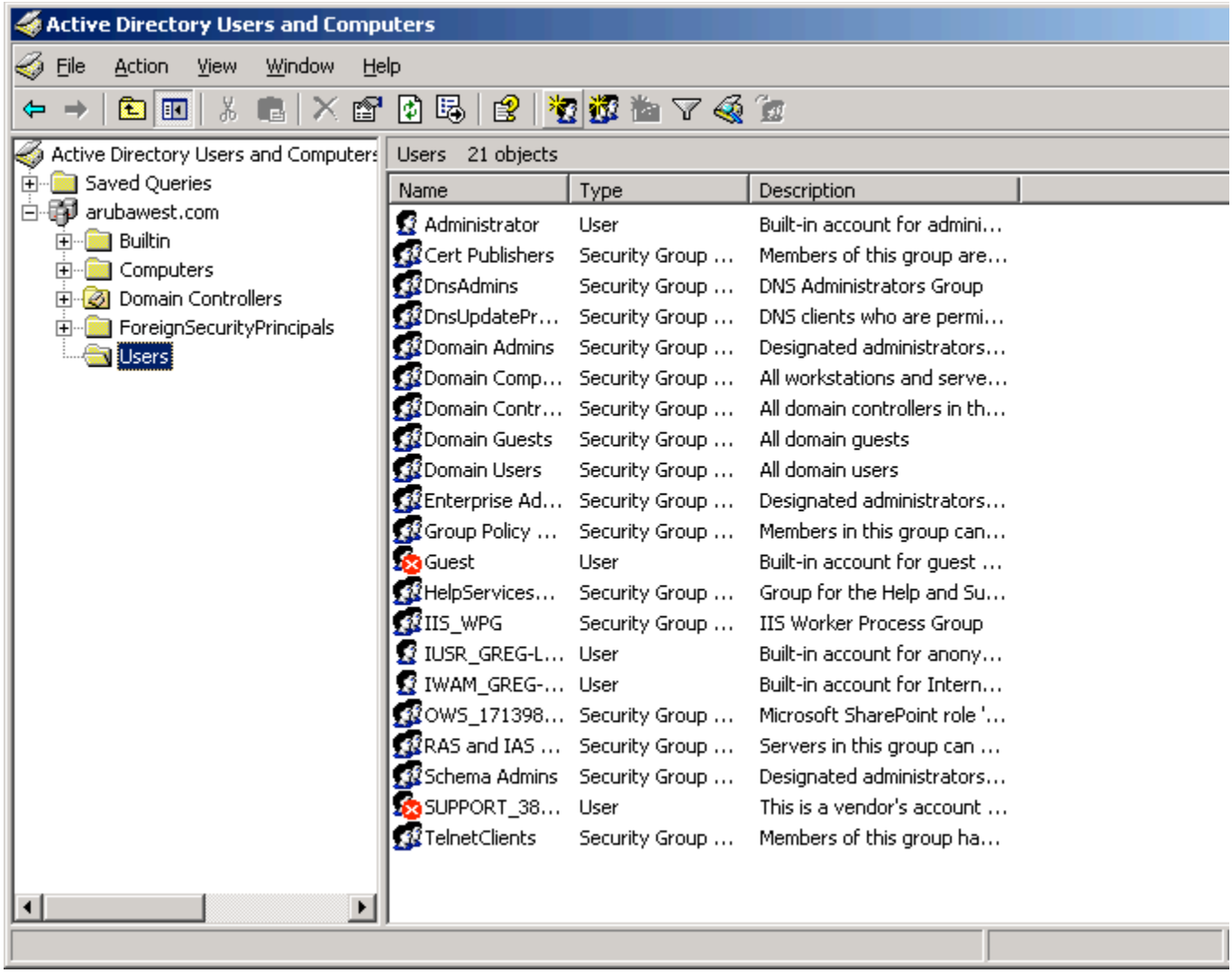

Edit Dial-in Profile
Dial-in Constraints
IP
Multilink
Authentication
Encryption
Advanced
Select the authentication methods you want to allow for this connection.
EAP Methods
Microsoft Encrypted Authentication version 2 (MS-CHAP v2)
User can change password after it has expired
Microsoft Encrypted Authentication (MS-CHAP)
User can change password after it has expired
Encrypted authentication (CHAP)
Unencrypted authentication (PAP, SPAP)
Unauthenticated access
Allow clients to connect without negotiating an authentication method.
OK
Cancel
Apply

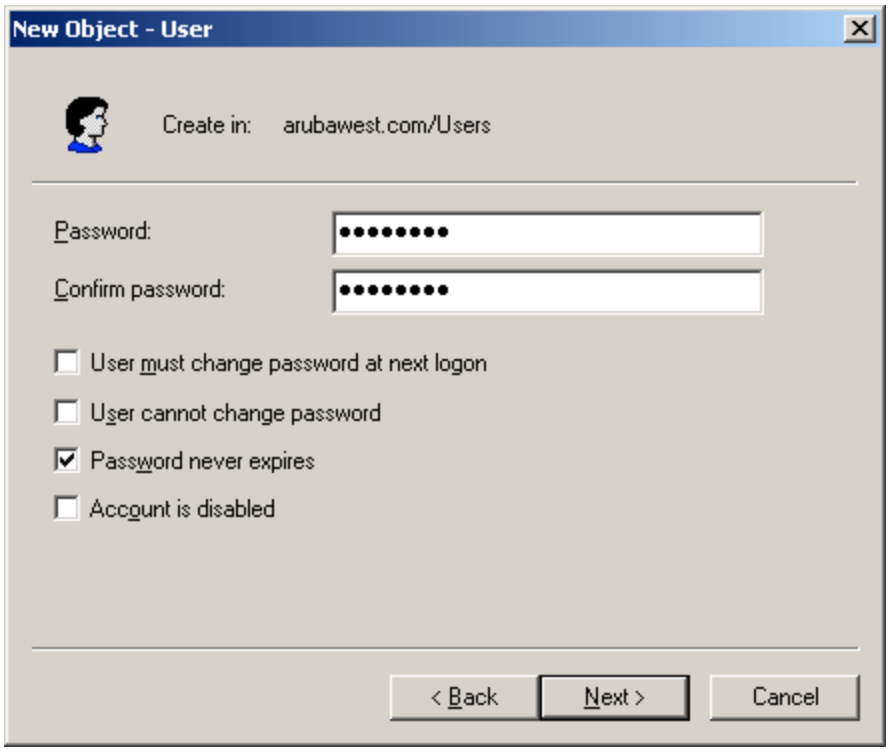

Select EAP Providers
EAP types are negotiated in the order in which they are listed.
EAP types:
Protected EAP (PEAP)
Move Up
Move Down
Add...
Edit...
Remove
OK
Cancel

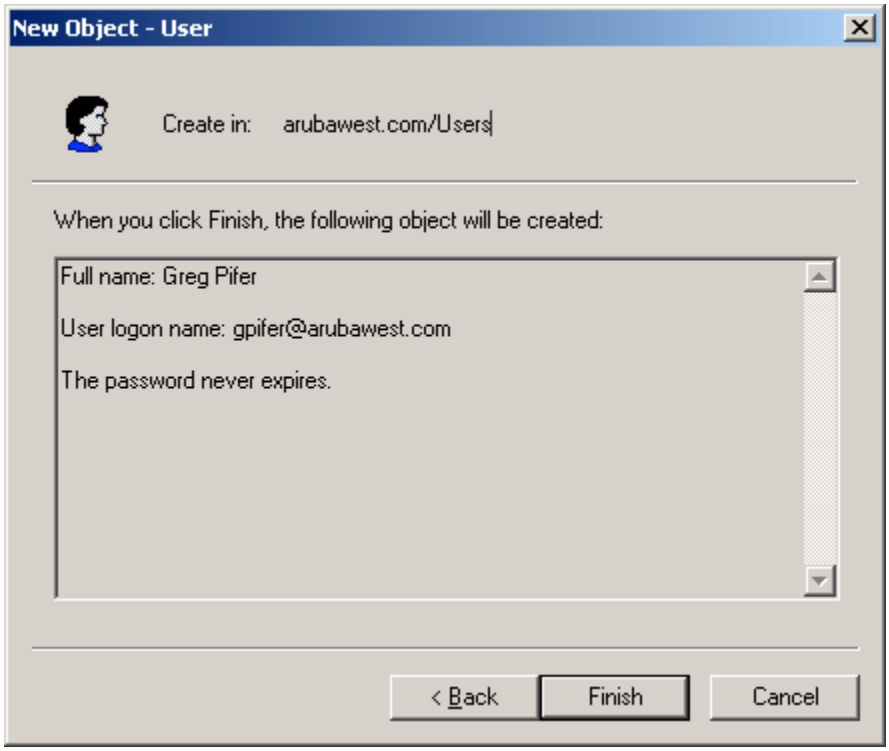

Dial-in Settings
You selected one or more authentication methods. To ensure that each protocol is correctly configured for the remote access, policy, and domain levels, follow the step-by-step procedures in Help.
View the corresponding Help topic?
Yes
No

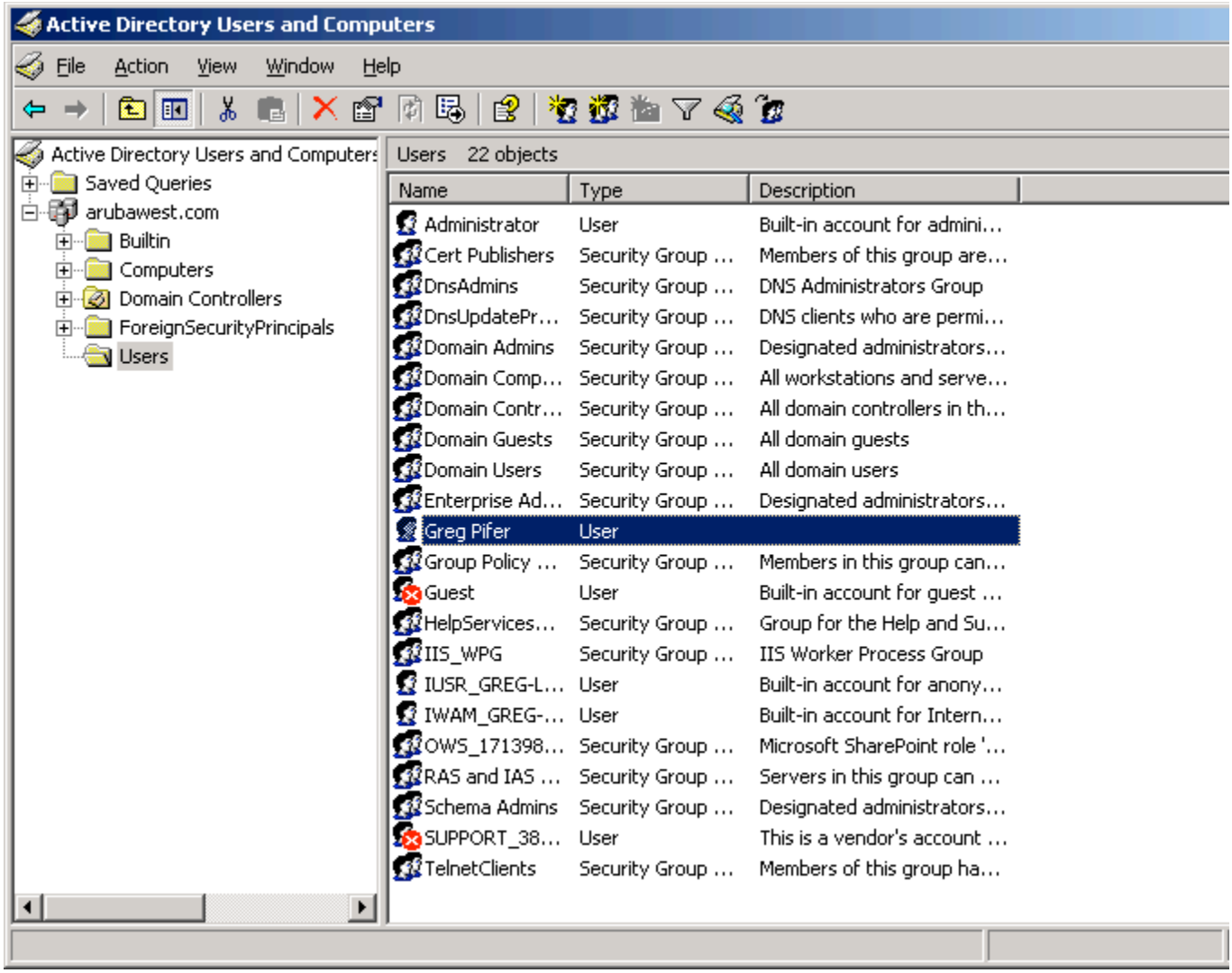

Internet Authentication Service
File
Action
View
Help
Internet Authentication Service (Local)
RADIUS Clients
Remote Access Logging
Remote Access Policies
Connection Request Processing
Name
O...
Aruba Users 1
Connections to Microsoft Routing and Remote ... 2
Connections to other access servers 3
Administrator
Manage Your Server
Command Prompt
Windows Explorer
Notepad
WordPad
Network Load Balancing Manager
All Programs
My Computer
Control Panel
Administrative Tools
Printers and Faxes
Help and Support
Search
Run...
Log Off
Shut Down
Active Directory Domains and Trusts
Active Directory Sites and Services
Active Directory Users and Computers
Certification Authority
Manages users, computers, security groups and other object
in the Active Directory.
Component Services
Computer Management
Configure Your Server Wizard
Data Sources (ODBC)
Distributed File System
DNS
Domain Controller Security Policy
Domain Security Policy
Event Viewer
Internet Authentication Service
Internet Information Services (IIS) Manager
Licensing
Manage Your Server
Microsoft .NET Framework 1.1 Configuration
Microsoft .NET Framework 1.1 Wizards
Microsoft SharePoint Administrator
Network Load Balancing Manager
Performance
Remote Desktops
Routing and Remote Access
Services
Terminal Server Licensing
Terminal Services Configuration
Terminal Services Manager
Start
upgrade.rtf - WordPad (...
Internet

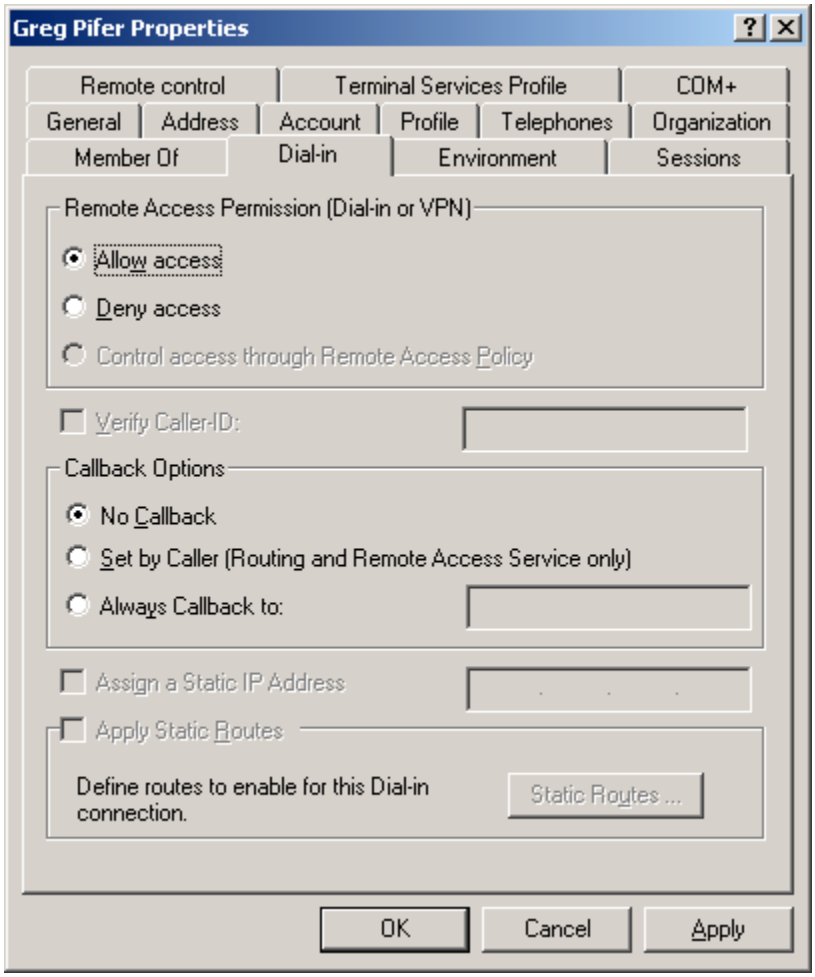

Active Directory Users and Computers
File
Action
View
Window
Help
Active Directory Users and Computers
Saved Queries
arubawest.com
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Active Directory Users and Computers [greg-lvn7gvvuxw.arubawest.com] 2 objects
Name
Type
Description
arubawest.com
Domain
Saved Queries
Folder to store your favor...


Active Directory Users and Computers
File Action View Window Help
Active Directory Users and Computers
Saved Queries
arubawest.com
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Users 21 objects
Name Type Description
Administrator User Built-in account for admini...
Cert Publishers Security Group ... Members of this group are...
DnsAdmins Security Group ... DNS Administrators Group
DnsUpdatePr... Security Group ... DNS clients who are permi...
Domain Admins Security Group ... Designated administrators...
Domain Comp... Security Group ... All workstations and serve...
Domain Contr... Security Group ... All domain controllers in th...
Domain Guests Security Group ... All domain guests
Domain Users Security Group ... All domain users
Enterprise Ad... Security Group ... Designated administrators...
Group Policy ... Security Group ... Members in this group can...
Guest User Built-in account for guest ...
HelpServices... Security Group ... Group for the Help and Su...
IIS_WPG Security Group ... IIS Worker Process Group
IUSR_GREG-L... User Built-in account for anony...
IWAM_GREG-... User Built-in account for Intern...
OWS_171398... Security Group ... Microsoft SharePoint role '...
RAS and IAS ... Security Group ... Servers in this group can ...
Schema Admins Security Group ... Designated administrators...
SUPPORT_38... User This is a vendor's account ...
TelnetClients Security Group ... Members of this group ha...


New Object - User
Create in: arubawest.com/Users
Password:
Confirm password:
User must change password at next logon
User cannot change password
Password never expires
Account is disabled
< Back
Next >
Cancel


New Object - User
Create in: arubawest.com/Users
When you click Finish, the following object will be created:
Full name: Greg Pifer
User logon name: gpifer@arubawest.com
The password never expires.
< Back
Finish
Cancel


Active Directory Users and Computers
File Action View Window Help
Active Directory Users and Computers
Saved Queries
arubawest.com
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Users 22 objects
Name Type Description
Administrator User Built-in account for admini...
Cert Publishers Security Group ... Members of this group are...
DnsAdmins Security Group ... DNS Administrators Group
DnsUpdatePr... Security Group ... DNS clients who are permi...
Domain Admins Security Group ... Designated administrators...
Domain Comp... Security Group ... All workstations and serve...
Domain Contr... Security Group ... All domain controllers in th...
Domain Guests Security Group ... All domain guests
Domain Users Security Group ... All domain users
Enterprise Ad... Security Group ... Designated administrators...
Greg Pifer User
Group Policy ... Security Group ... Members in this group can...
Guest User Built-in account for guest ...
HelpServices... Security Group ... Group for the Help and Su...
IIS_WPG Security Group ... IIS Worker Process Group
IUSR_GREG-L... User Built-in account for anony...
IWAM_GREG-... User Built-in account for Intern...
OWS_171398... Security Group ... Microsoft SharePoint role '...
RAS and IAS ... Security Group ... Servers in this group can ...
Schema Admins Security Group ... Designated administrators...
SUPPORT_38... User This is a vendor's account ...
TelnetClients Security Group ... Members of this group ha...


Greg Pifer Properties
Remote control
Terminal Services Profile
COM+
General
Address
Account
Profile
Telephones
Organization
Member Of
Dial-in
Environment
Sessions
Remote Access Permission (Dial-in or VPN)
Allow access
Deny access
Control access through Remote Access Policy
Verify Caller-ID:
Callback Options
No Callback
Set by Caller (Routing and Remote Access Service only)
Always Callback to:
Assign a Static IP Address
Apply Static Routes
Define routes to enable for this Dial-in connection.
Static Routes ...
OK
Cancel
Apply