CITRIX®

Deployment Guide

XenApp for Amazon EC2

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Introduction

Citrix XenApp™ is the on-demand application delivery solution that enables any Windows application to be virtualized, centralized and managed in the datacenter and instantly delivered as a service to users anywhere on any device. XenApp reduces the cost of application management by up to 50 percent, improves application and data security and enables you to Simplify IT, Optimize delivery of virtual applications, and Accelerate business with efficiency.

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It is designed to make web-scale computing easier for developers. Amazon EC2's simple web service interface allows you to obtain and configure capacity with minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon's proven computing environment. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change. Amazon EC2 changes the economics of computing by allowing you to pay only for capacity that you actually use. Amazon EC2 provides developers the tools to build failure resilient applications and isolate themselves from common failure scenarios.

When these two powerful technologies come together, amazing simplicity, scalability and efficiencies of scale are made possible. By utilizing Amazon EC2, XenApp administrators can quickly build and deploy XenApp farms in the cloud to meet capacity demands, or simply grow an infrastructure at a lower cost of ownership.

This guide will walk through the steps to deploy a complete XenApp application farm in Amazon EC2 to meet the demands of a production IT department.

Solution Requirements

- Production XenApp Farm running in Amazon EC2 Cloud
- Secure Communications between Client and XenApp Web Interface using Secure Gateway

Prerequisites

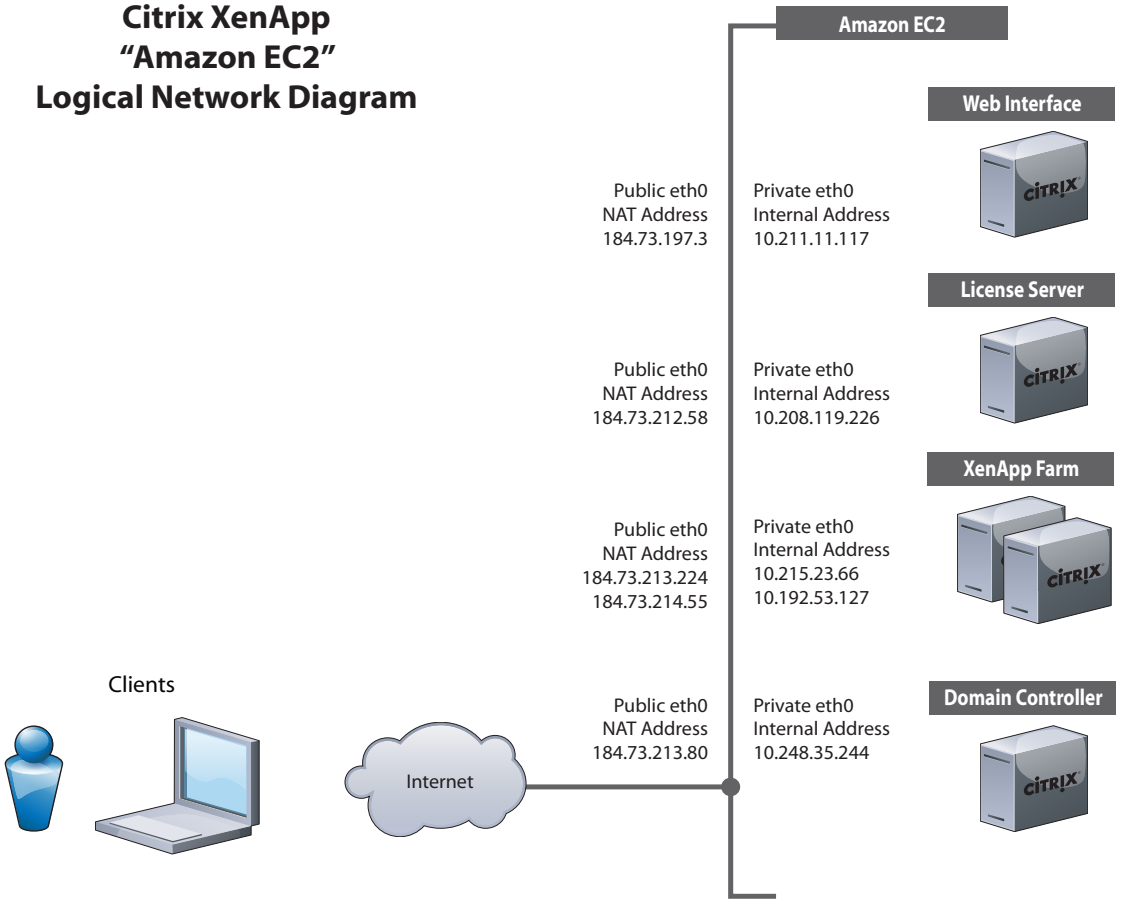
- Citrix XenApp 5.0
- Citrix XenApp 5.0 Update 3 (optional)
- Amazon EC2 account
- Windows Server 2008 R1 Sp2 - Domain Controller, Active Directory, DNS (citrixlabs.com)
- Windows Server 2008 R1 Sp2 - Citrix License Server (CTXSlic1.citrixlabs.com)
- Windows Server 2008 R1 Sp2 - Citrix Web Interface/Secure Gateway (wi.citrixlabs.com)
- Windows Server 2008 R1 Sp2 - Citrix XenApp Server 1 (xas1.citrixlabs.com)
- Windows Server 2008 R1 Sp2 - Citrix XenApp Server 2 (xas2.citrixlabs.com)
- ...
- Windows Server 2008 R1 Sp2 - Citrix XenApp Server *N*

Additional Information

- http://aws.amazon.com
- http://console.aws.amazon.com

Network Diagram

The following is the Network that was used to develop this deployment guide.



Amazon Machine Image	IP Address
Active Directory, DNS	184.73.213.80
Citrix License Server	184.73.212.58
Citrix Web Interface/Secure Gateway	184.73.197.3
Citrix XenApp Server 1	184.73.213.224
Citrix XenApp Server 2	184.73.214.55

Amazon EC2

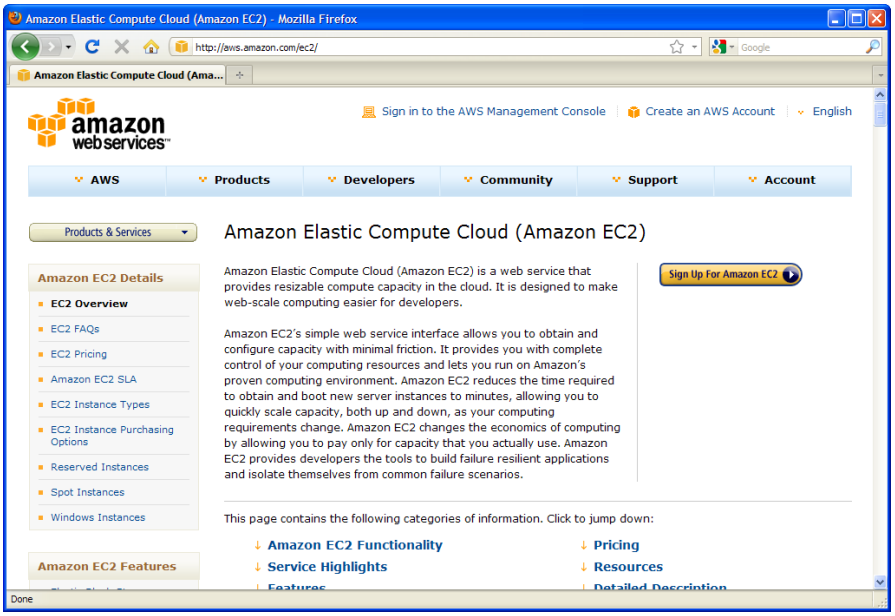
Create AMI

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizeable compute capacity in the cloud. It is designed to make web-scale computing easier for developers. In order to setup a XenApp farm in EC2, you will need to sign up for the Amazon EC2 service.

Connect to EC2:

Open a web browser and connect to:

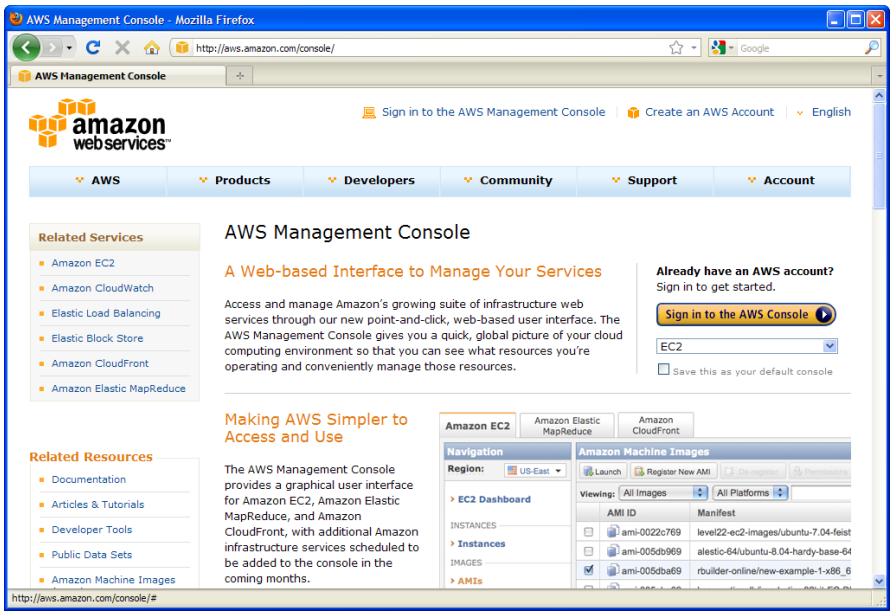
http://aws.amazon.com/ec2/

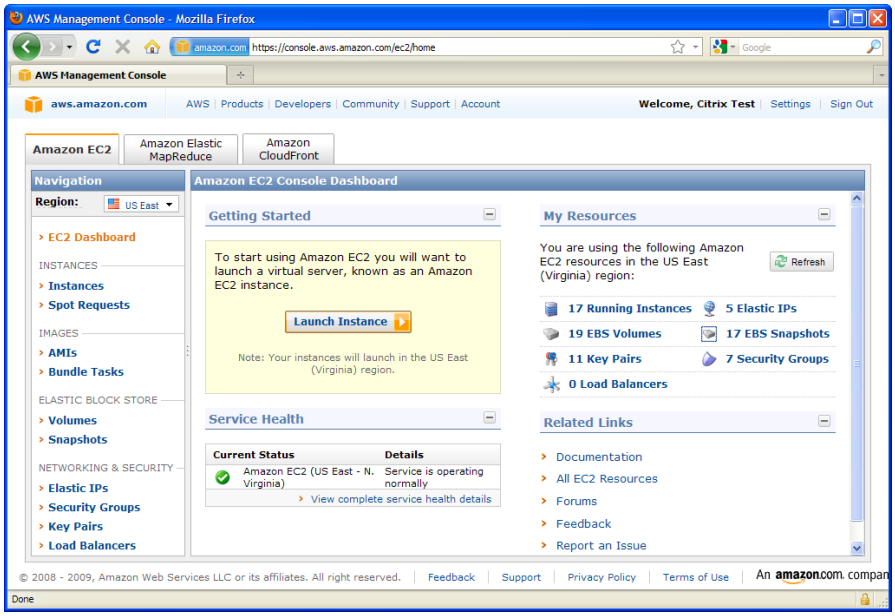


Connect to EC2:

Navigate to the EC2 console:

http://console.aws.amazon.com/

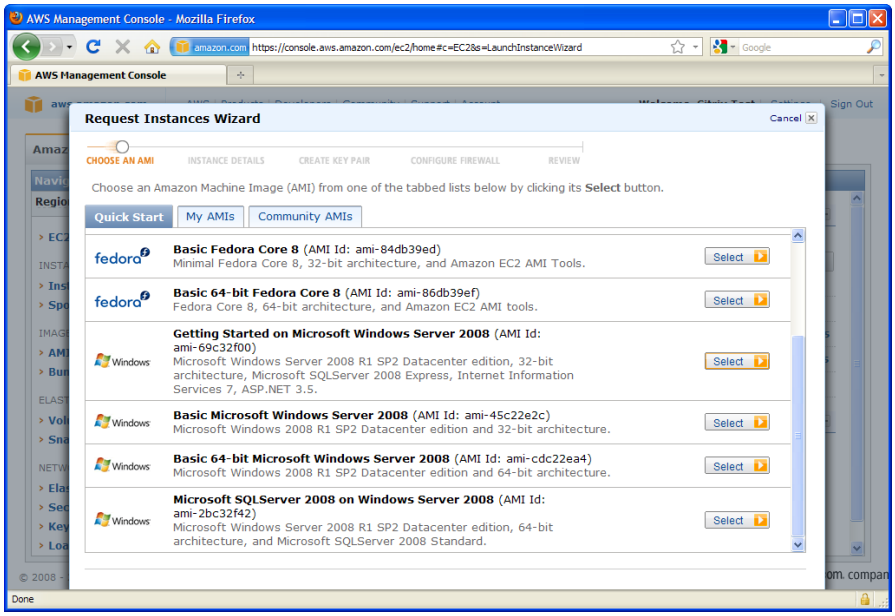




Launch Instance:

Once you have logged into the Amazon console, you will see the dashboard.

Select Launch Instance.



Choose an AMI:

Navigate to the Amazon Machine Image (AMI) that Getting Started on Microsoft Windows Server 2008.

At the writing of this document, the AMI Id was: ami-69c32f00.

Sometimes Amazon updates their AMI's so this Id could change.

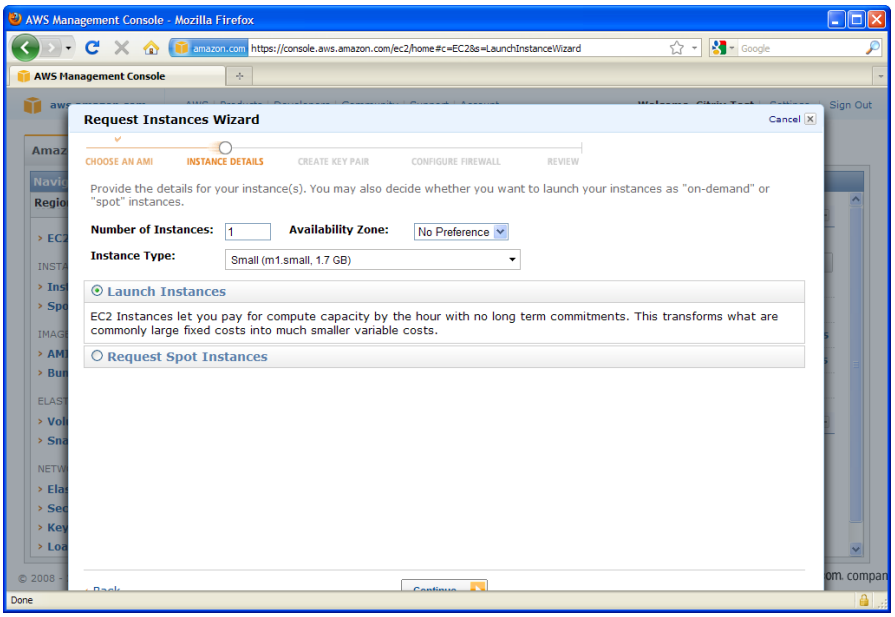
AMI Details:

Number of Instances: 1

Availability Zone: No Preference

Size: Small

Continue.



AMI Details:

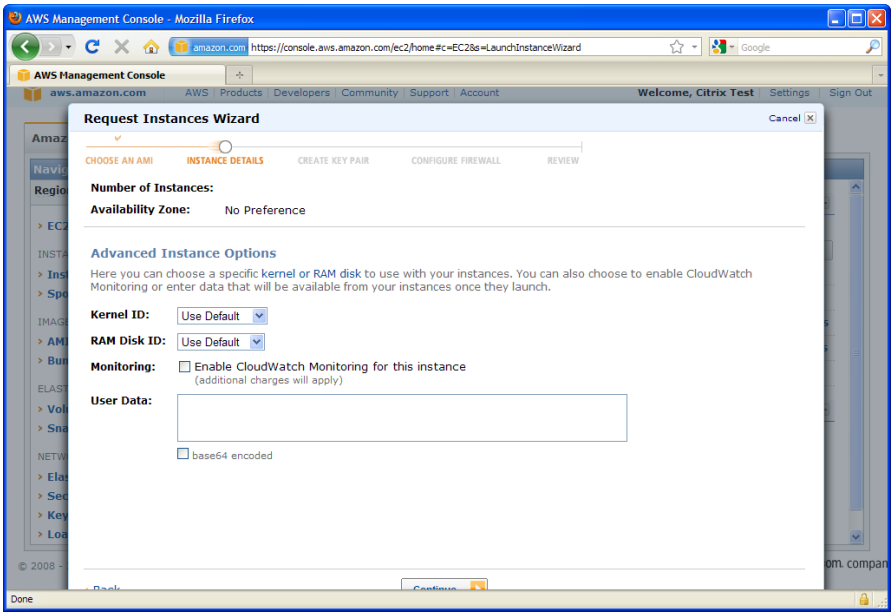
Kernel ID: Use Default

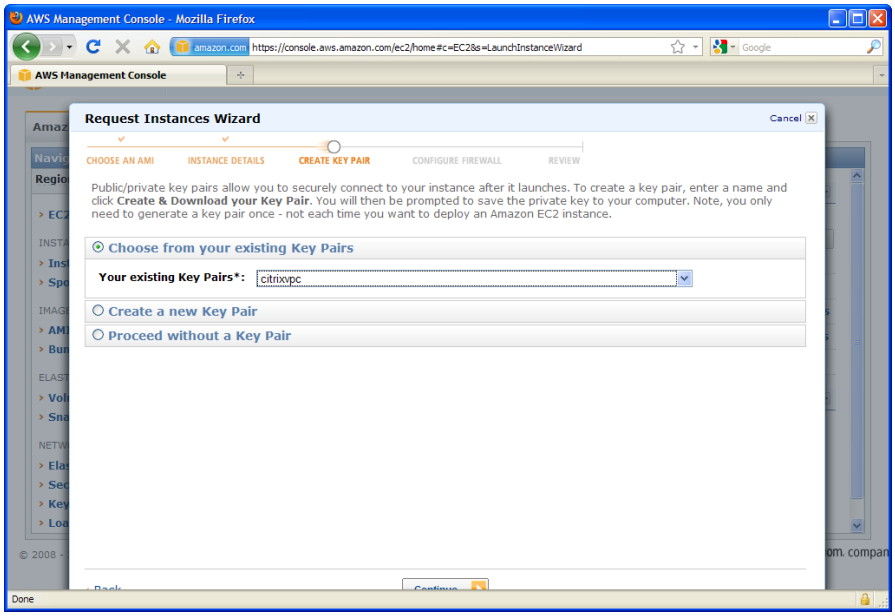
RAM Disk ID: Use Default

Monitoring: unchecked

User Data: <leave empty>

Continue.





Key Pair:

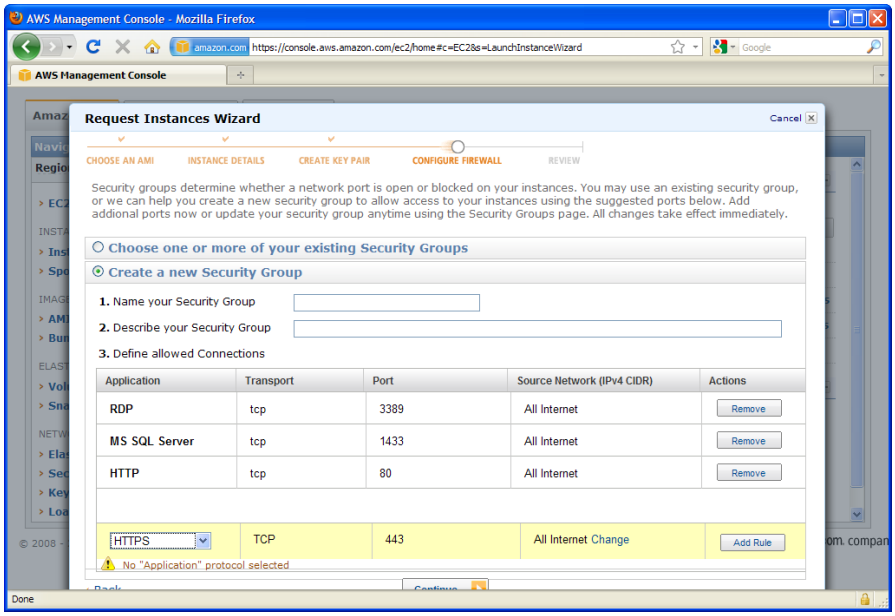
Key Pair:

If you have already created a key pair, select it for use.

If you don't have a key pair yet, create one.

Key pairs allow you to securely connect to your AMI after it launches. With the key pair, only you have access to the AMI and the data.

Continue.



Firewall:

Your AMI will be firewalled by Amazon. You can open up ports in that firewall using the Console Interface. You can create different firewall groups for use with different AMI's.

A default group is installed by Amazon, however many of the ports you will want to use, are closed or blocked.

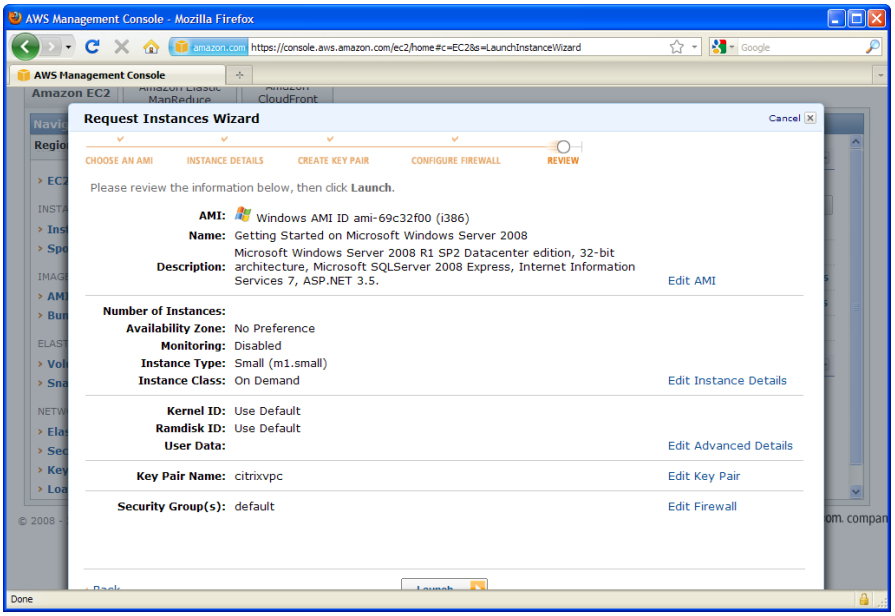
By Default, RDP and HTTP should be open.

You will want to add a rule to allow HTTPS port 443, and FTP ports 20, 21.

Continue.

Review:

Review your AMi details, and Continue to launch it.

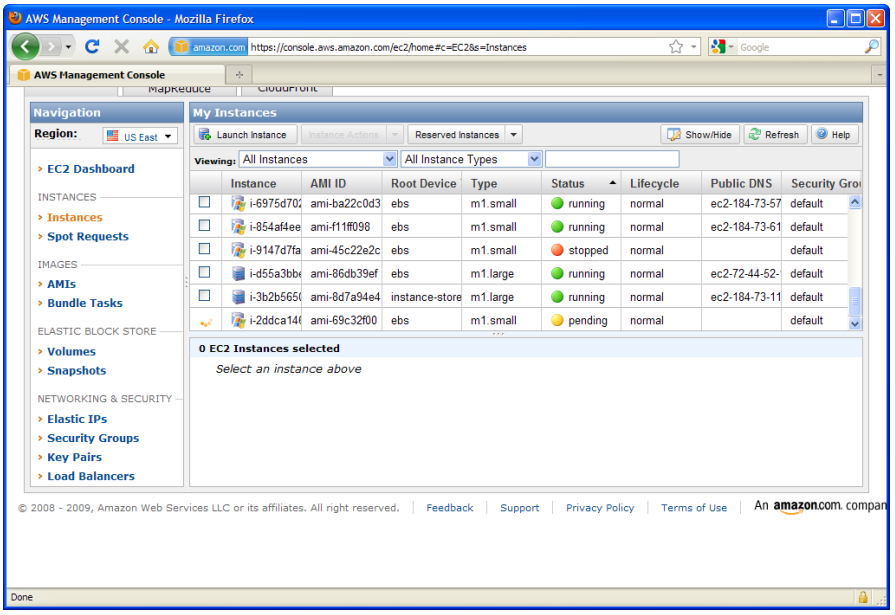


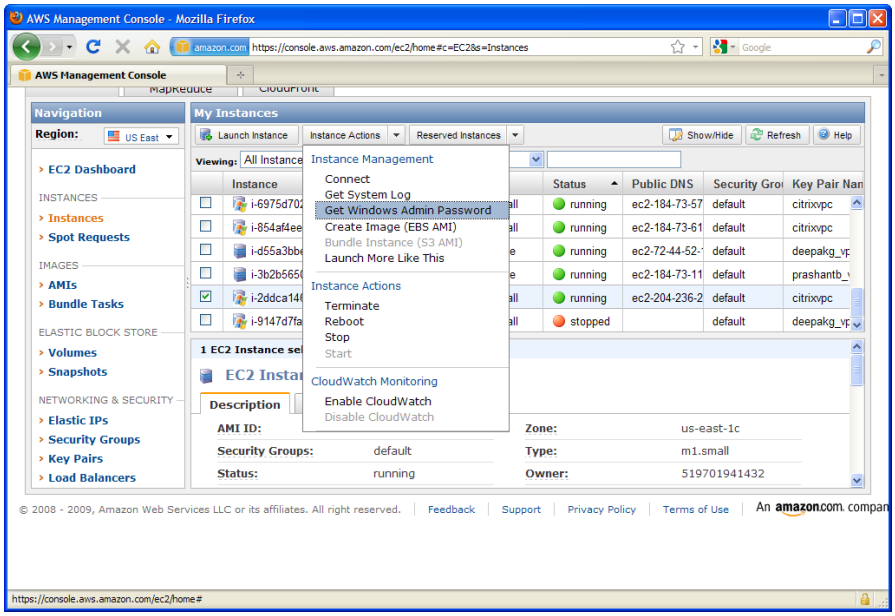
My Instances:

You can then view your AMI being created in the Instances dashboard.

It will have an initial status of pending.

Select Refresh, until the status changes to running.



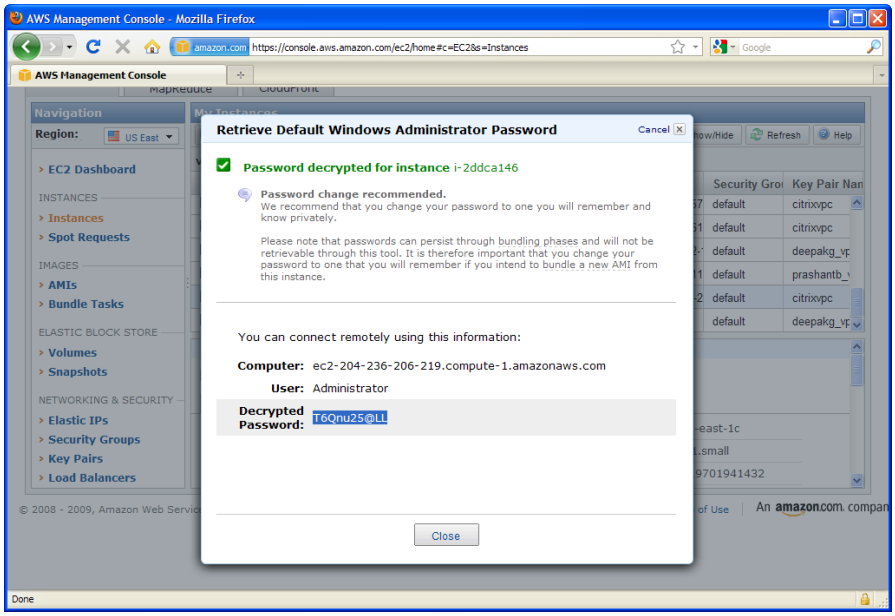


Get Password:

Once the AMI status changes to running, select the AMI and navigate to Instance Actions -> Get Windows Admin Password.

You will need to provide your key, in order to decrypt the password.

The Key is stored in a .pem file.



Get Password:

The decrypted password is random, you need to change it once you login to the machine.

Make note of the IP Address in the Computer name. This is the public IP Address you will use to connect to the machine.

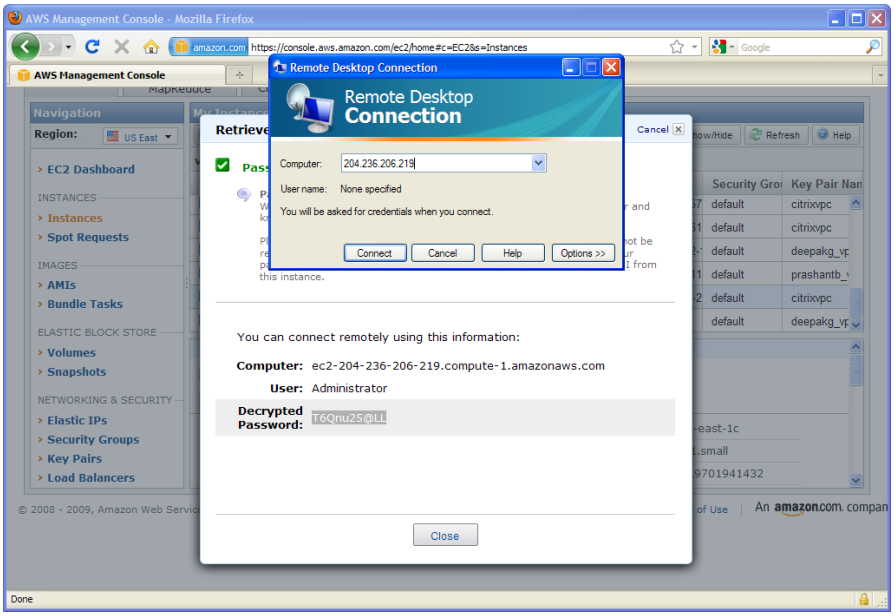
Connect to AMI:

You will need to run Remote Desktop Connection to connect to the desktop of the AMI.

From a Windows command prompt, run Microsoft Remote Desktop. From a command prompt:

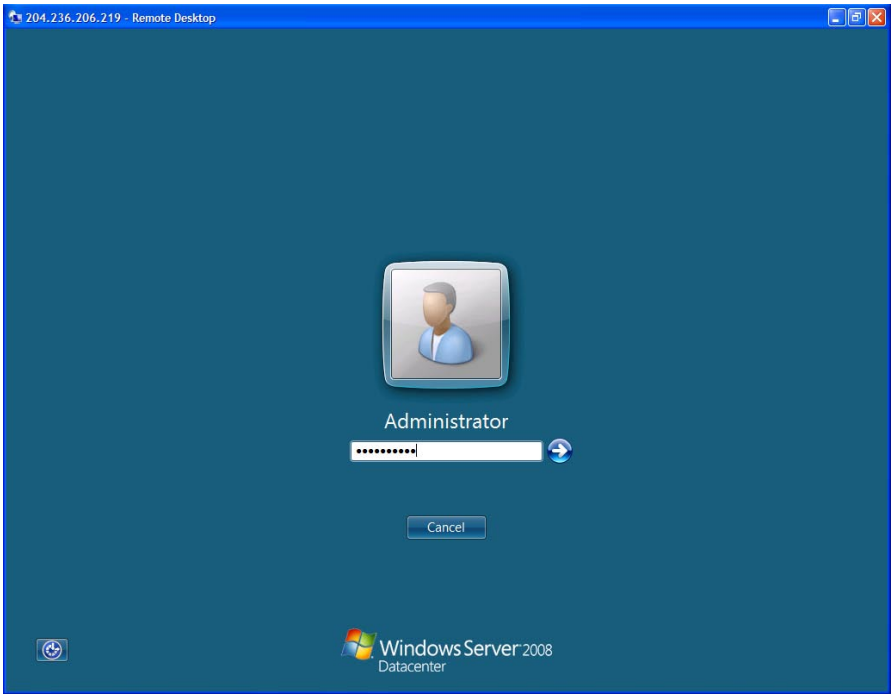
mstsc /console

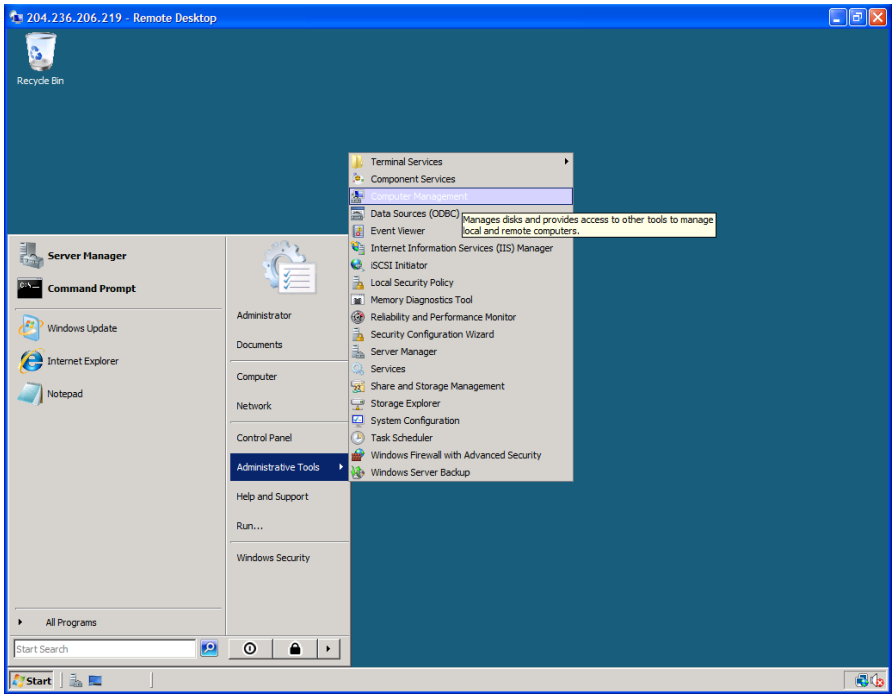
Type in the IP Address of the AMI, and Connect.



Login to AMI:

Type in the decrypted password and login to the Windows AMI.

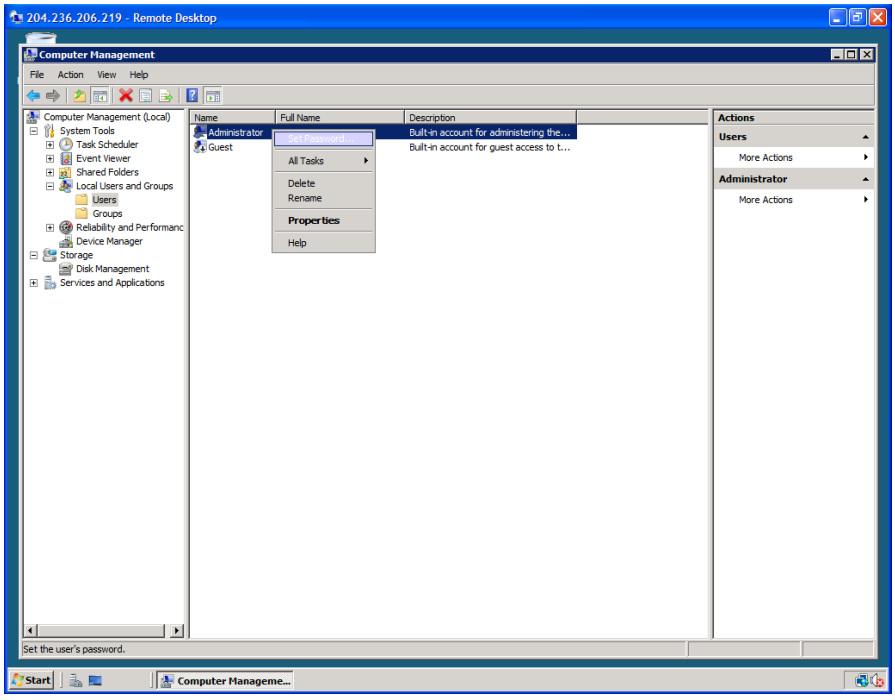




Change Password:

The first thing you need to do is change the password for the administrator account.

Navigate to Start -> Administrative Tools -> Computer Management.



Change Password:

Navigate to System Tools -> Local Users and Groups.

Select Administrator -> Right-Click -> Set Password.

EC2 Service Properties:

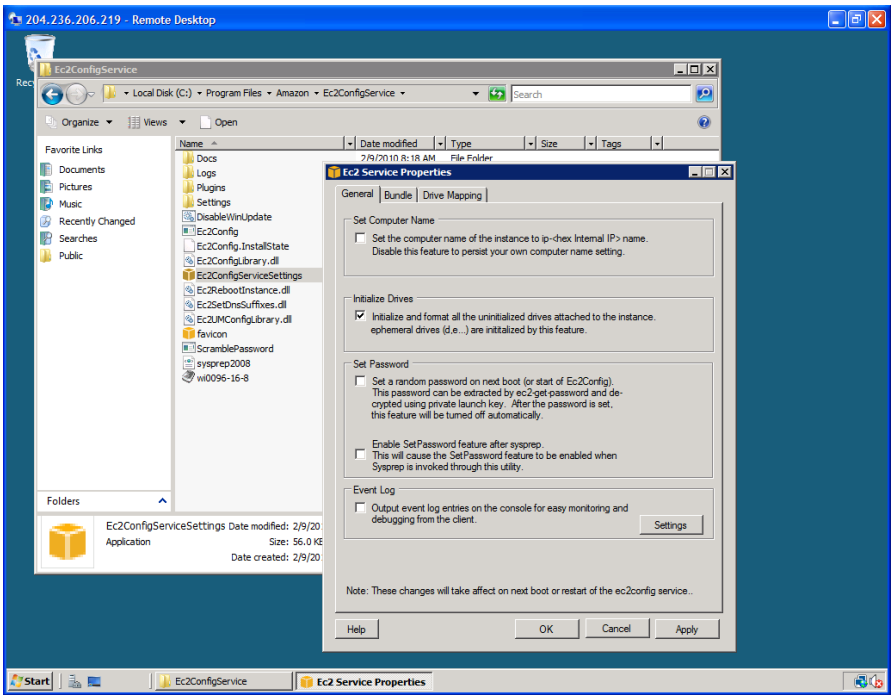
Launch the EC2 Service Properties configurator:

c:\local disk\program files\ amazon\ec2configservice\ ec2configservicesettings.exe

Set Computer Name: Disable

Set Password: Disable

Enable Set Password after sysprep: Disable



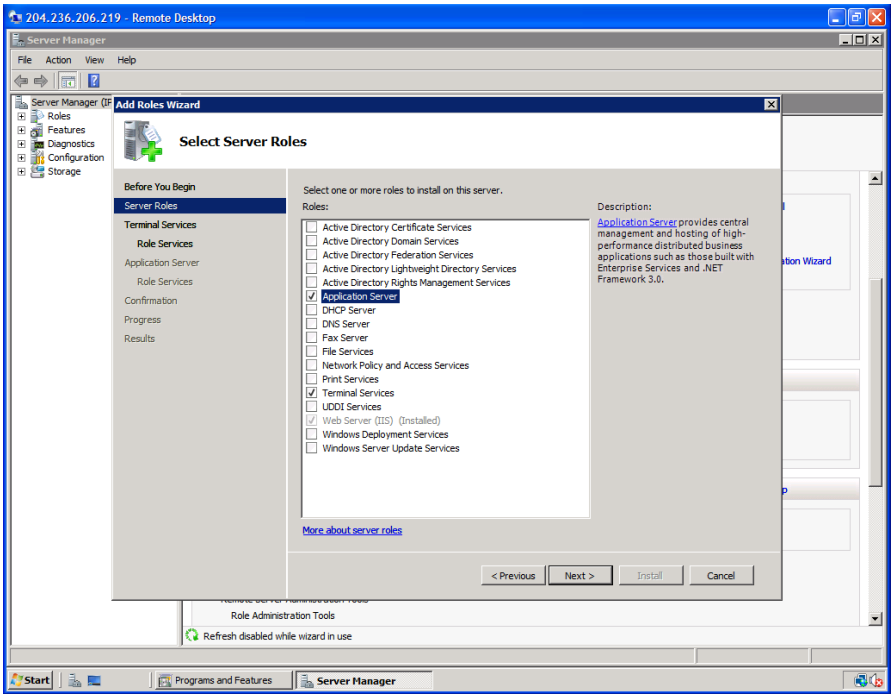
MS Terminal Services:

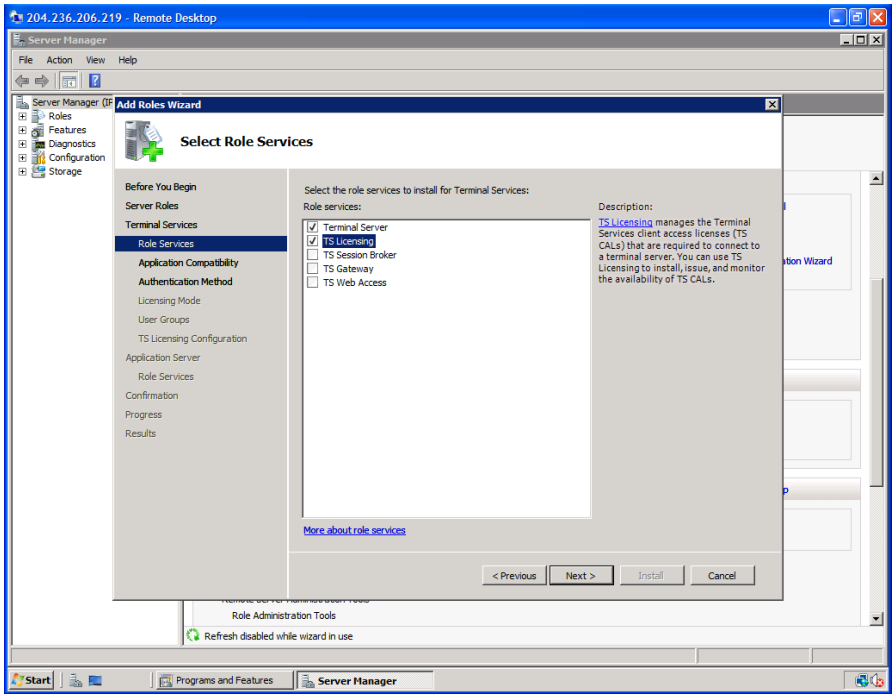
Enable Microsoft Terminal Services.

Navigate to Control Panel -> Programs and Features -> Turn Windows features on or off.

From Server Manager select Add Roles.

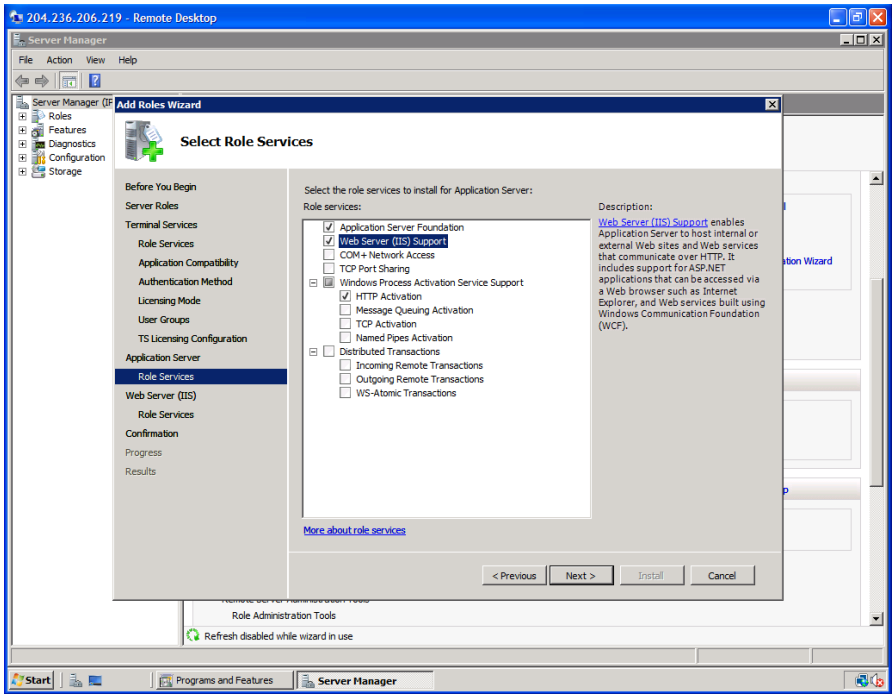
Select Terminal Services and Application Server. Select Next to install them.





MS Terminal Services:

Select the Terminal Services and TS Licensing roles.



MS Terminal Services:

Select the Web Server (IIS) Support role.

Roles:

Select the IIS 6 WMI Compatibility.

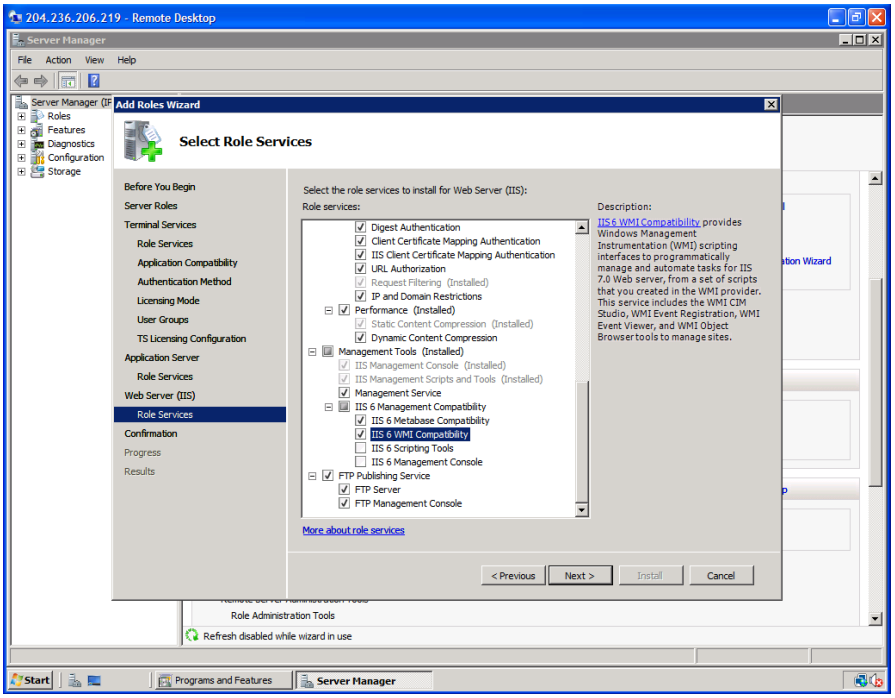
Select the FTP Service.

Note: FTP is only required if you plan on FTP'ing files to your server for installation.

Alternatively, you can download FileZilla to the server, and remove it when finished transferring files, if you are concerned about security.

Next.

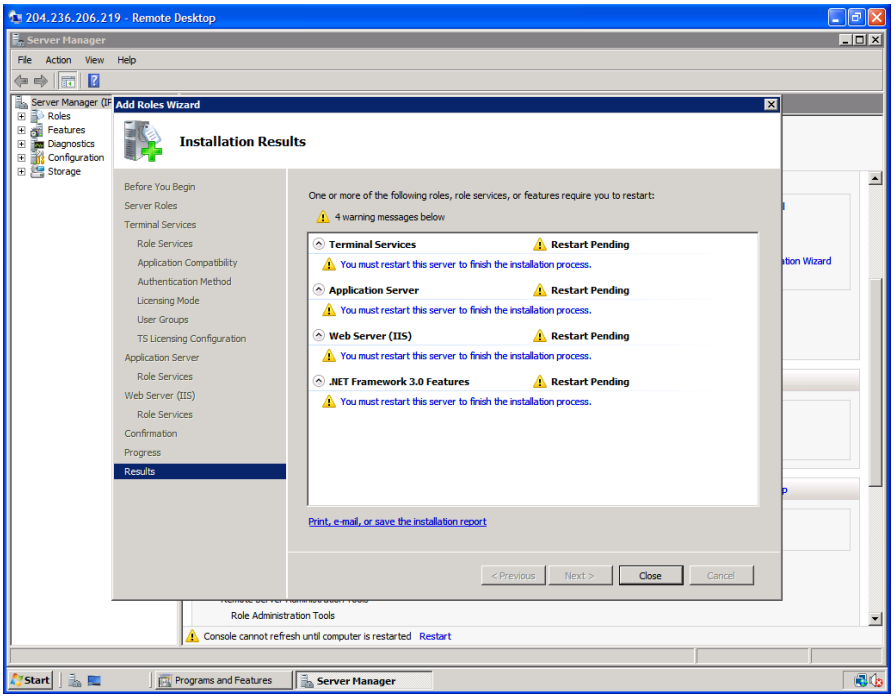
Install.

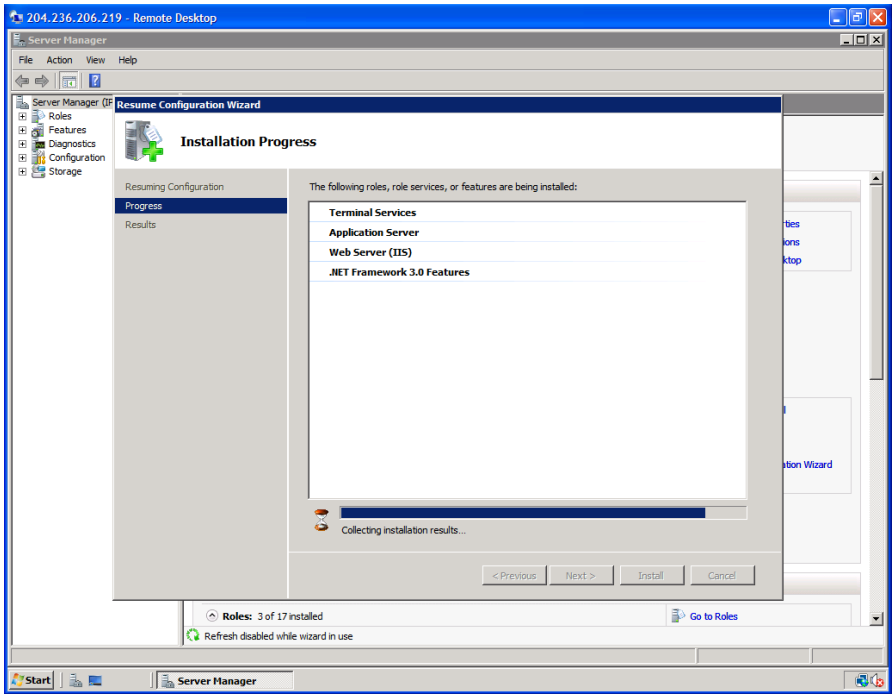


Roles:

You may need to reboot the AMI.

Once it has rebooted, connect using Remote Desktop Connection.





Roles:

When you re-connect using RDP, configuration should resume.

Amazon EBS

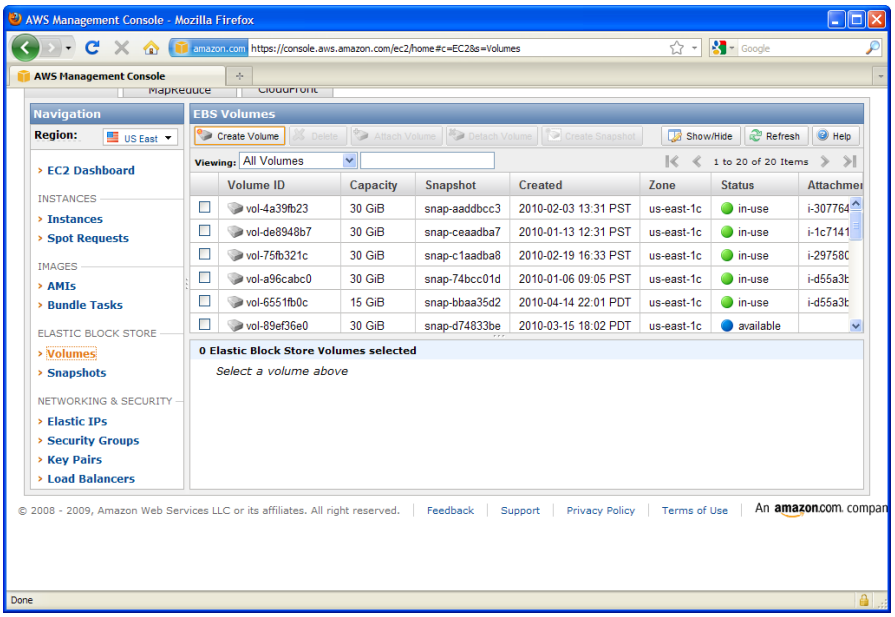
Create Volume

Amazon Elastic Block Store (EBS) provides block level storage volumes for use with Amazon EC2 instances. Amazon EBS volumes are off-instance storage that persists independently from the life of an instance. Amazon EBS allows you to create multiple storage volumes that can be mounted as devices to the AMI. We will create an EBS Volume, to hold the XenApp install data.

Create Volume:

From the Amazon Console, navigate to Volumes.

Select Create Volume.



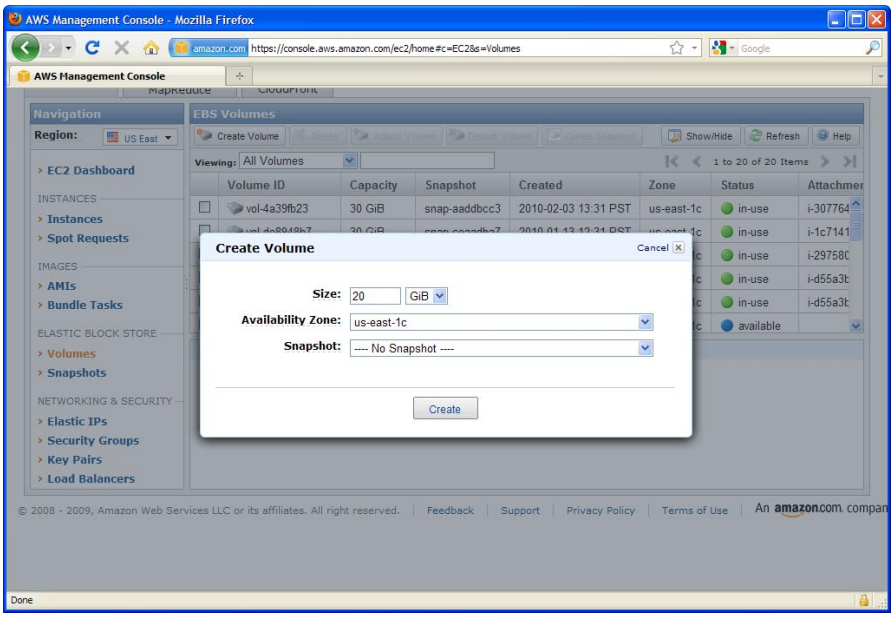
Create Volume:

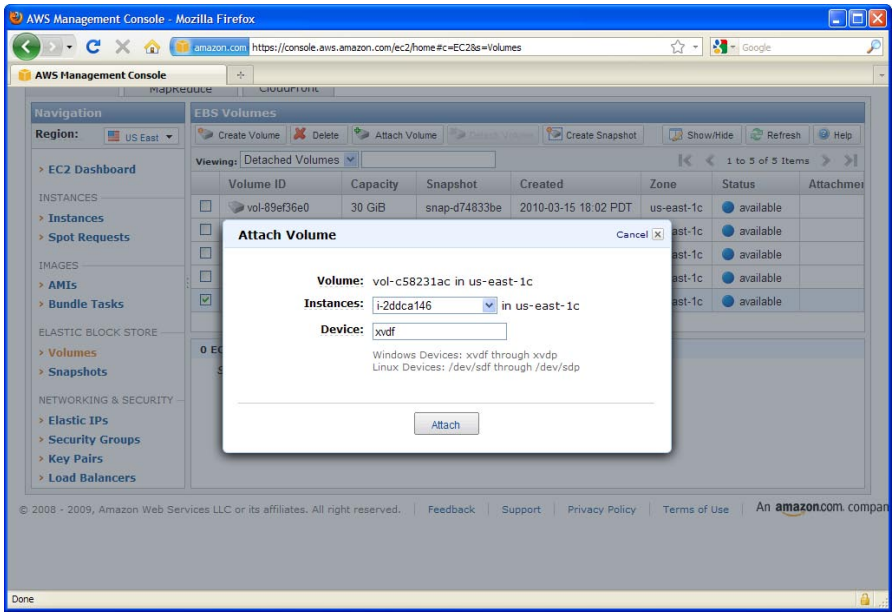
Size: <size of volume>

Availability Zone: <must match the zone of the AMI created in the previous section>

Snapshot: None.

Create.



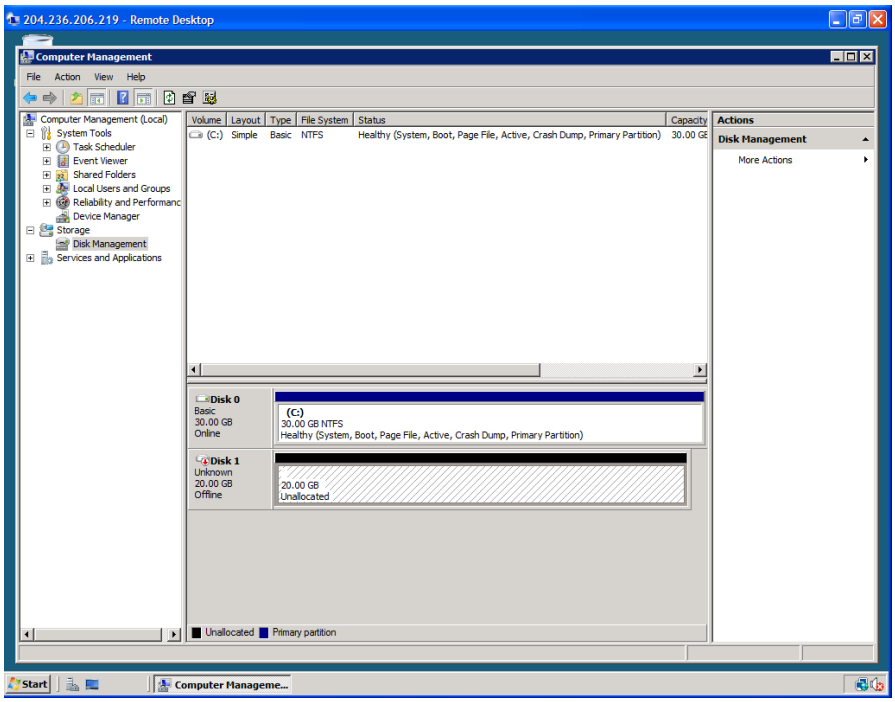


Attach Volume:

Instance: <Instance ID must match the instance you created in the previous section>

Device: xvdf

Attach.



Prepare Disk:

Connect to the AMI using RDP, as we did in the previous section.

Login.

Navigate to Start -> Administrative Tools -> Computer management.

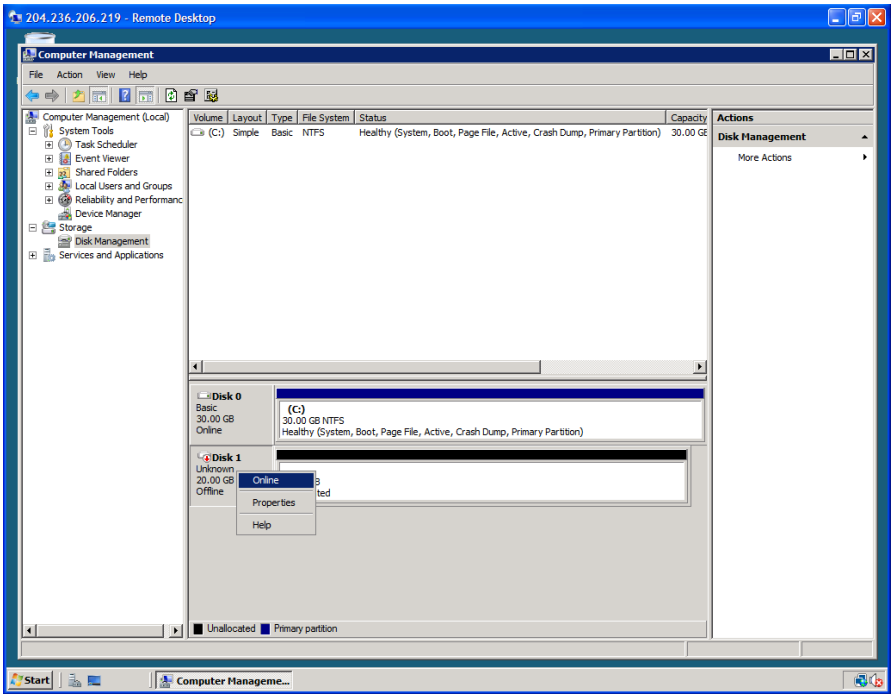
Select Disk Management.

You should see the new volume.

Disk Online:

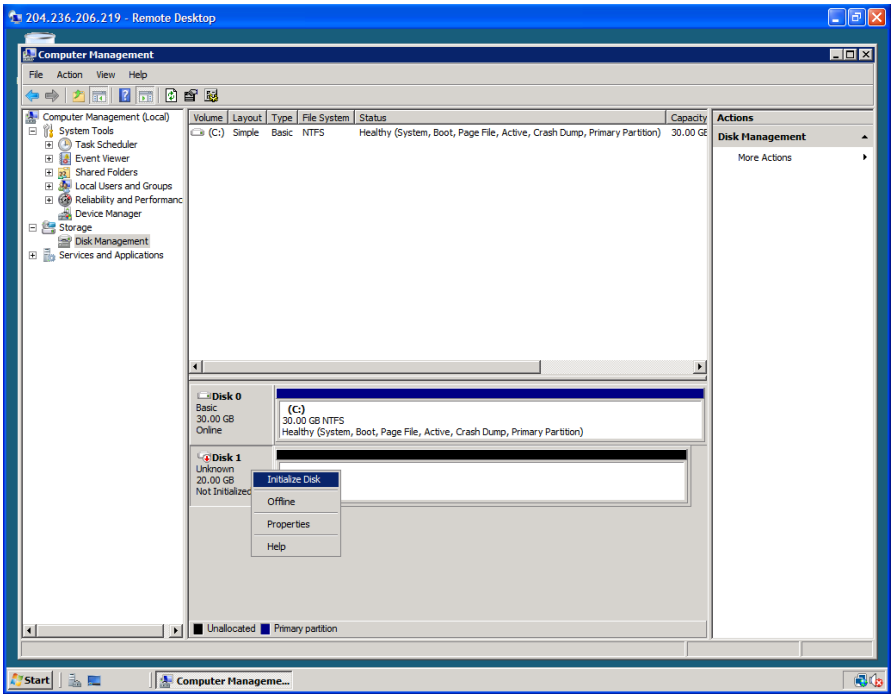
Select the new disk by clicking on it once.

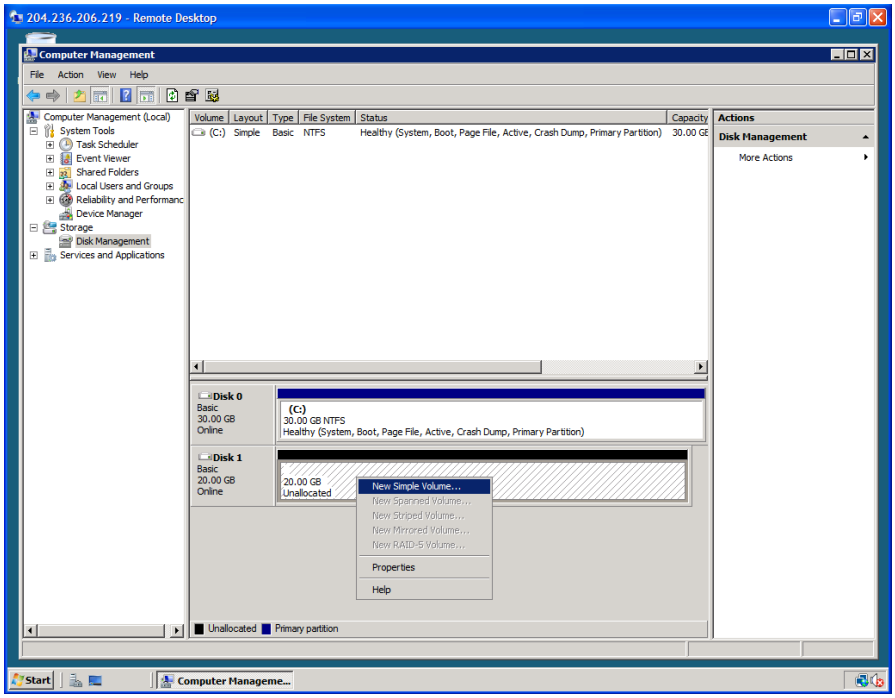
Perform a Right-Click on the new disk, and select Online.



Initialize Disk:

Right-Click again, and Initialize Disk.



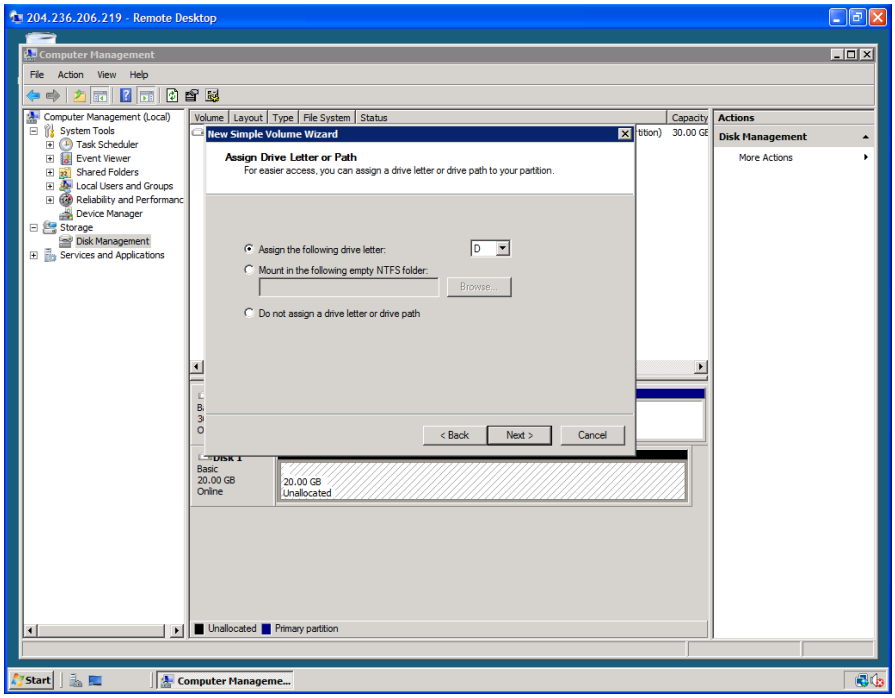


New Volume:

Select the Unallocated space

by clicking on it once.

Right-Click, then select New Simple Volume.



New Volume:

A wizard will appear. Follow the prompts to create and format the new disk.

Assign a drive letter, and the disk is ready to use.

Note: Store all installation files for XenApp on this new drive. That way, you can take a snapshot of it, and attach it to other AMI's that you create later, for your XenApp farm.

Citrix XenApp

Download the Installation Media

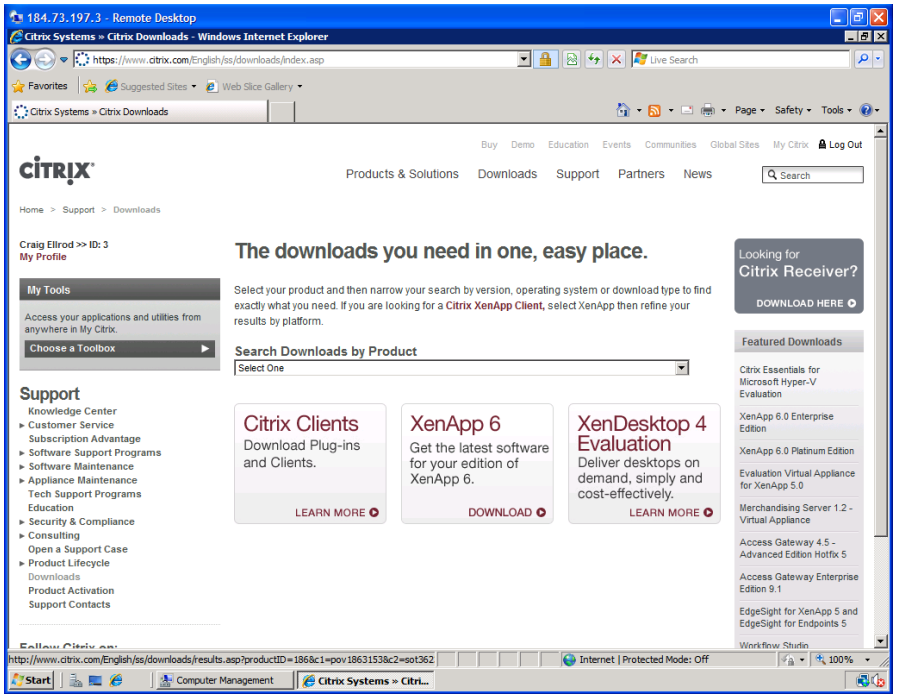
It is necessary to download the XenApp installation media, and store it on the EBS we created in the previous step. We will later on take a snapshot of that volume and use it to install the other servers in the XenApp farm.

Connect:

Connect to the AMI using Remote Desktop Connection.

Start -> Run -> mstsc /console

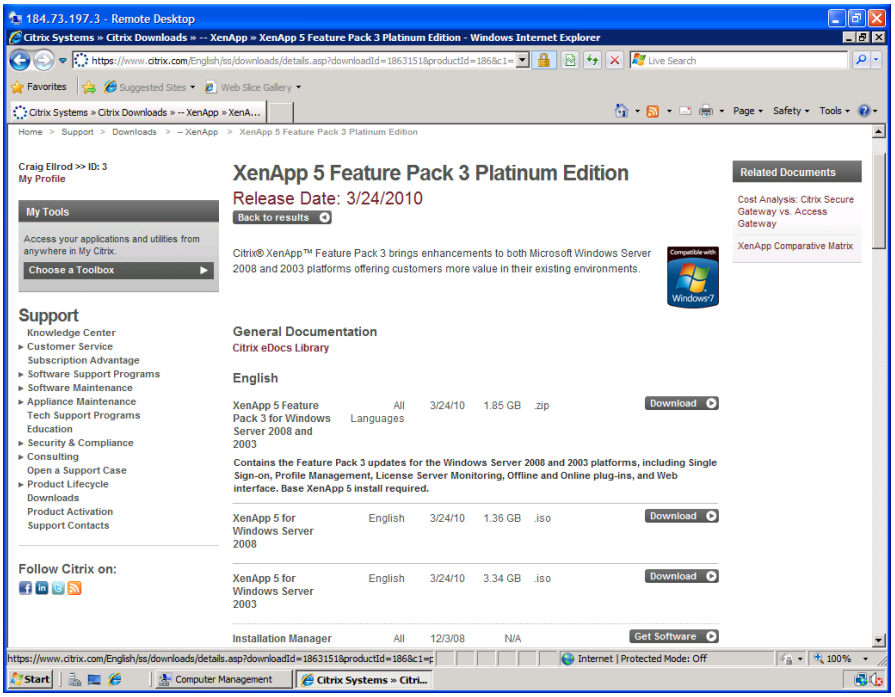
Open a web browser and connect to the Citrix.com -> Downloads site.

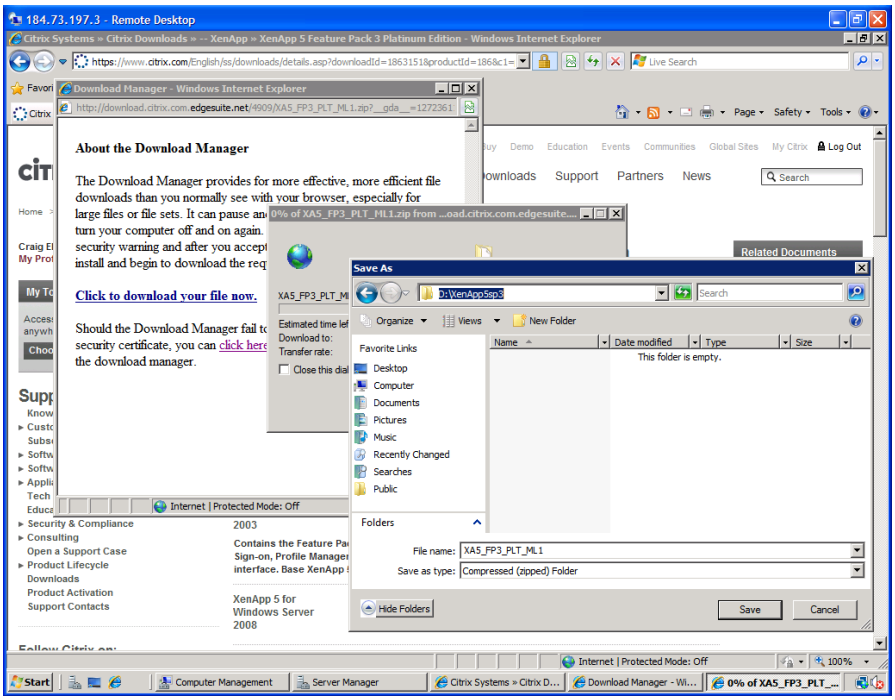


Download:

Download XenApp 5 Feature Pack 3 for Windows 2008 iso image.

Also download the XenApp 5 Feature Pack 3 for Windows 2008 zip file.





Download:

Note: You may have to enable downloads in Internet Explorer.

Tools -> Internet Options -> Security (tab) -> Internet -> Custom level -> Downloads -> File Download.

Download the file and save it to the EBS Volume. In this example, we assigned it drive letter D:

Once downloaded, unzip the installation media.

Note: If you wish to conserve disk space, hence reduce the cost of storage, you can leave it zipped, and unzip it when you attach the volume to each server AMI.

Virtual DVD Drive:

Download and install Virtual Clone Drive from Slysoft.

We will use this program to mount the XenApp Installation iso media, to perform the install.

You mount the XenApp iso image installation media by Right-Clicking on the iso image, then Mount with Virtual Clone Drive.

The XenApp install media can be see as a drive letter in Computer.

Amazon EBS

Create Snapshot

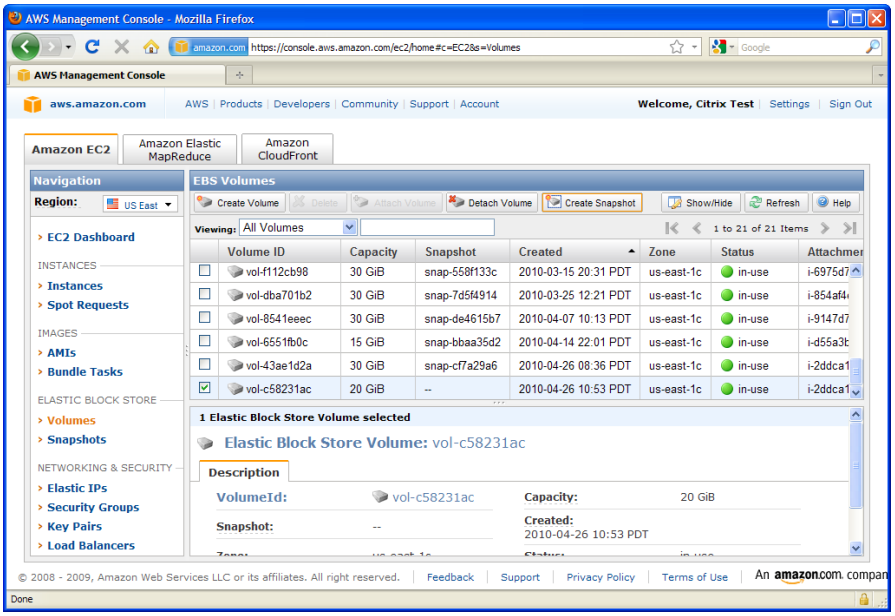
Amazon EBS provides the ability to create point-in-time snapshots of your volumes that are then stored in Amazon S3. These snapshots can be used as the starting point for new Amazon EBS volumes. We will take a snapshot of our D: volume, so that we can use the XenApp install media on other AMI's in the farm.

Create Snapshot:

From the Amazon EC2 Dashboard, select Snapshots.

Highlight the volume created earlier.

Select Create Snapshot.

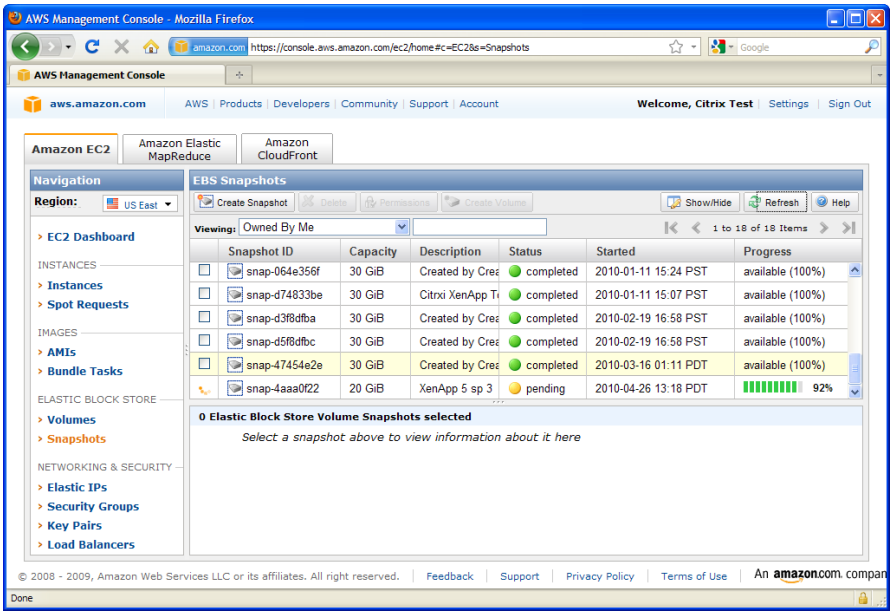


Create Snapshot:

When the Snapshot is 100% complete, make note of the Snapshot ID for future reference.

In this example, our Snapshot ID is snap-7ec06016.

We will use this to create volumes, and attach them to the other servers, to perform installation tasks for XenApp.



Amazon EC2

Create Base Windows AMI

After you have created the initial Windows 2008 server, create a volume, copied the XenApp install media to it, and snapshotted it, you can create a base image to use to spawn instance of each of the XenApp farm servers.

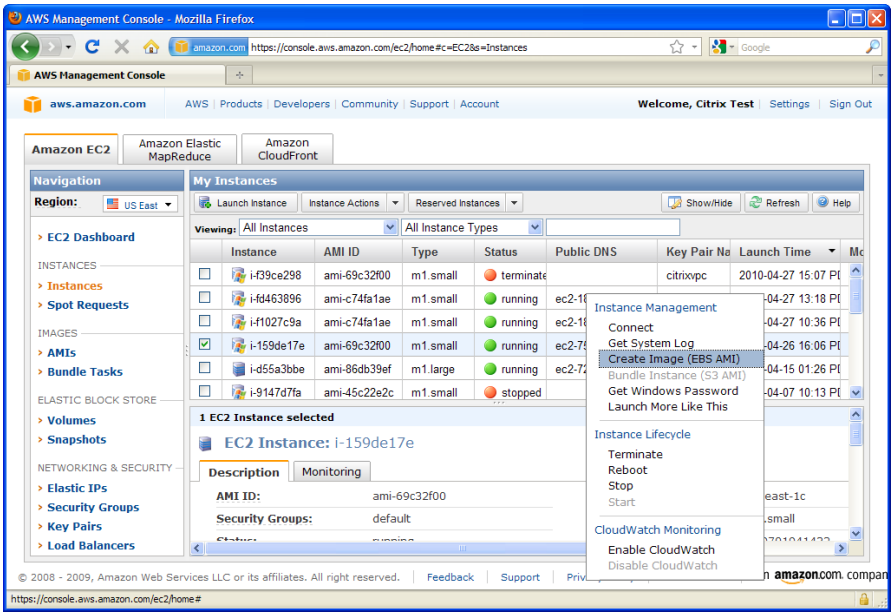
With this base image, we will create individual images for use as a Domain Controller and XenApp servers.

Create Image:

On the Amazon EC2 Dashboard, select Instances.

Select the instance we have just been working with.

Right-Click, or select Instance Actions -> Create Image (EBS AMI).



Create Image:

Instance ID: <automatically assigned by Amazon>

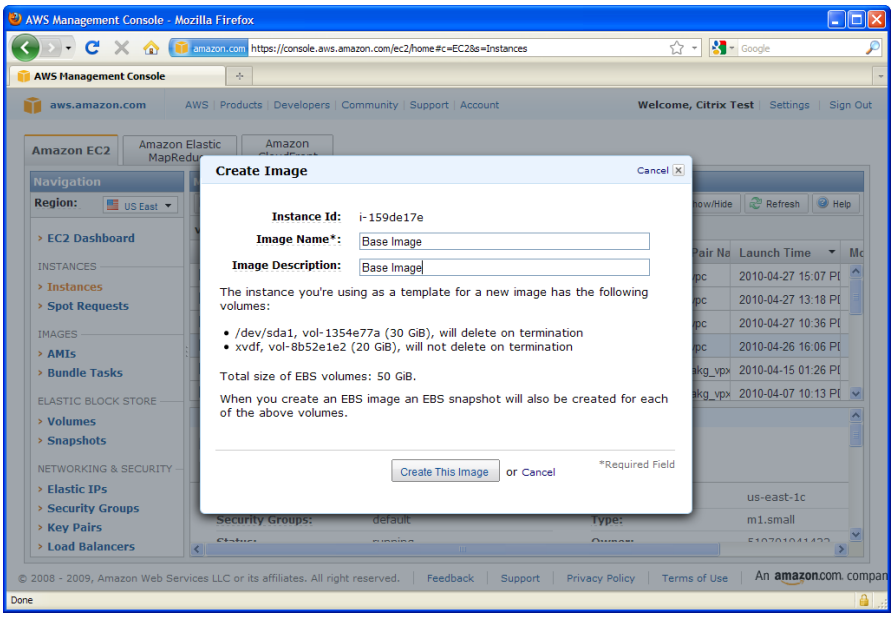
Name: XenApp Base Image

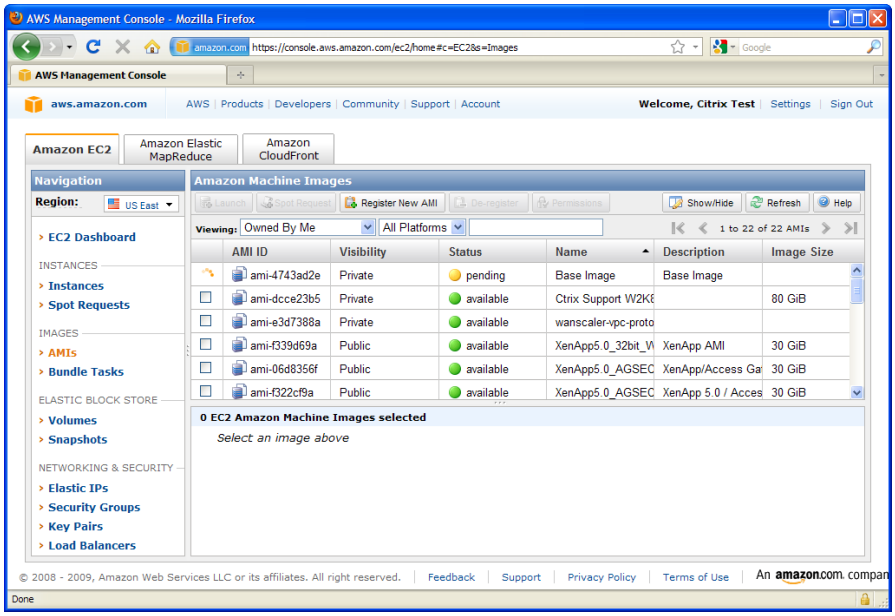
Description: XenApp Base Image.

Create Image.

Make note of the AMI Id.

In this example: ami-4743ad2e





Create Image:

To view the image creation process, select AMIs from the EC2 Console.

Domain Controller

Domain Controller, DNS Server

Create a Domain Controller, DNS Server for the environment.

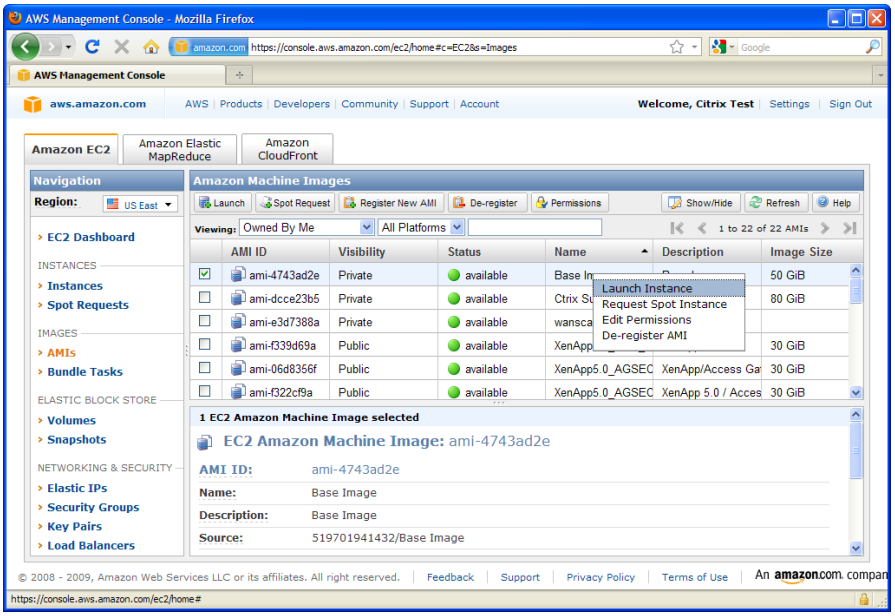
Launch Instance:

From the Amazon EC2 Dashboard, select AMIs.

Find the image that we created as Base Image.

Launch an instance of this image.

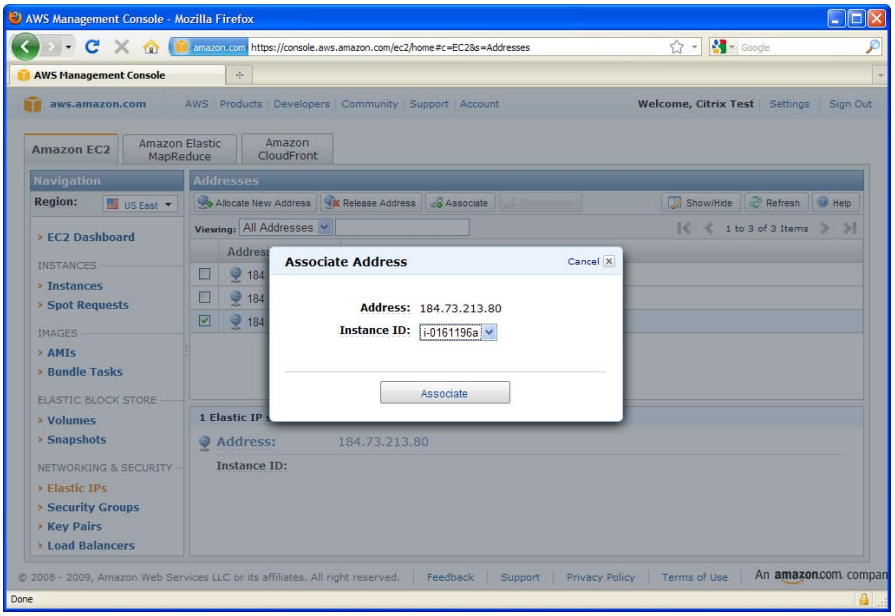
Follow the remaining prompts.

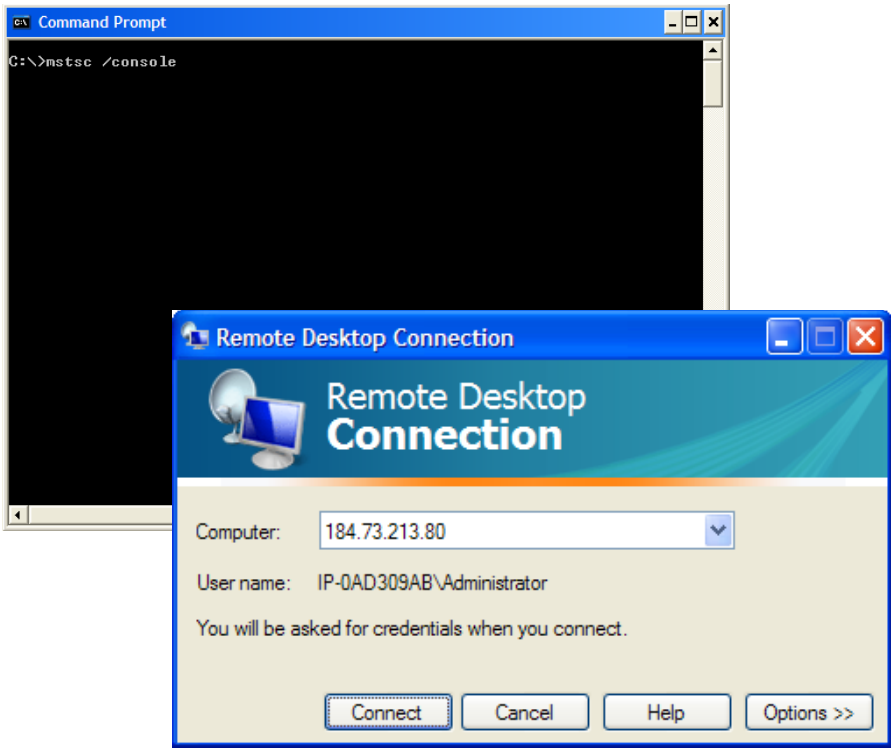


Elastic IP:

From the Amazon EC2 Dashboard, select Elastic IPs.

Allocate a new IP Address and assign it to the instance.



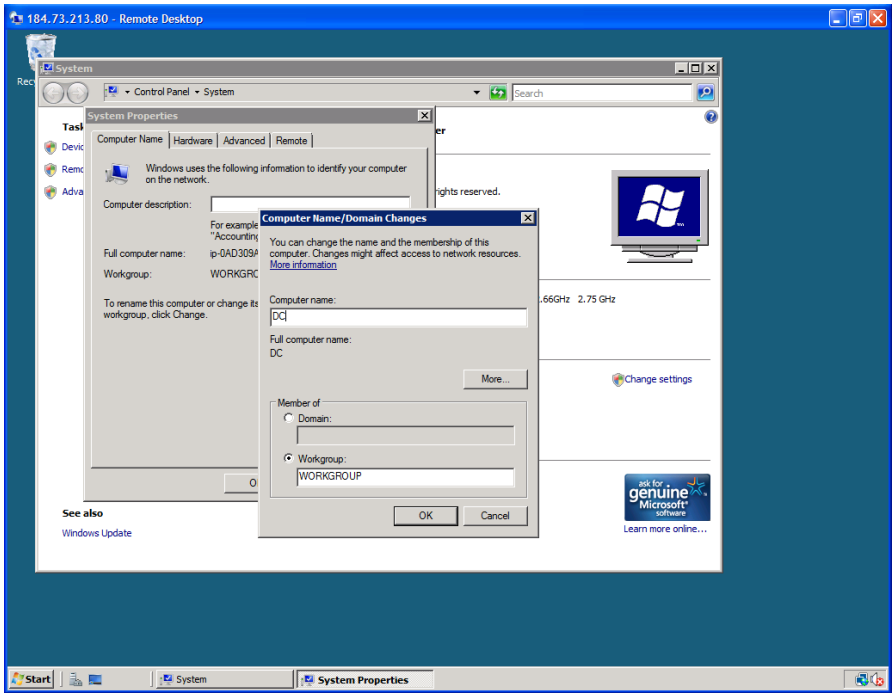


Connect:

Connect to the instances IP Address you just assigned, by running Remote Desktop from your local computer.

From a command prompt:

mstsc /console



Domain Controller:

Navigate to Computer -> Properties and change the computer name to DC for Domain Controller.

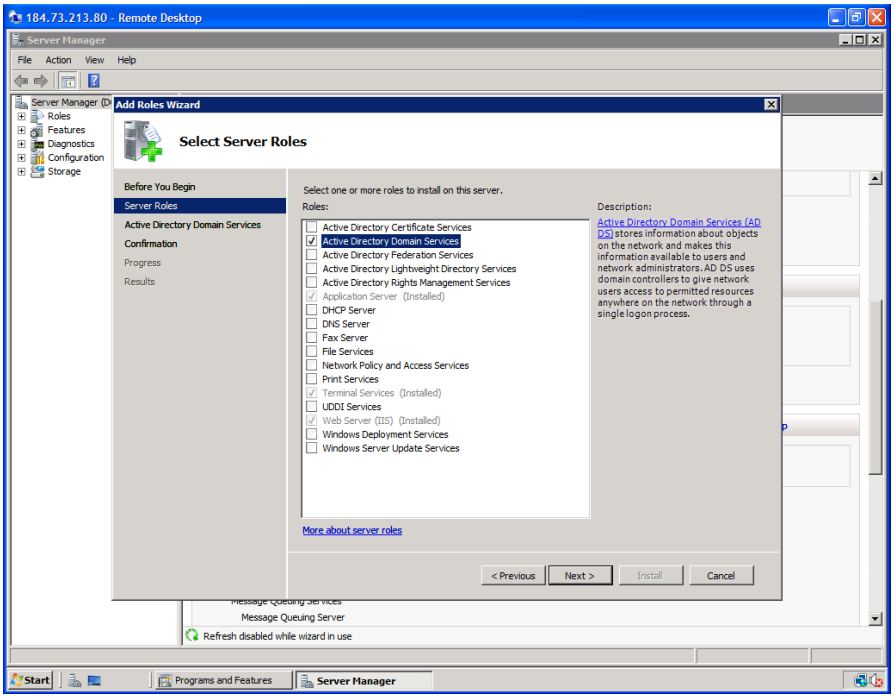
Reboot and Reconnect.

Domain Controller:

Navigate to Control Panel -> Programs and Features -> Turn Windows features on or off.

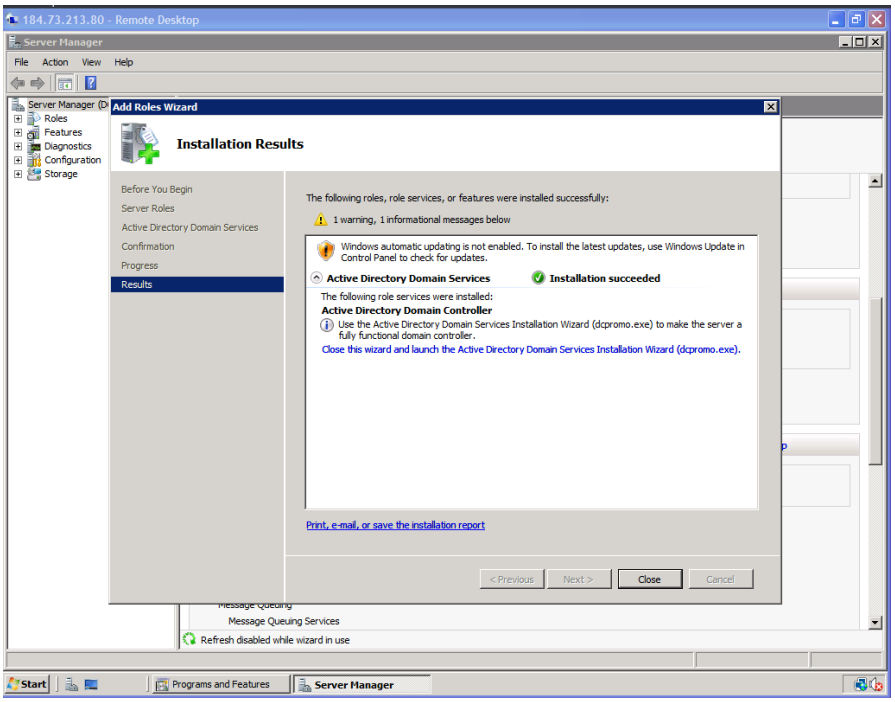
Add Roles.

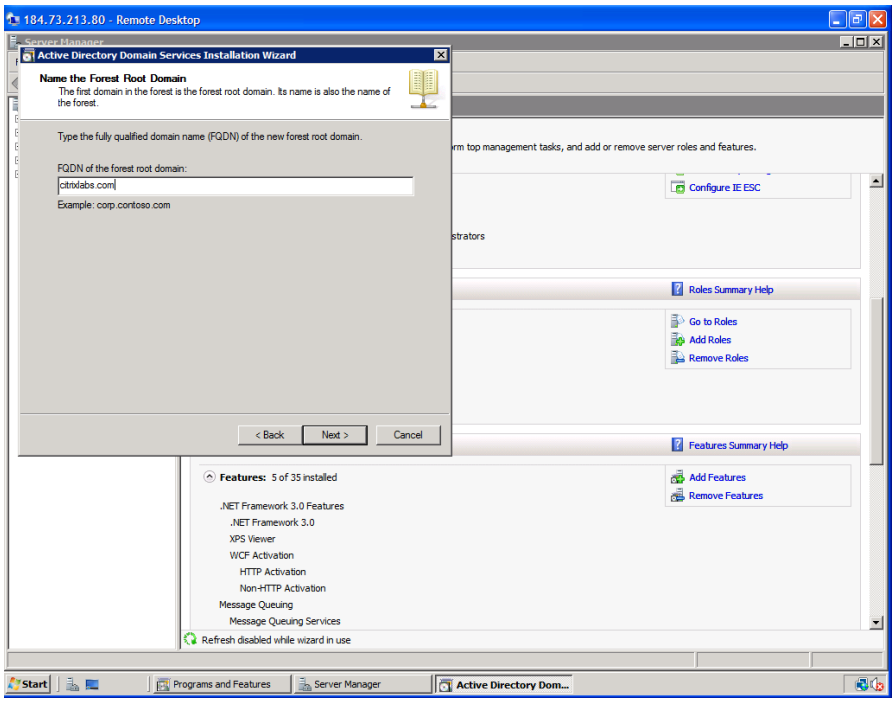
Add Active Directory Domain Services.



Domain Controller:

After Domain Services is installed, run dcpromo.exe.



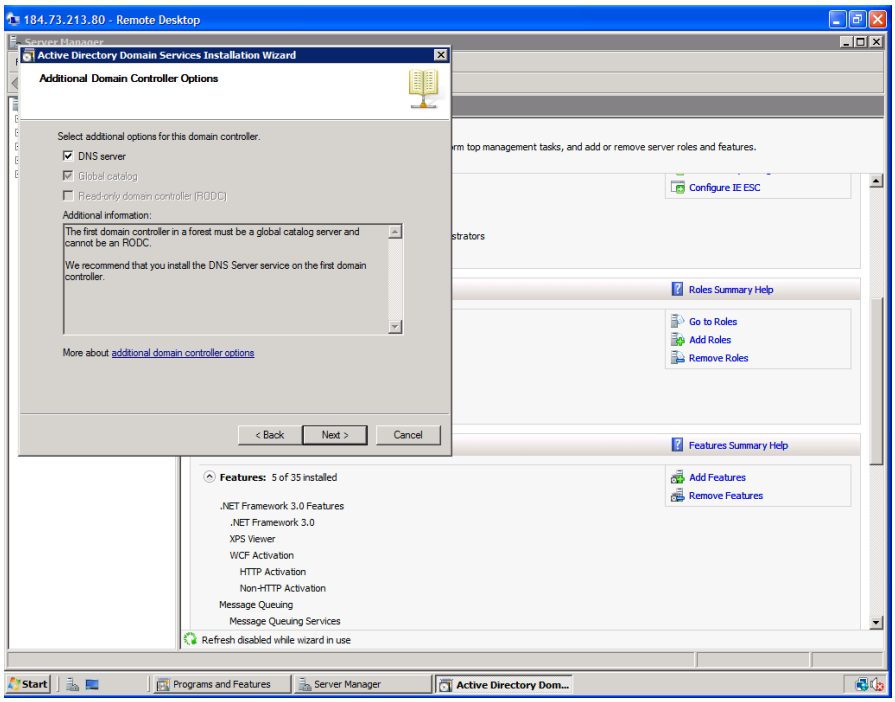


Domain Controller:

Ignore the warning messages.

We are creating a domain in a new forest.

For this POC, the domain is citrixlabs.com.



Domain Controller:

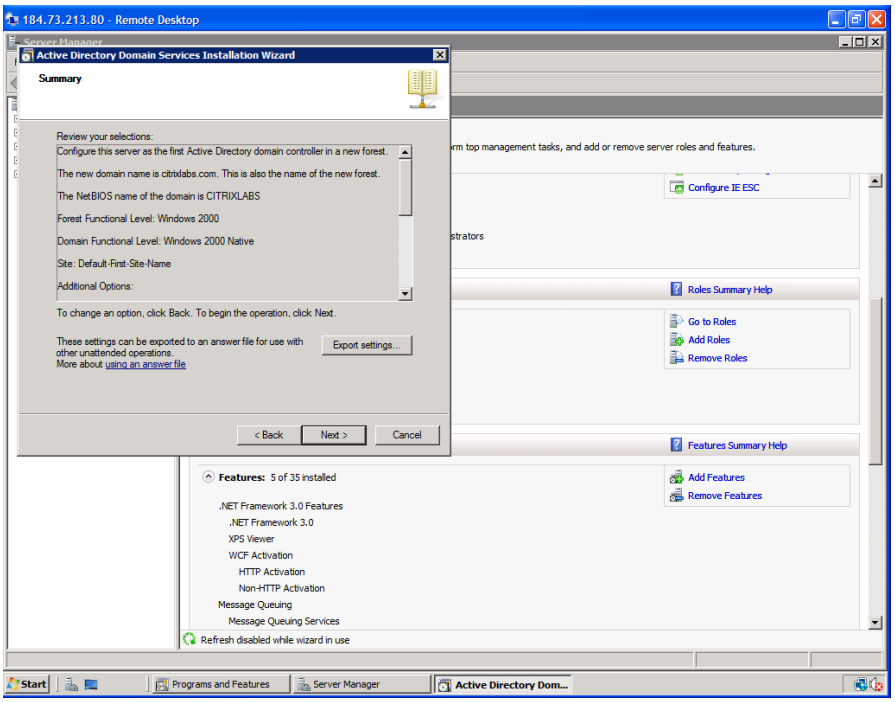
Install DNS on this machine.

Note: Respond “Yes” to the question if you will use a dynamic IP Address - which is assigned by Amazon. In fact, you will be using an Elastic IP address, or Static IP address for this server.

Respond “Yes” to continue if a delegation cannot be found.

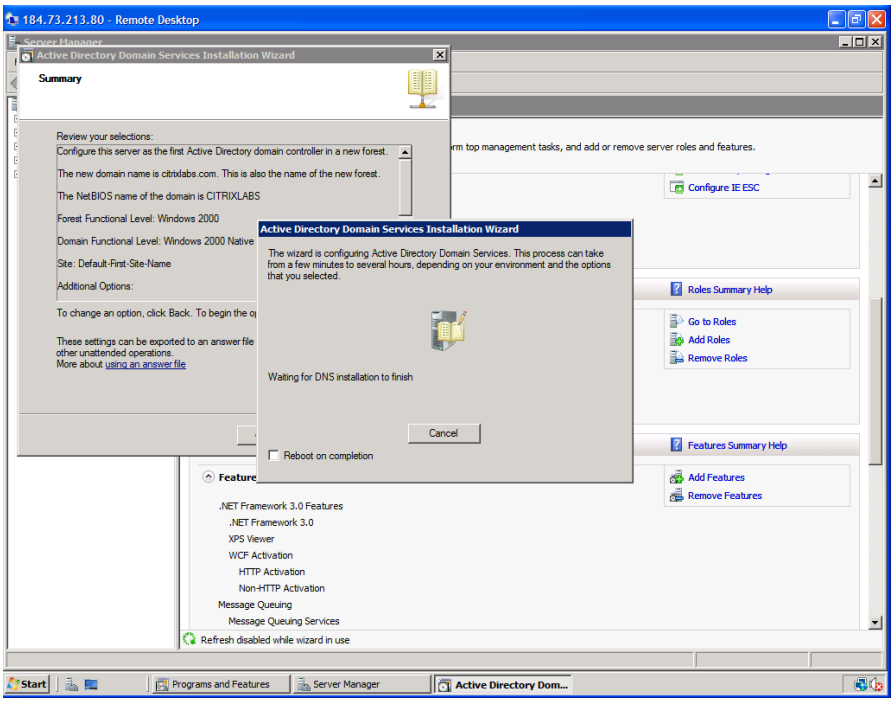
Domain Controller:

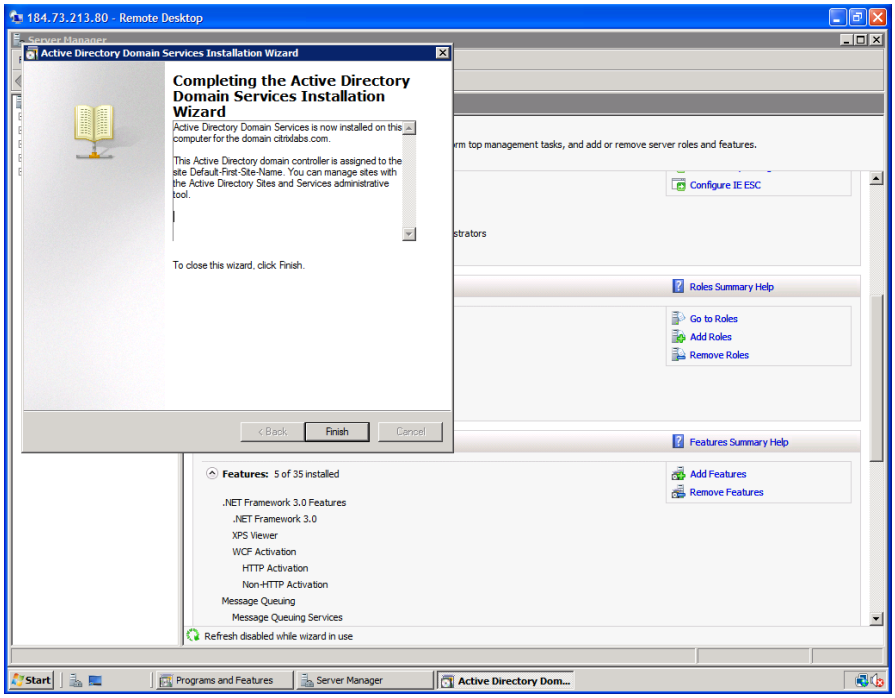
Review and continue.



Domain Controller:

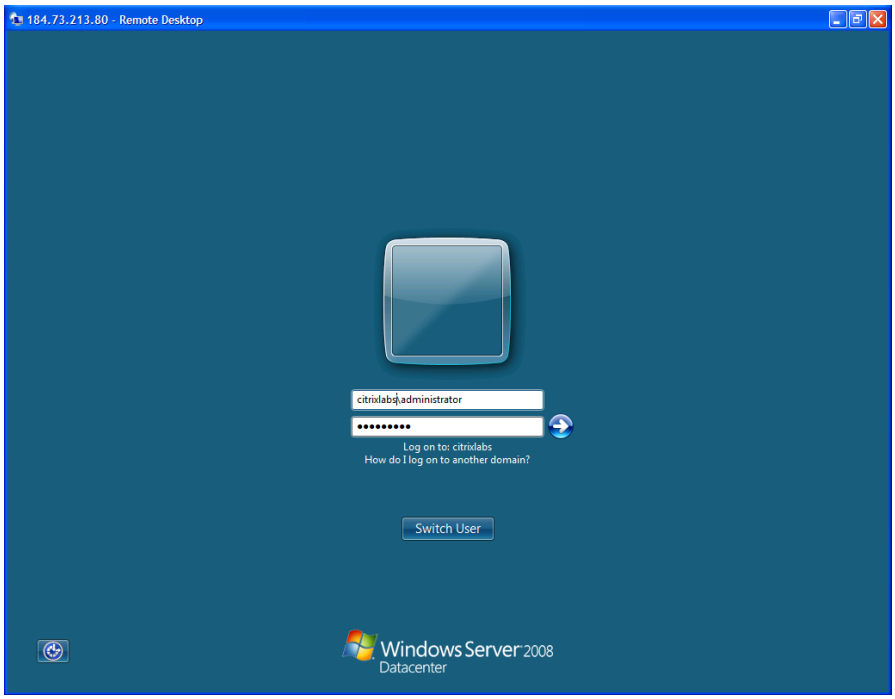
DNS and ADS is installed.





Domain Controller:

When finished, reboot.



Domain Controller:

To login, you need to use the domain credentials.

ex: citrixlabs\administrator

XenApp Install

XenApp License Server

Install the XenApp License server.

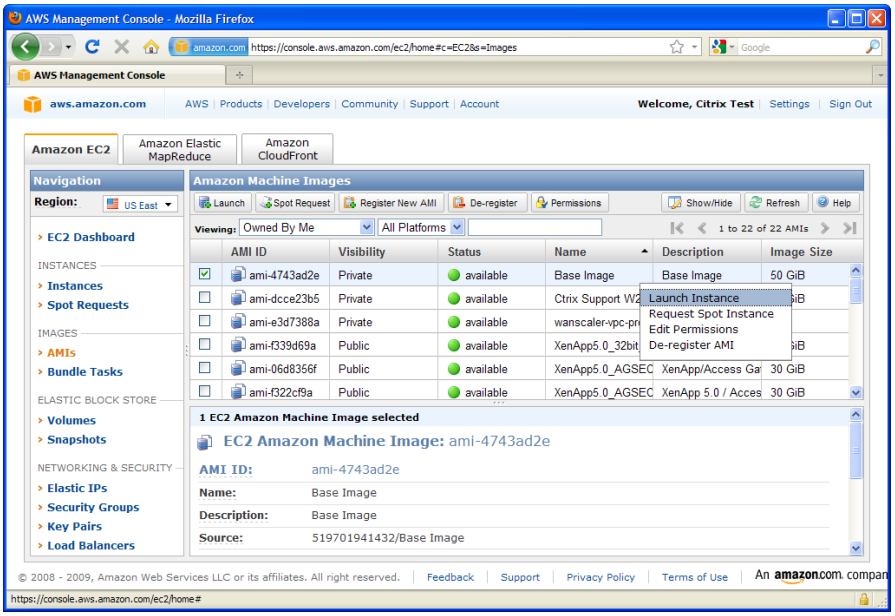
Launch Instance:

From the Amazon EC2 Dashboard, select AMIs.

Find the image that we created as XenApp Base Image.

Launch an instance of this image.

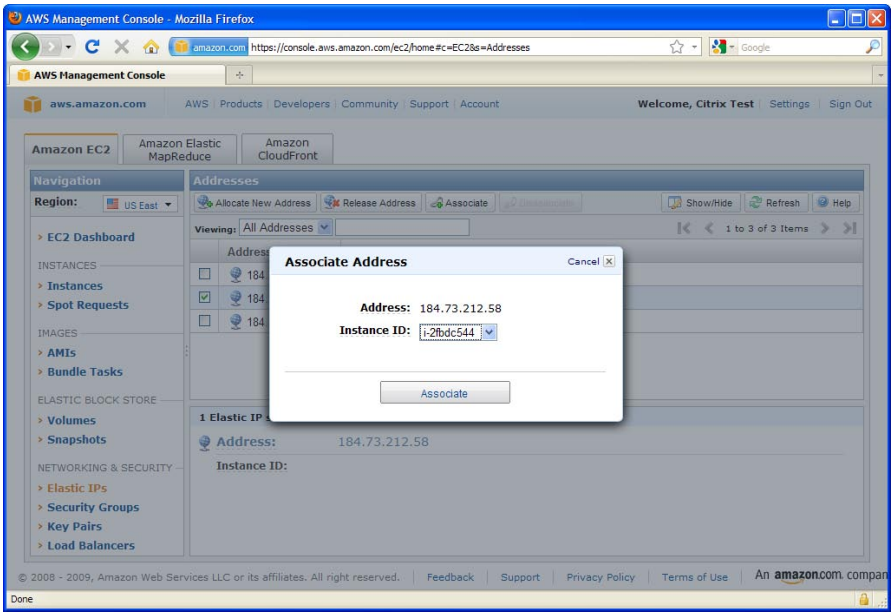
Follow the remaining prompts.

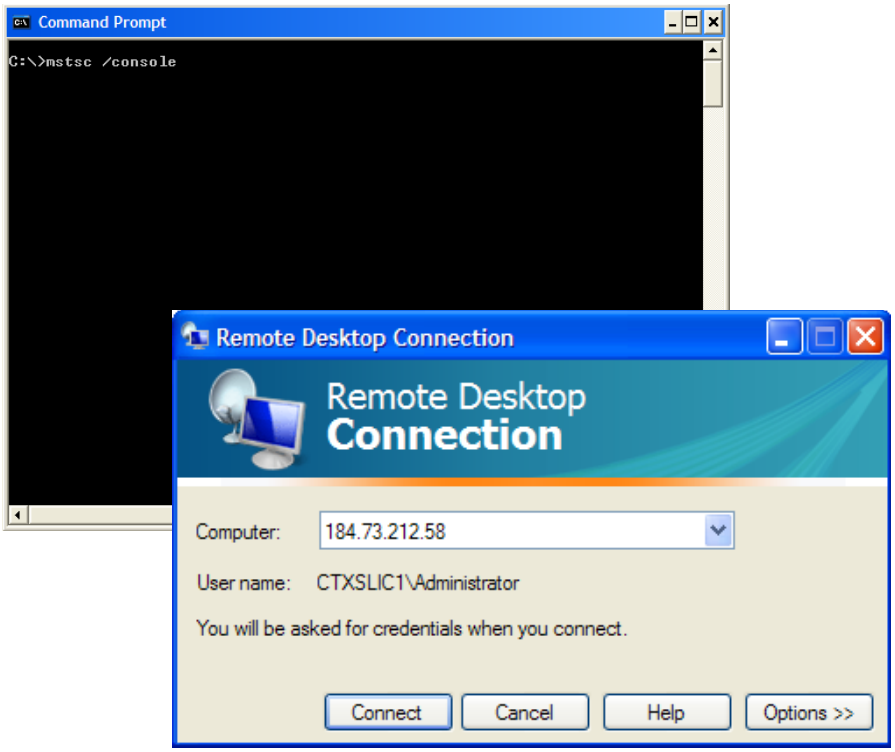


Elastic IP:

From the Amazon EC2 Dashboard, select Elastic IPs.

Allocate a new IP Address and assign it to the instance.



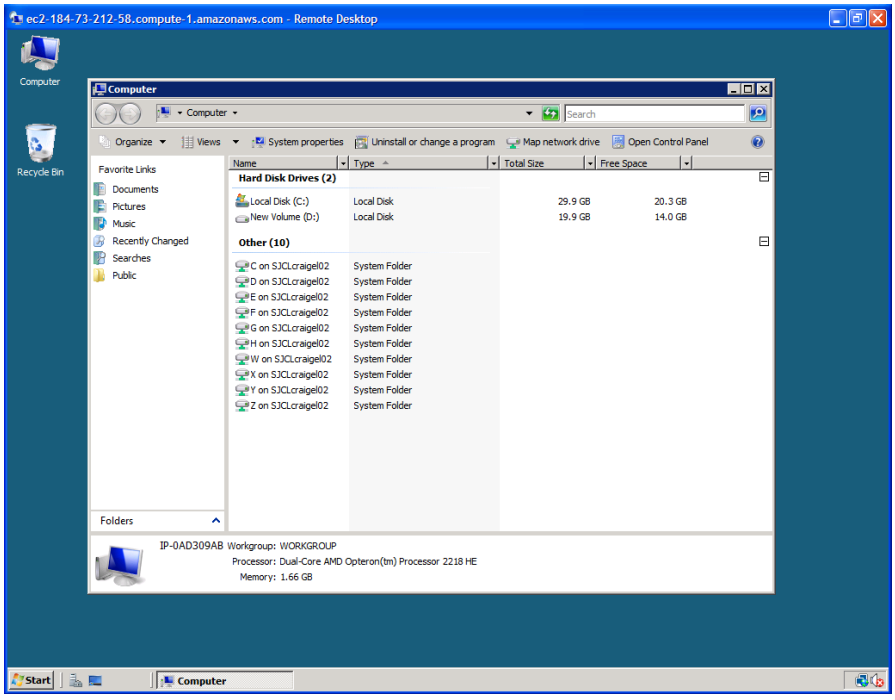


Connect:

Connect to the instances IP Address you just assigned, by running Remote Desktop from your local computer.

From a command prompt:

mstsc /console

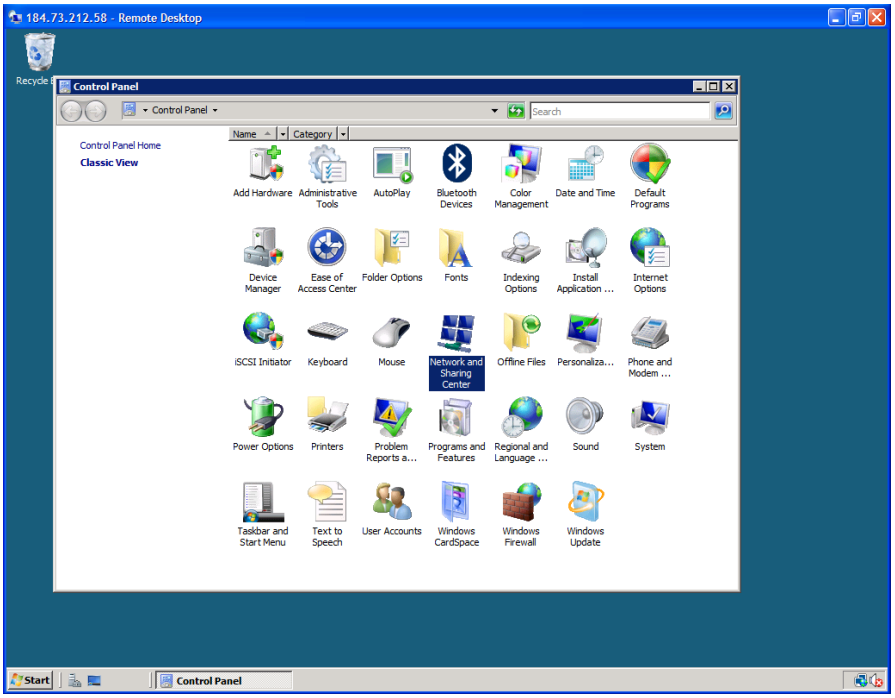


Connect:

Once logged into the instance, open Computer, you should see the D: drive still connected. If not, attach it to the instance. You can find it under volumes in the EC2 Dashboard.

License Server:

Navigate to Control Panel -> Network and Sharing Center.



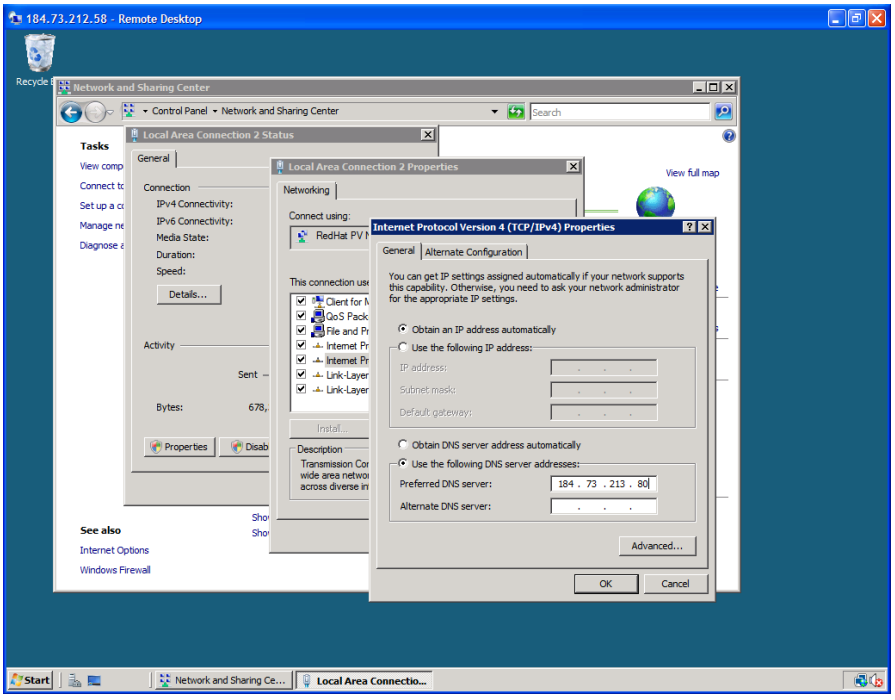
License Server:

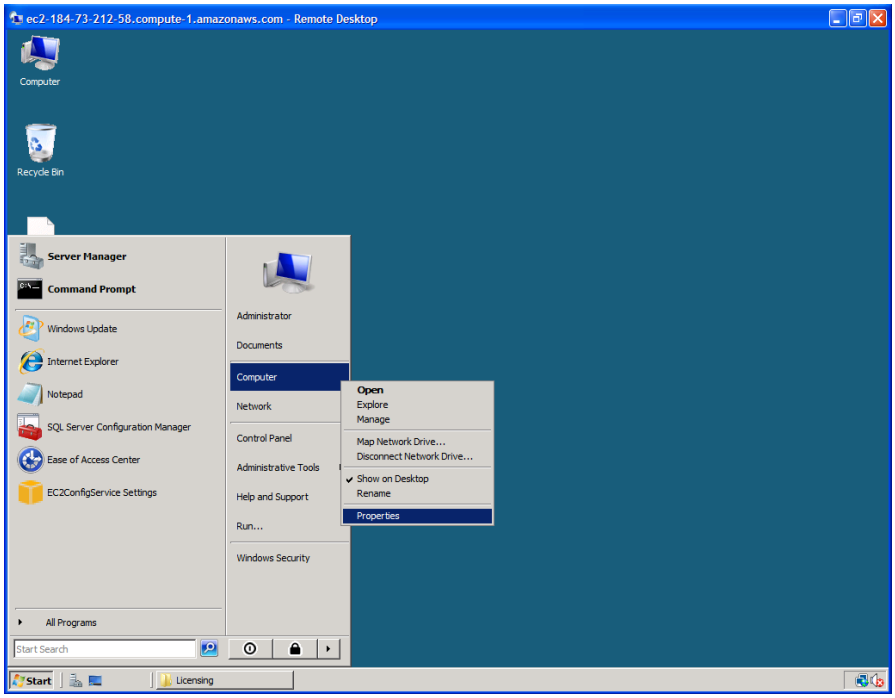
In the IPv4 Properties, use the following DNS server address:

184.73.213.80.

Note: This address will be different for your implementation. It is the Elastic IP Address you assigned to your Domain Controller through the Amazon Console.

This will allow the License Server to join the domain citrixlabs.com.

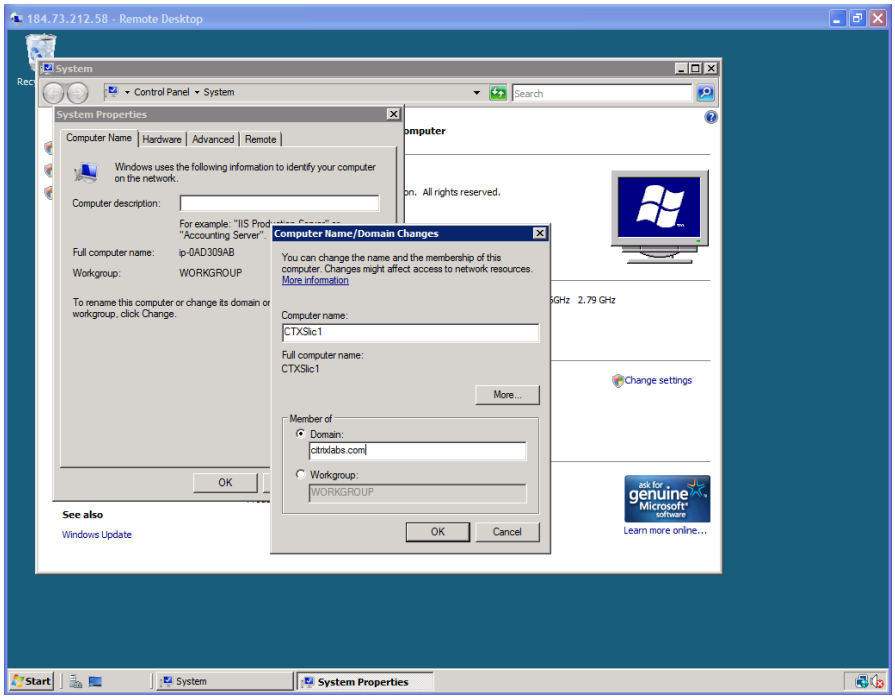




License Server:

Because the License is tied to hostname, you will want to set the Computer Name, and reboot.

Navigate to Computer -> Right-Click -> Properties.



License Server:

Change Settings for Hostname.

In our example, we set the License Server hostname to CTXSlic1.

Note: Hostname is tied to the Citrix License.

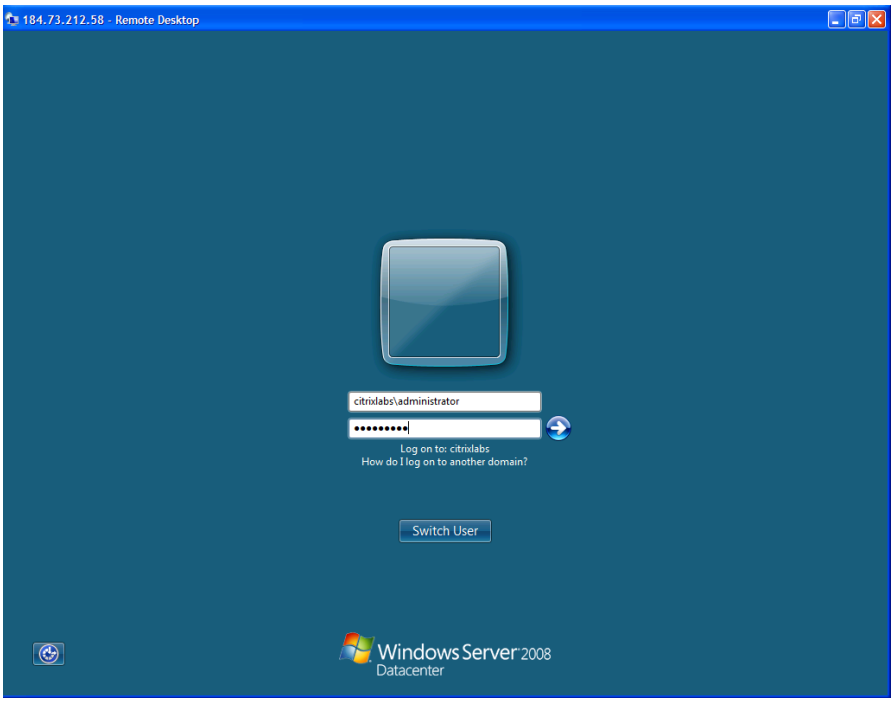
Also, you will need to join the domain. In this example, it is citrixlabs.com

Reboot and Reconnect using Remote Desktop.

License Server:

You will need to login with domain credentials. For example:

citrixlabs\administrator

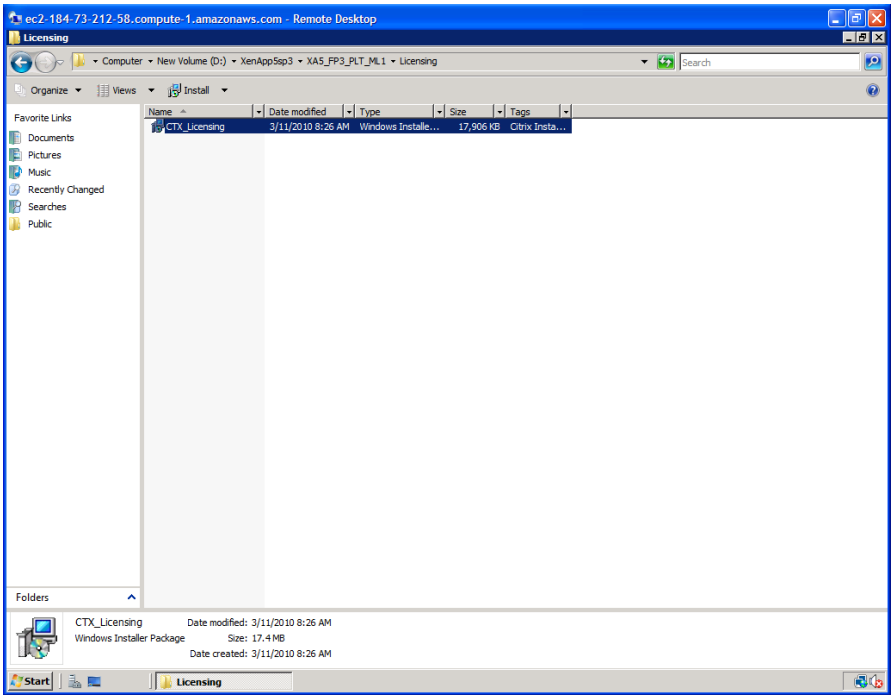


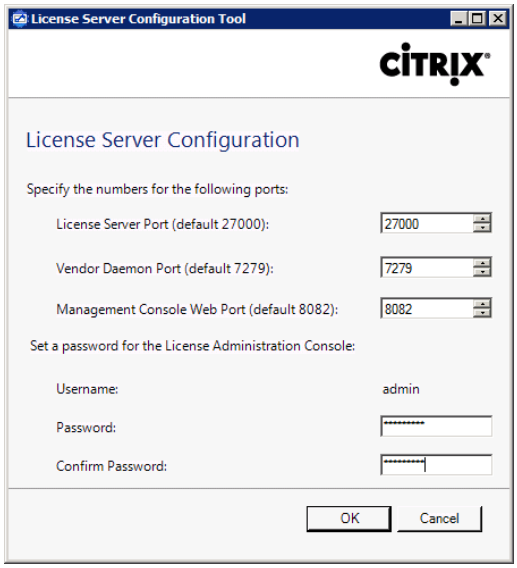
License Server:

Navigate to the D: drive,

Citrix Licensing folder.

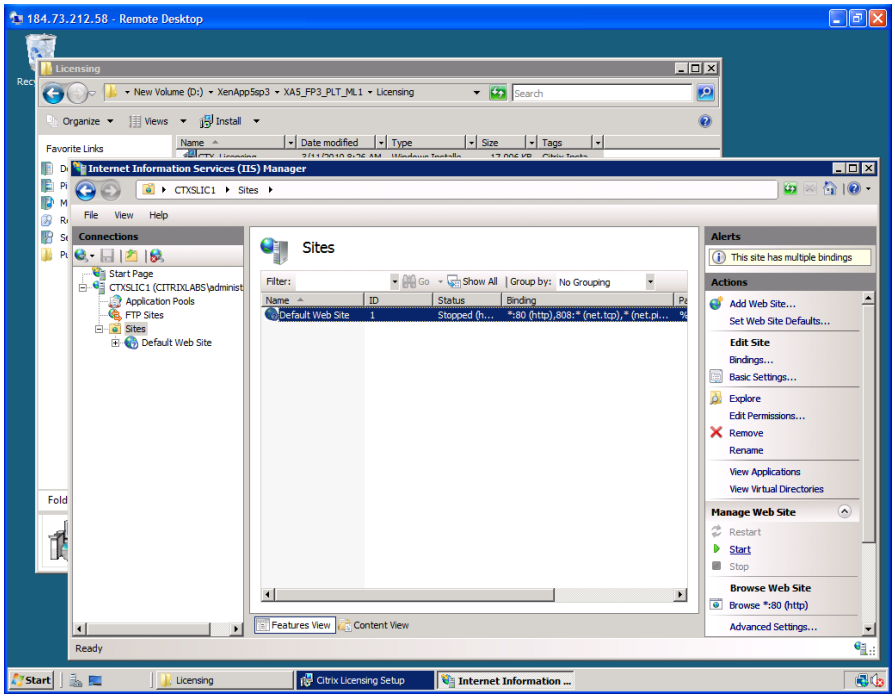
Run the CTX_Licensing.msi install.





License Server:

Configure License Server.



License Server:

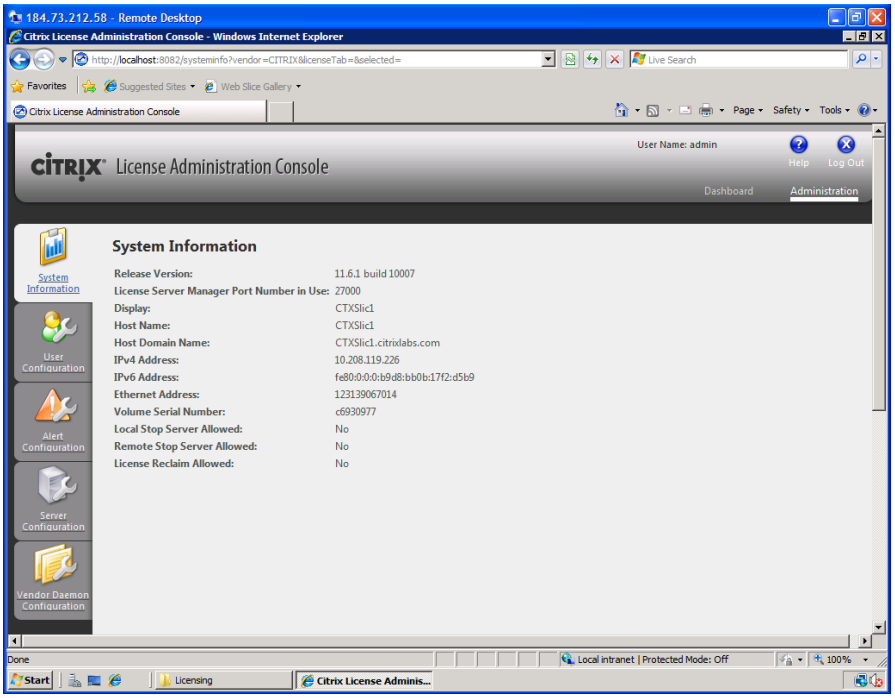
By default, Amazon AMI's have IIS stopped. You must start it manually, and set the service to start automatically if you want the configuration GUI for License Server to work.

License Server:

Launch the License Administration Console.

Start -> All Programs -> Citrix -> Management Consoles -> License Administration Console.

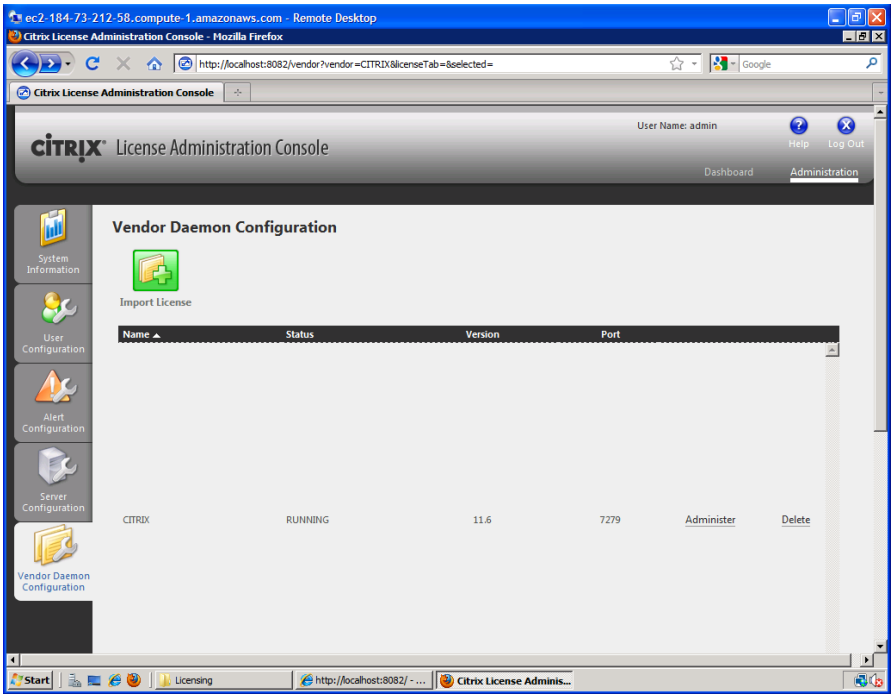
Log into the License Administrator Console, under Administration.

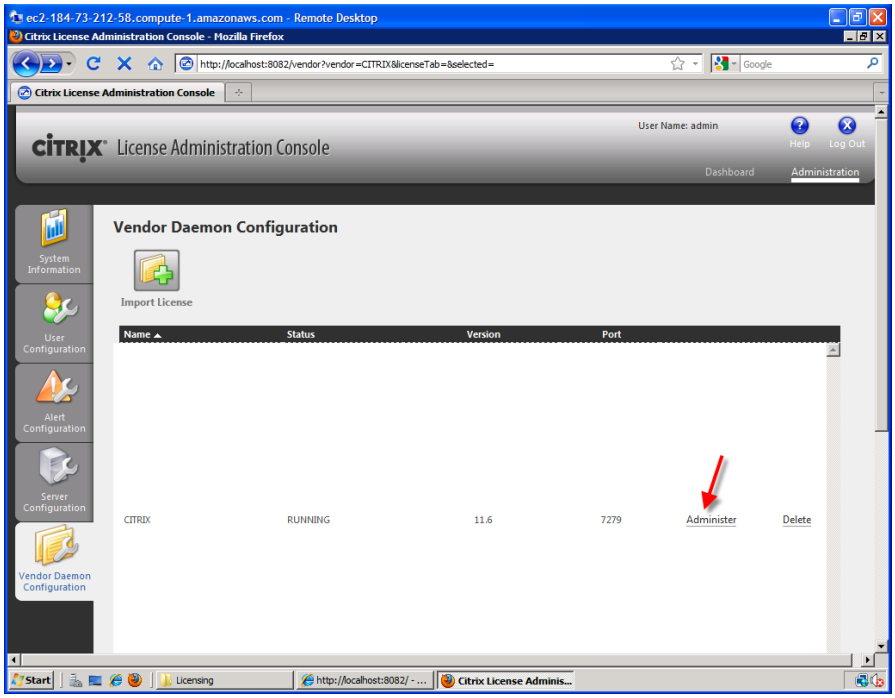


License Server:

Select Vendor Daemon Configuration -> Import License.

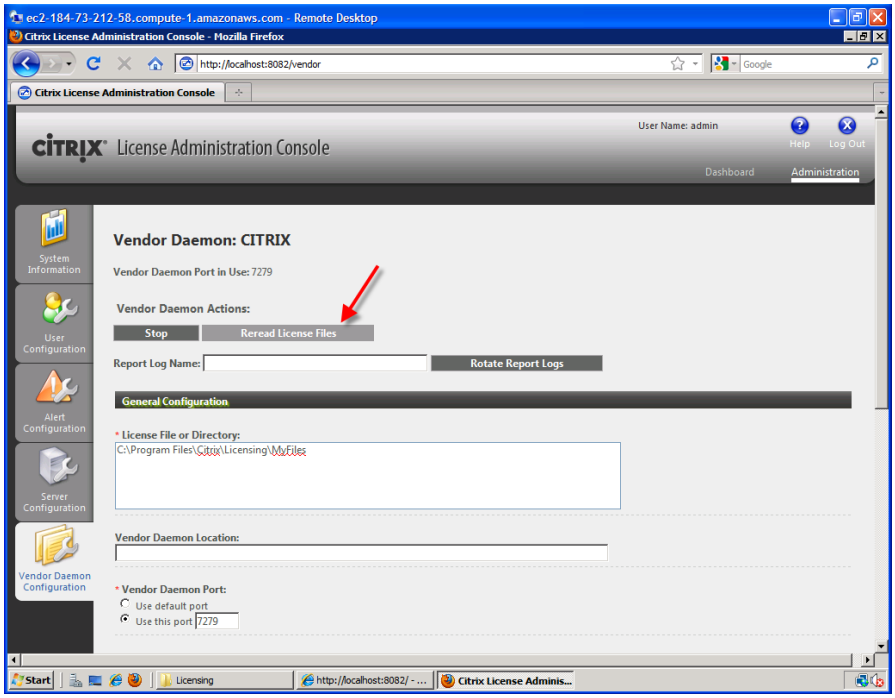
Install the License file you obtained from MyCitrix.com.





License Server:

Select the Administer link.



License Server:

Reread License Files.

XenApp Web Interface

Install the XenApp Web Interface

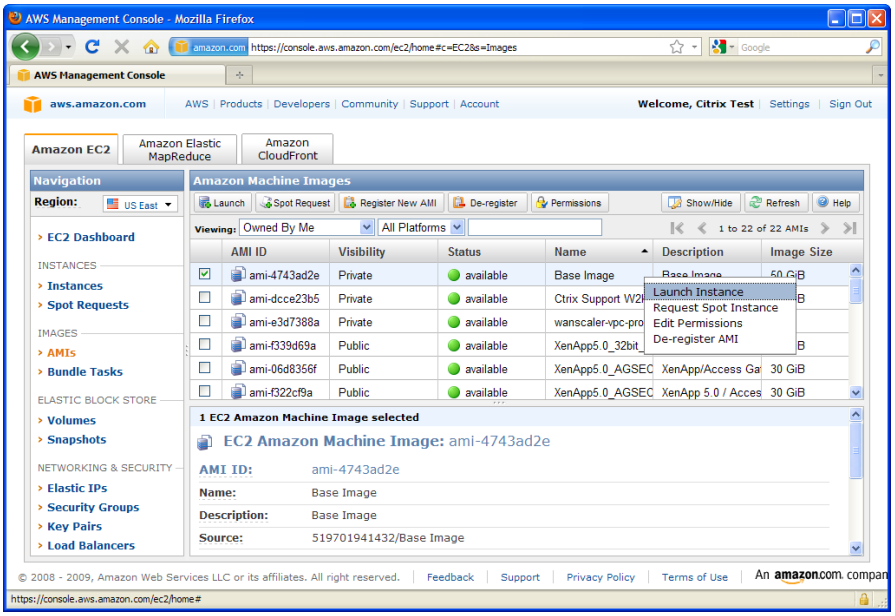
Launch Instance:

From the Amazon EC2 Dashboard, select AMIs.

Find the image that we created as XenApp Base Image.

Launch an instance of this image.

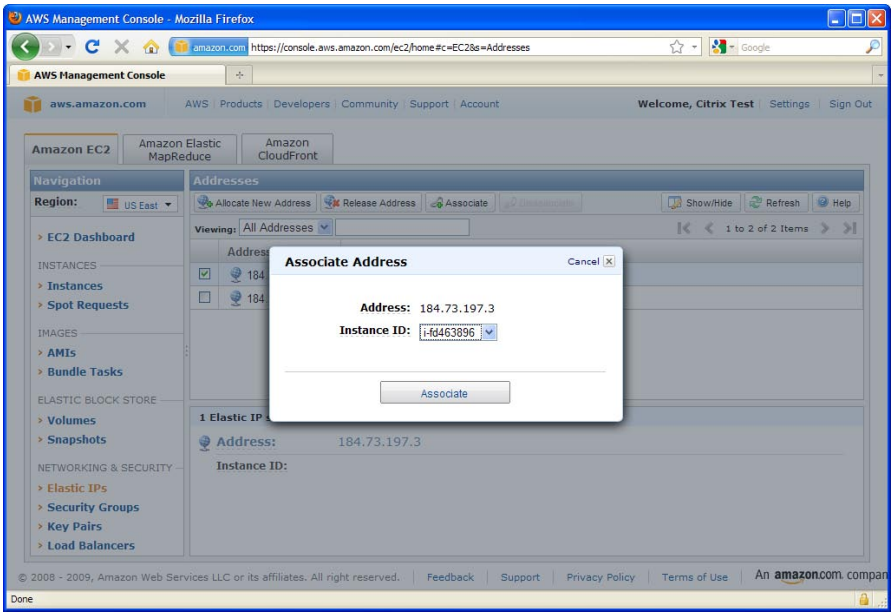
Follow the remaining prompts.

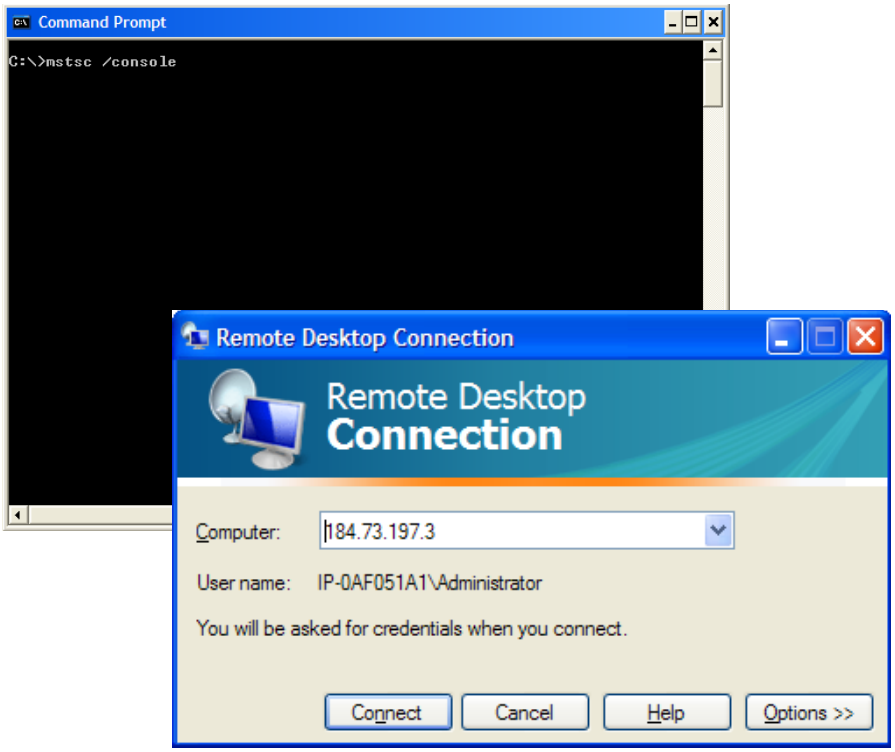


Elastic IP:

From the Amazon EC2 Dashboard, select Elastic IPs.

Allocate a new IP Address and assign it to the instance.



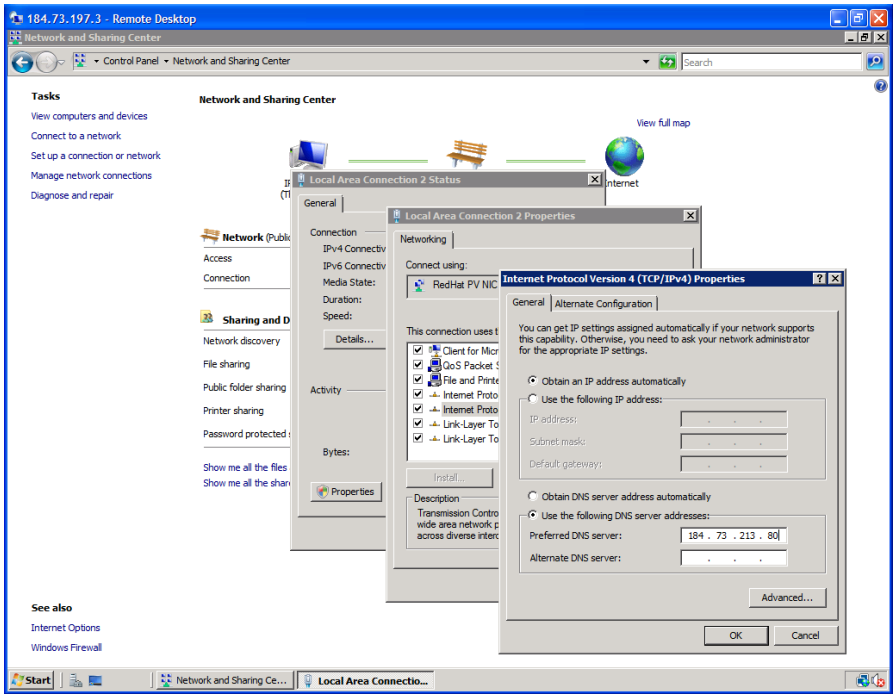


Connect:

Connect to the instances IP Address you just assigned, by running Remote Desktop from your local computer.

From a command prompt:

mstsc /console



DNS Settings:

Navigate to Control Panel -> Network and Sharing Center.

In the IPv4 Properties, use the following DNS server address:

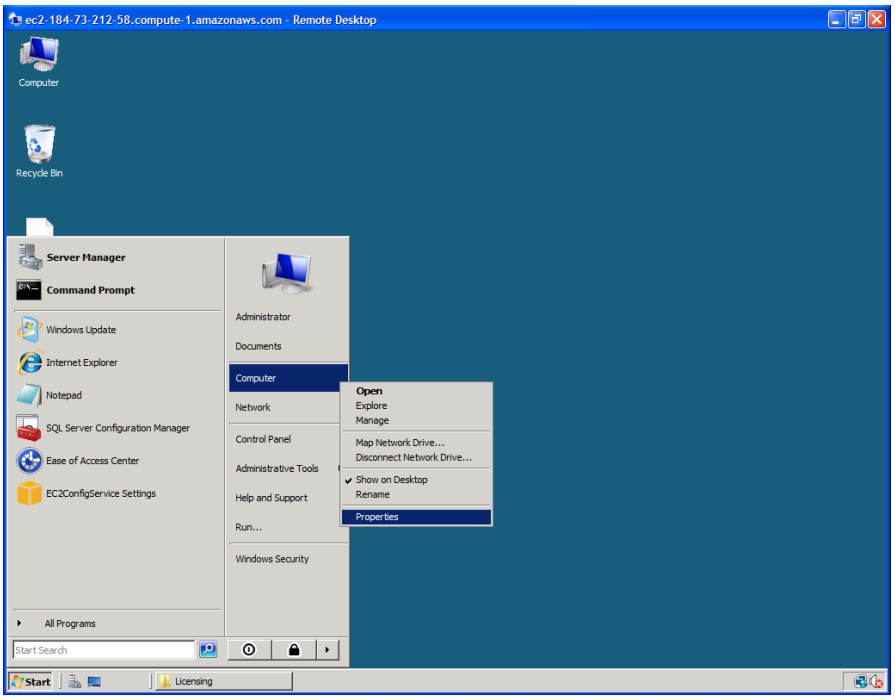
184.73.213.80.

Note: This address will be different for your implementation. It is the Elastic IP Address you assigned to your Domain Controller through the Amazon Console.

Web Interface:

As a matter of convenience it is recommended to change the hostname to something meaningful.

Navigate to Computer -> Right-Click -> Properties.



Web Interface:

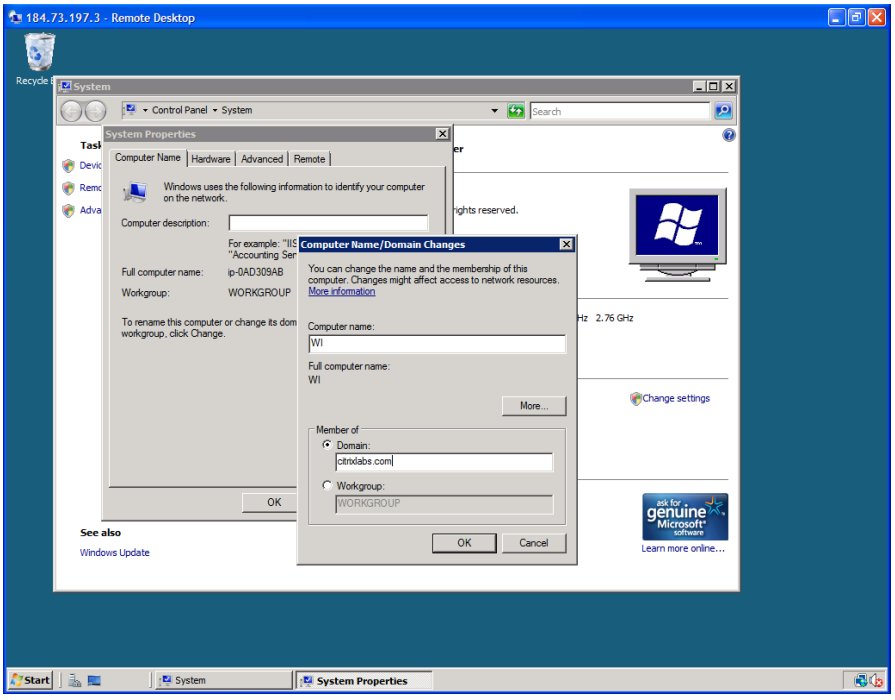
Change Settings for Hostname and join the domain.

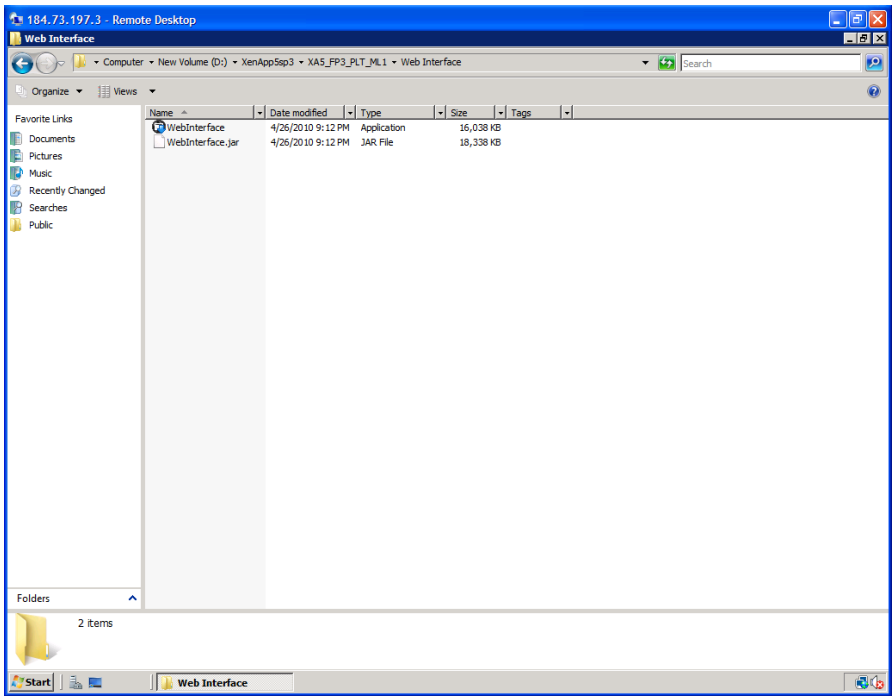
In this example:

Computer Name: WI

Domain: citrixlabs.com

Reboot and Reconnect using Remote Desktop.



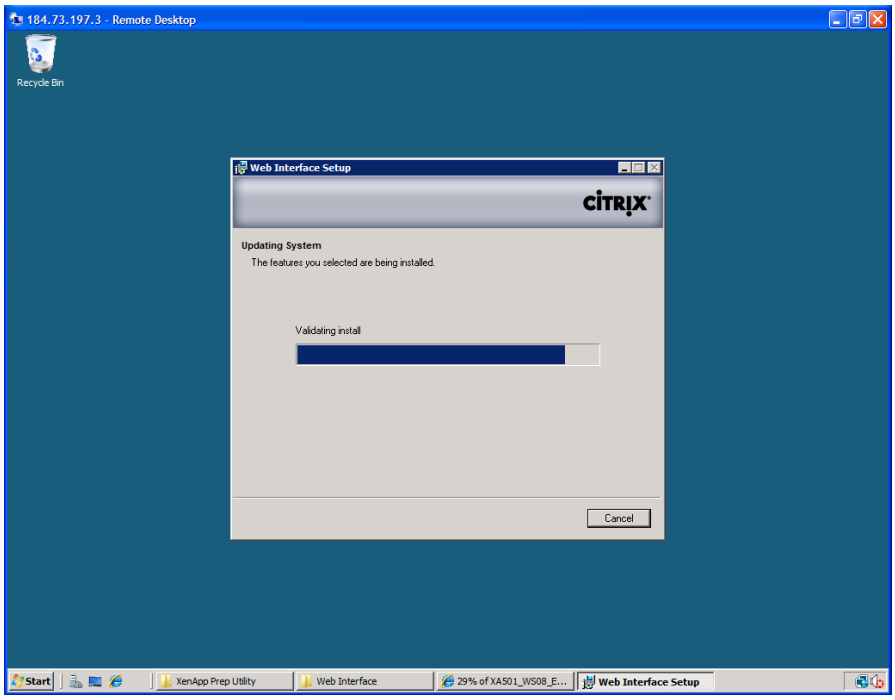


Web Interface:

Navigate to the XenApp install folder on drive D:.

Open the Web Interface folder, and run the WebInterface.exe installer.

Note: Microsoft Visual J# 2.0 can be downloaded from Microsoft's website.



Web Interface:

Install Web Interface.

Note: If you receive an error message that Web Interface cannot complete installation due to the fact that <domain>\ None is an invalid user or group, Remove the machine from the domain, install Web Interface, and the join the domain again.

Web Interface:

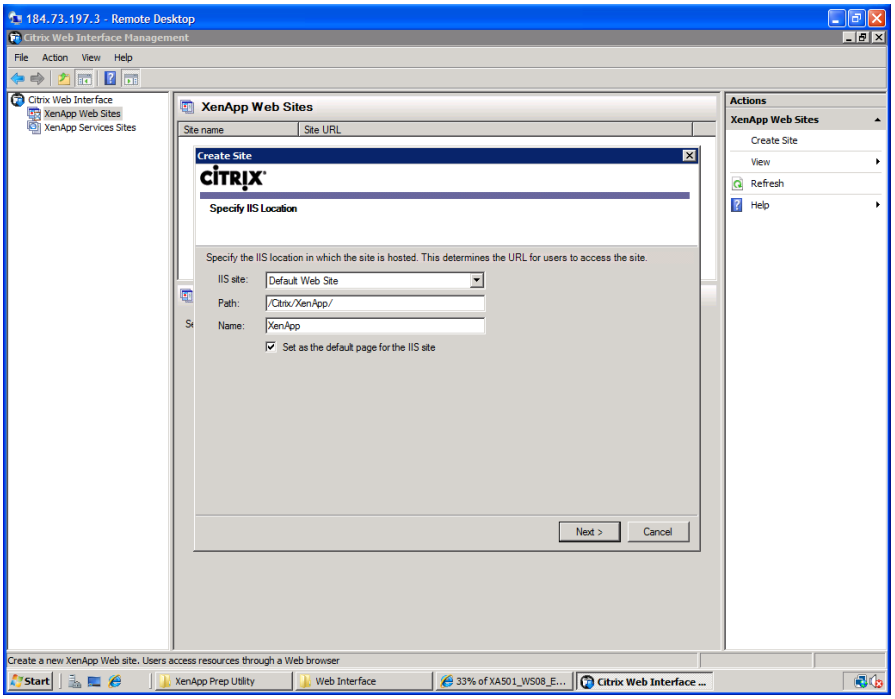
When the Web Interface Management console appears, select Create Site.

IIS: Default Web Site

Path: /Citrix/XenApp/

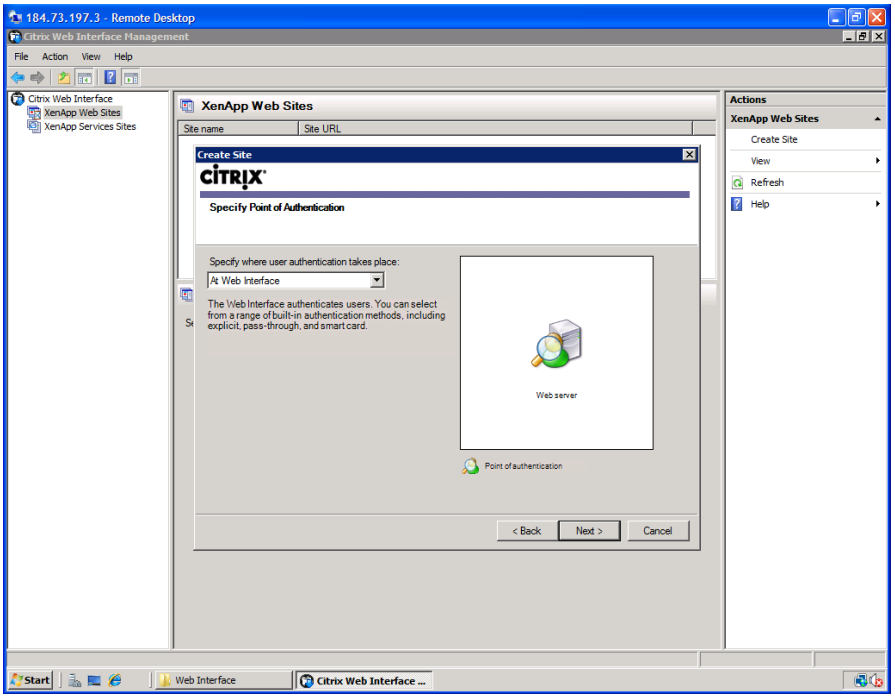
Name: XenApp

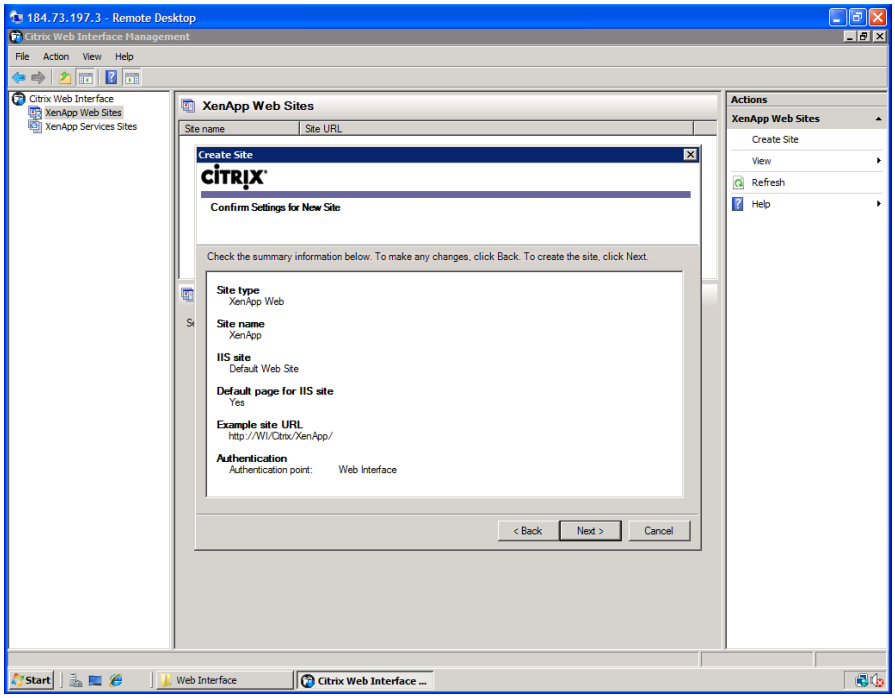
Set as default page for IIS



Web Interface:

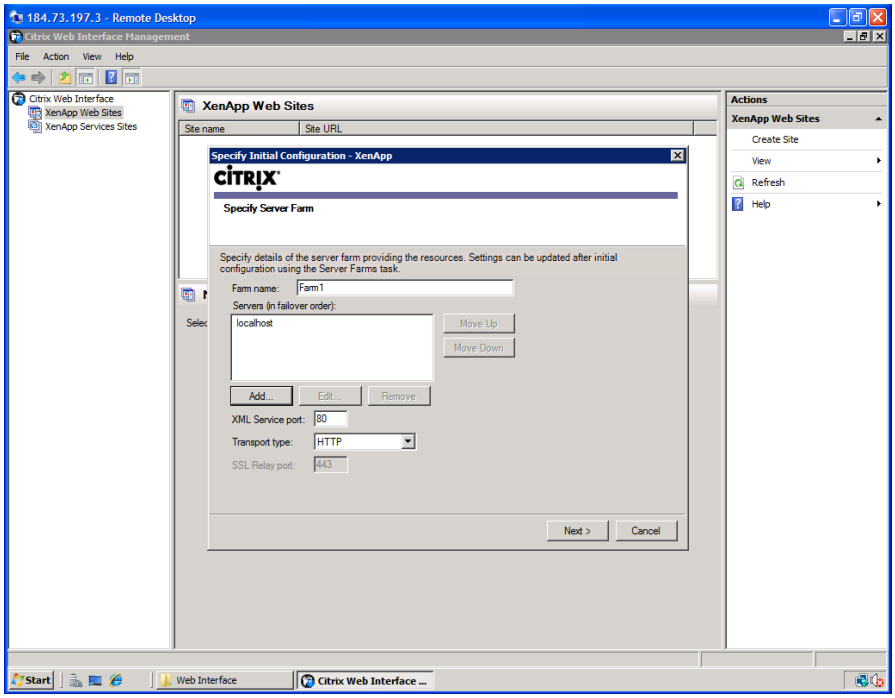
Authenticate at Web Interface.





Web Interface:

Confirm settings.



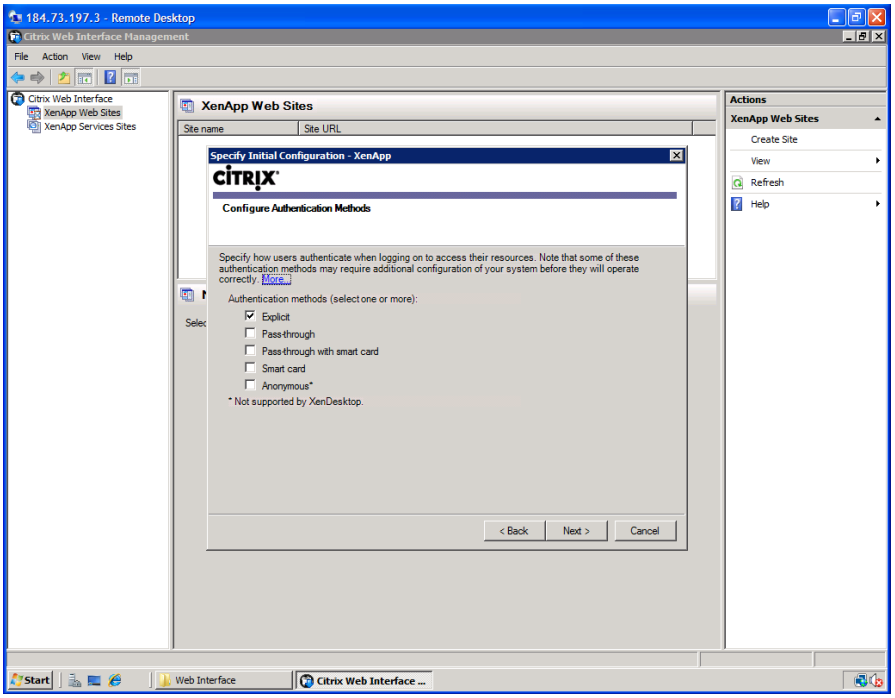
Web Interface:

Configure Initial Configuration.

Use localhost for now, until we get the XenApp servers installed.

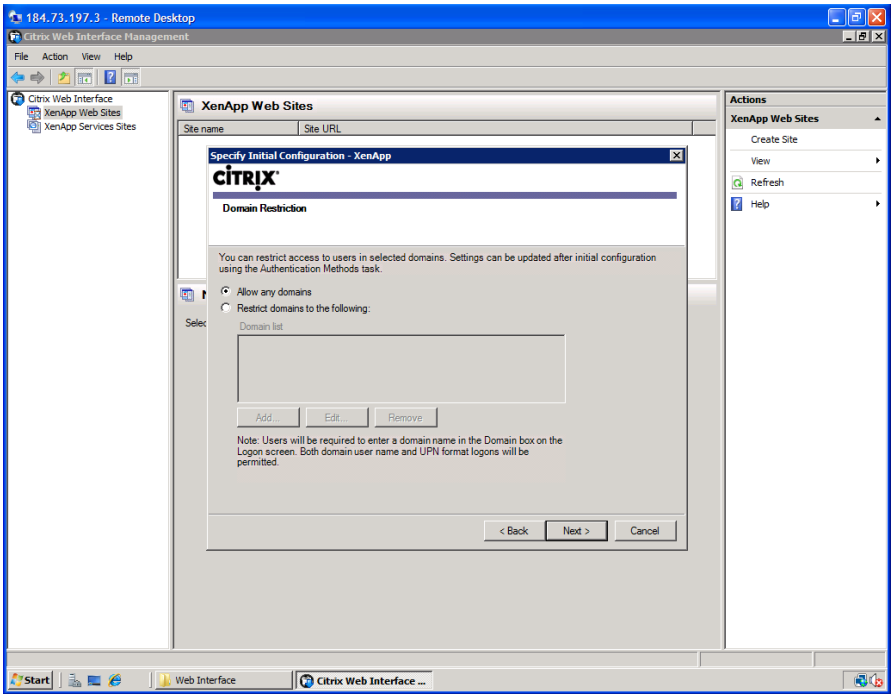
Web Interface:

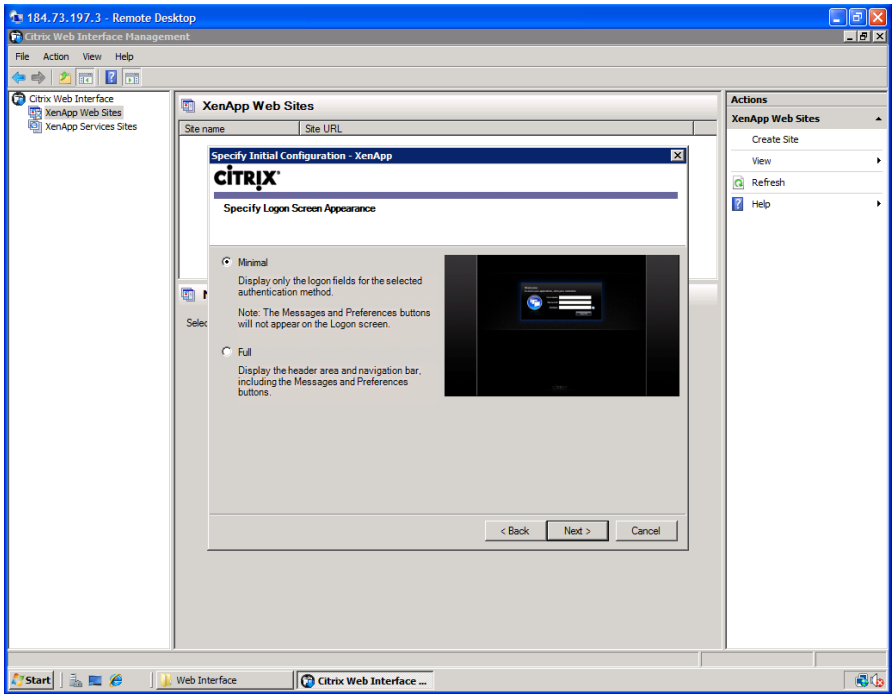
Authentication: Explicit



Web Interface:

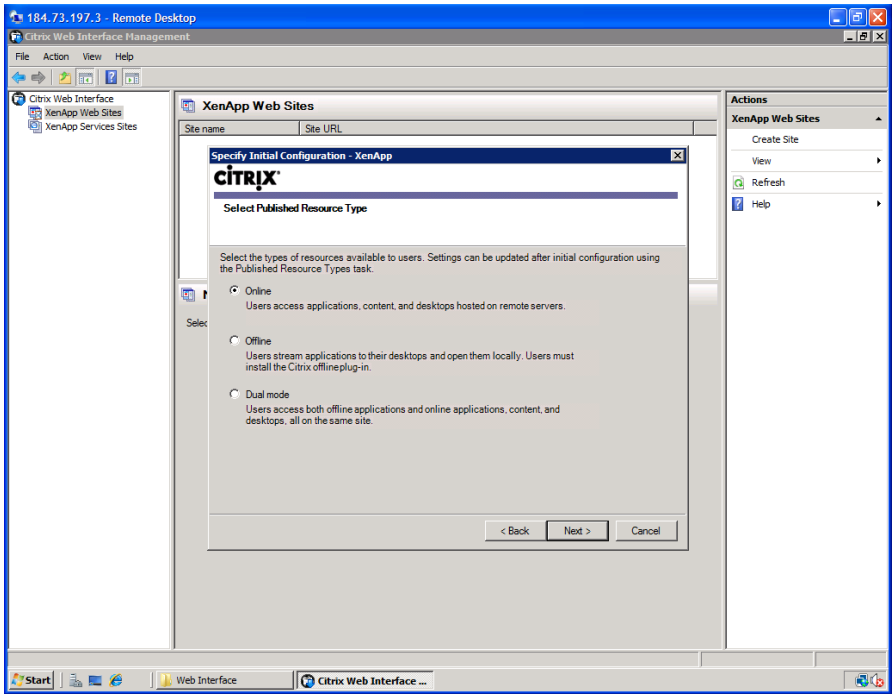
Allow any domains.





Web Interface:

Select screen appearance.

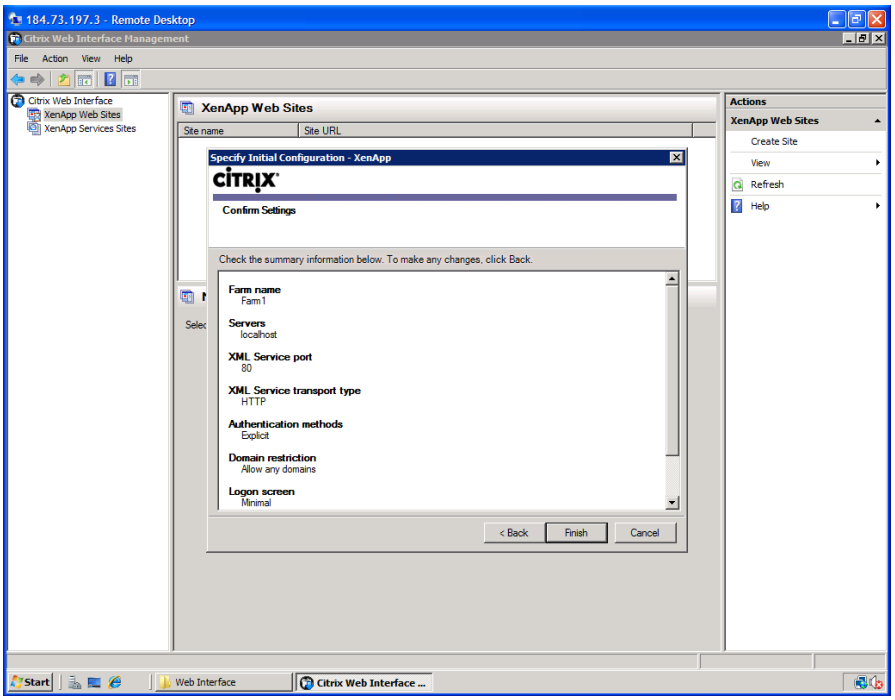


Web Interface:

Select resource type.

Web Interface:

Confirm and finish.



Services Site:

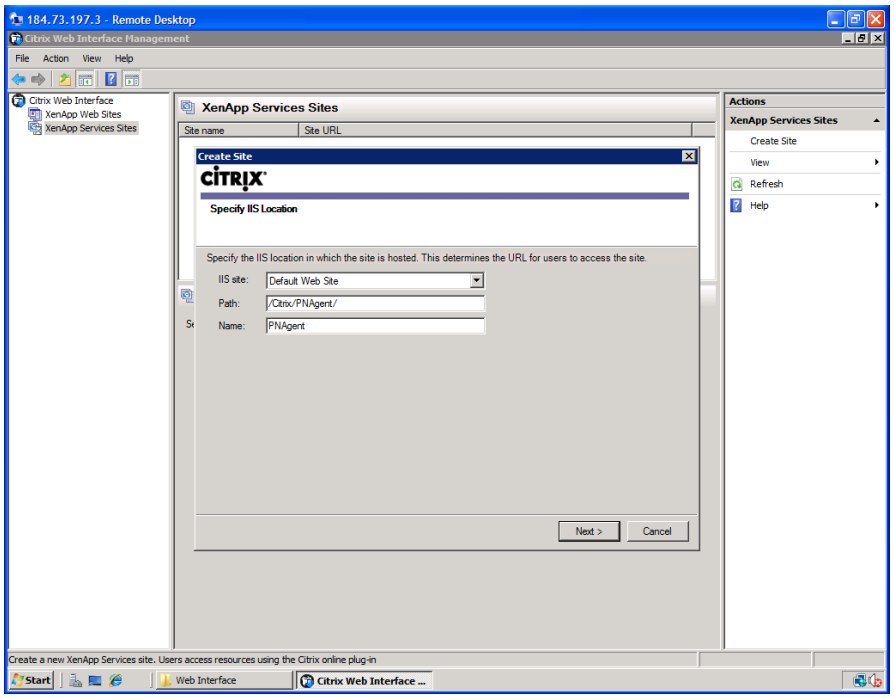
If users will access applications using the Citrix Plugin, you need to configure a XenApp Services Site.

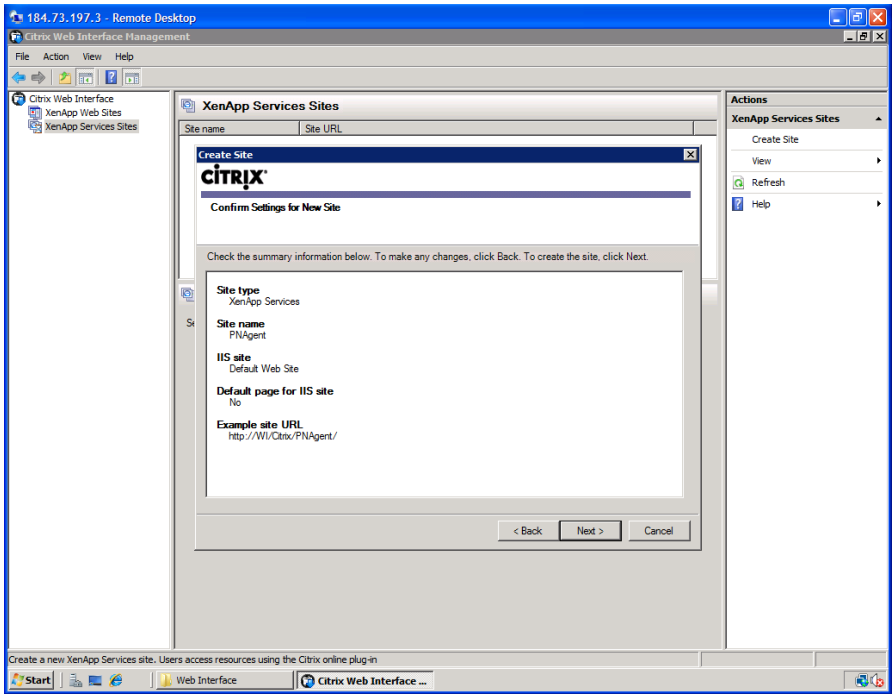
From Web Interface Management, select XenApp Services Site -> Create Site.

IIS: Default Web Site

Path: /Citrix/PNAgent/

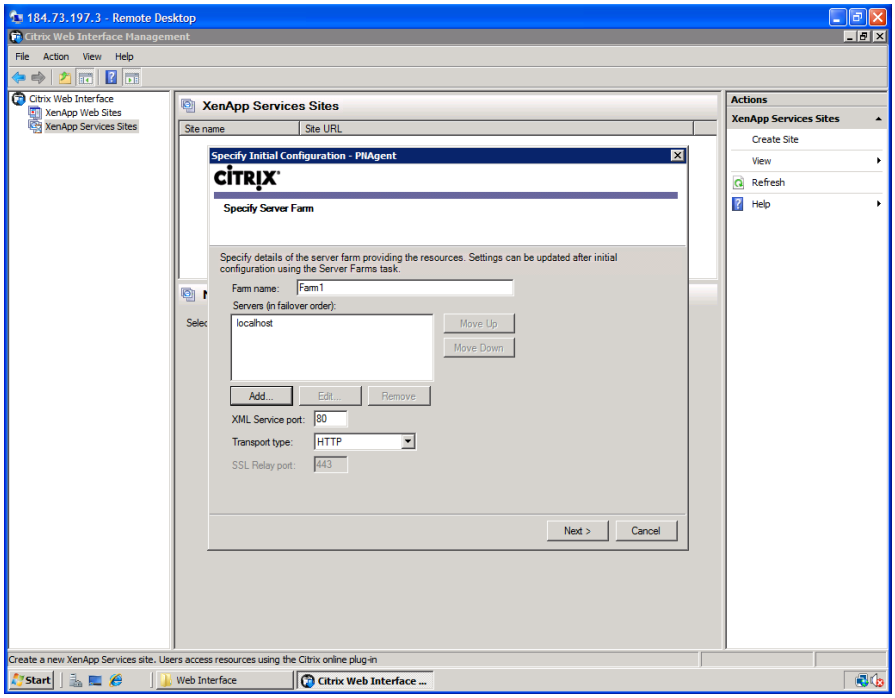
Name: PNAgent





Services Site:

Confirm and install.



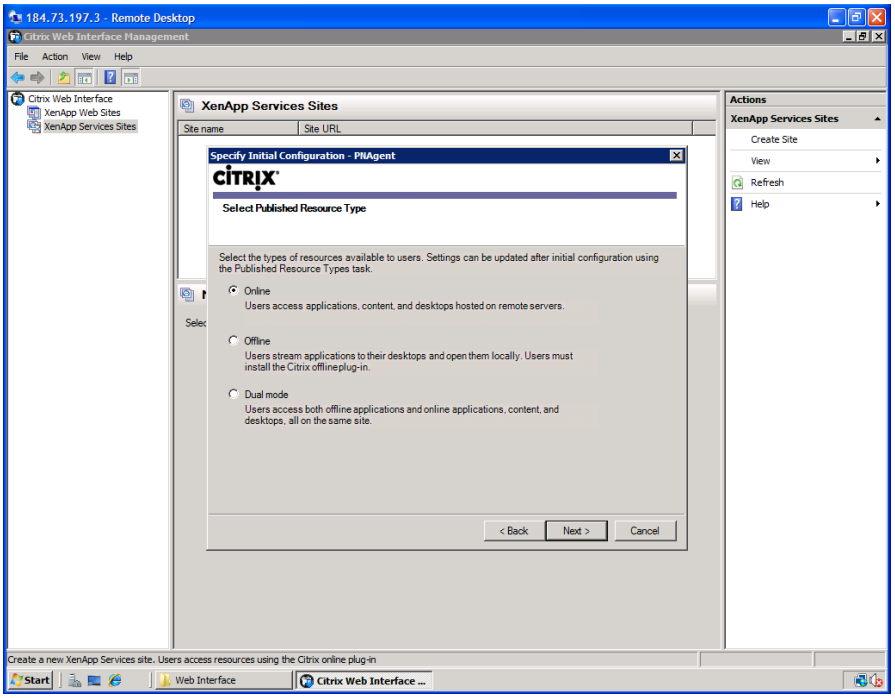
Services Site:

Configure.

Use Localhost for now.

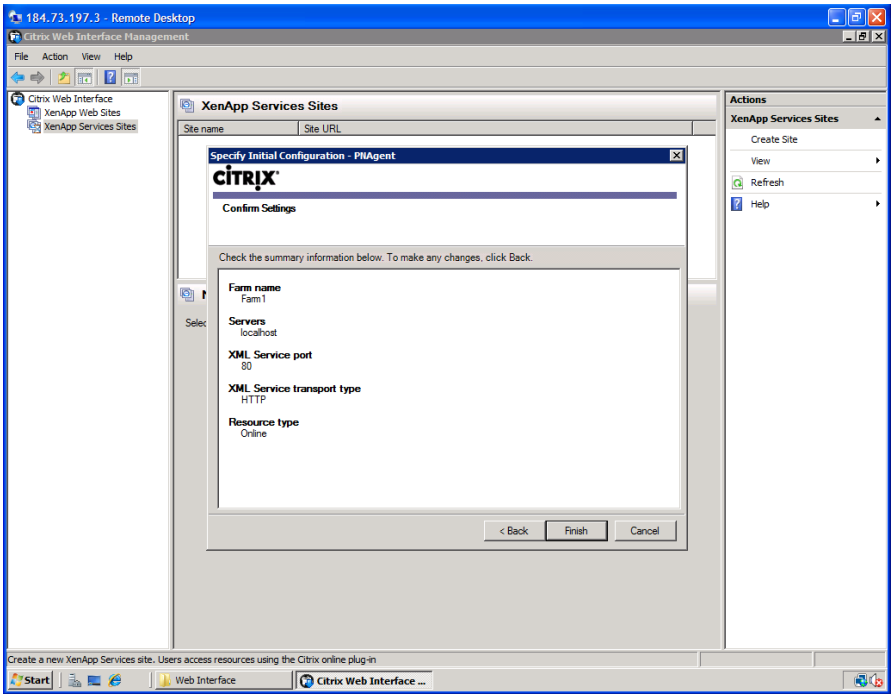
Services Site:

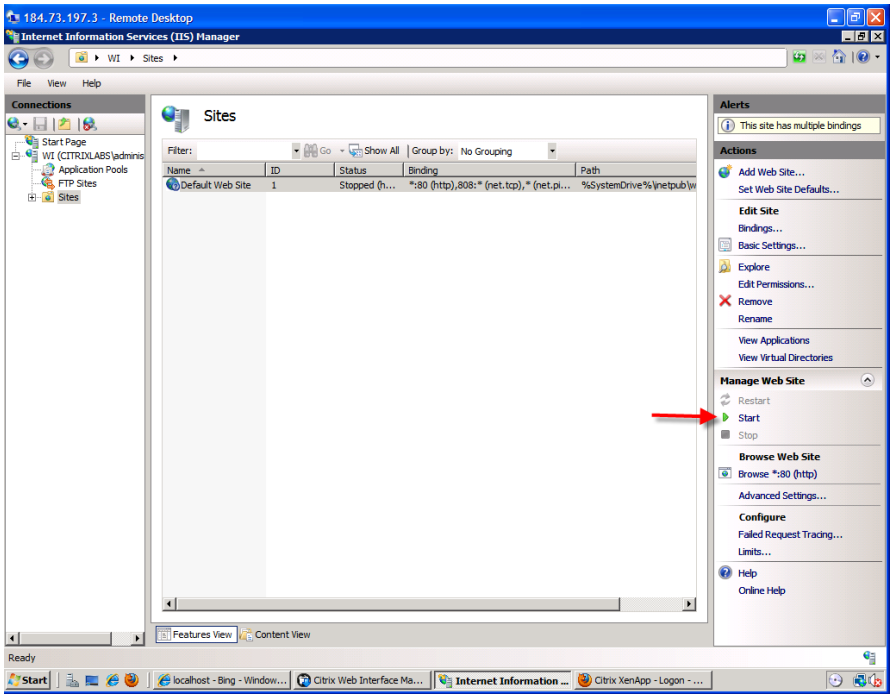
Select Published Resource Type.



Services Site:

Confirm.





IIS:

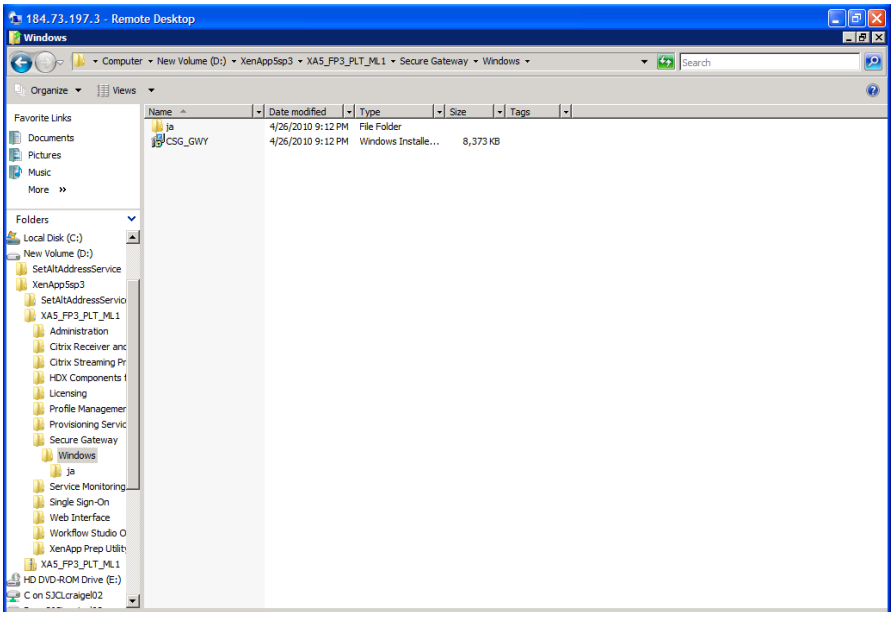
Make sure IIS is started and running.

Secure Gateway

Install the Secure Gateway

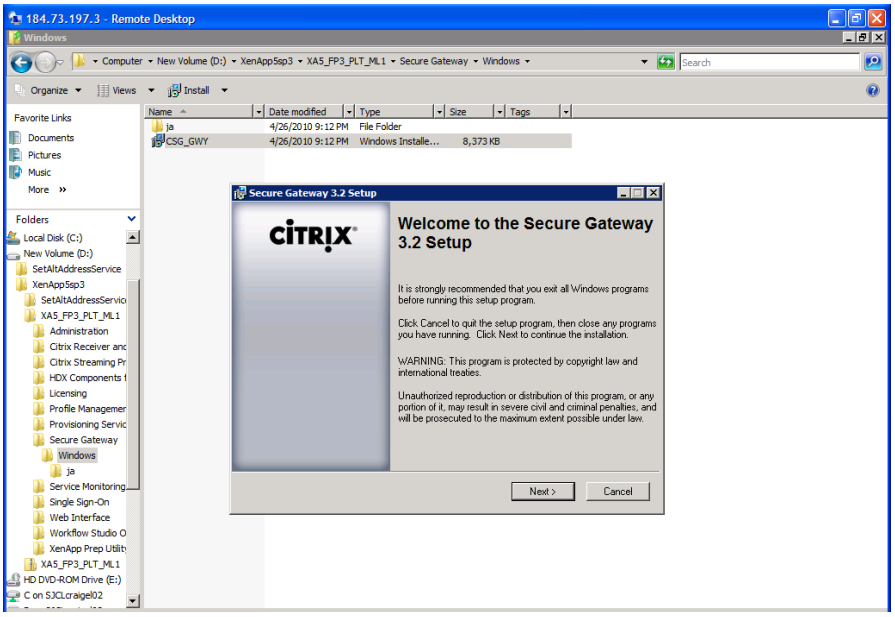
Secure Gateway:

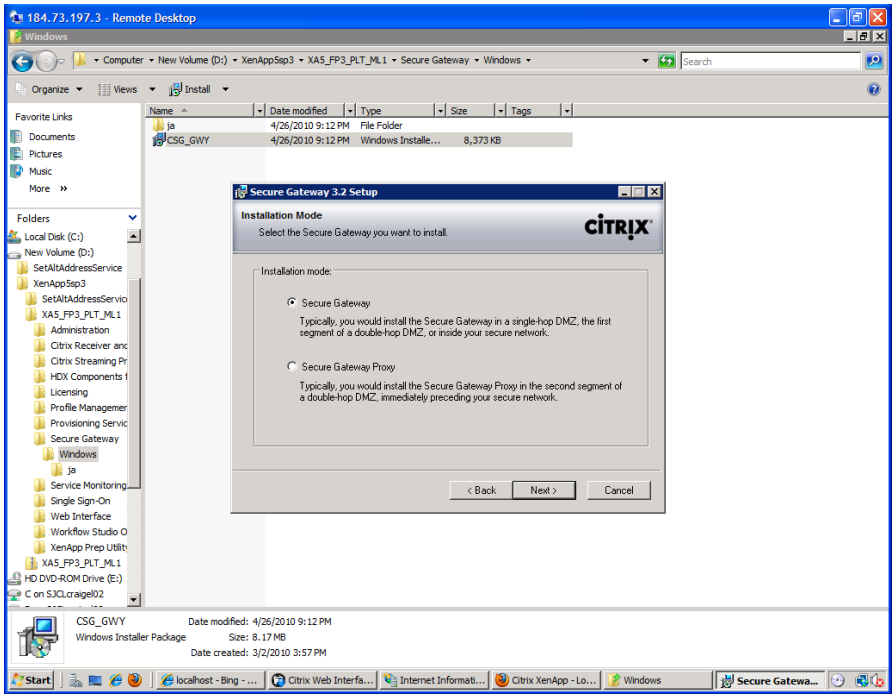
From the Amazon EC2 Navigate to the Secure Gateway installation directory on the installation media.



Secure Gateway:

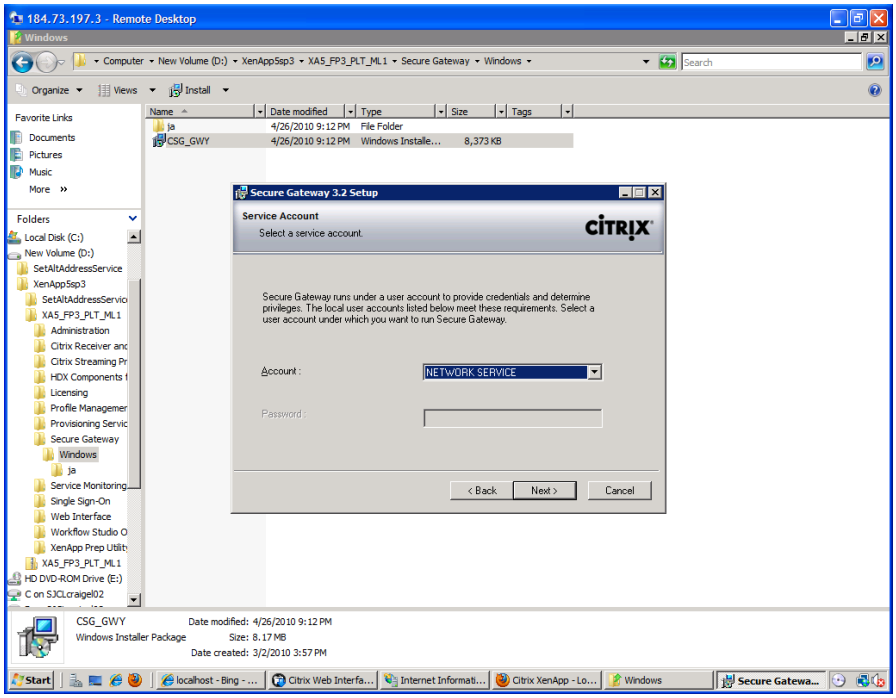
Launch the CSG_GWY installer.





Secure Gateway:

Install in the first segment of DMZ.

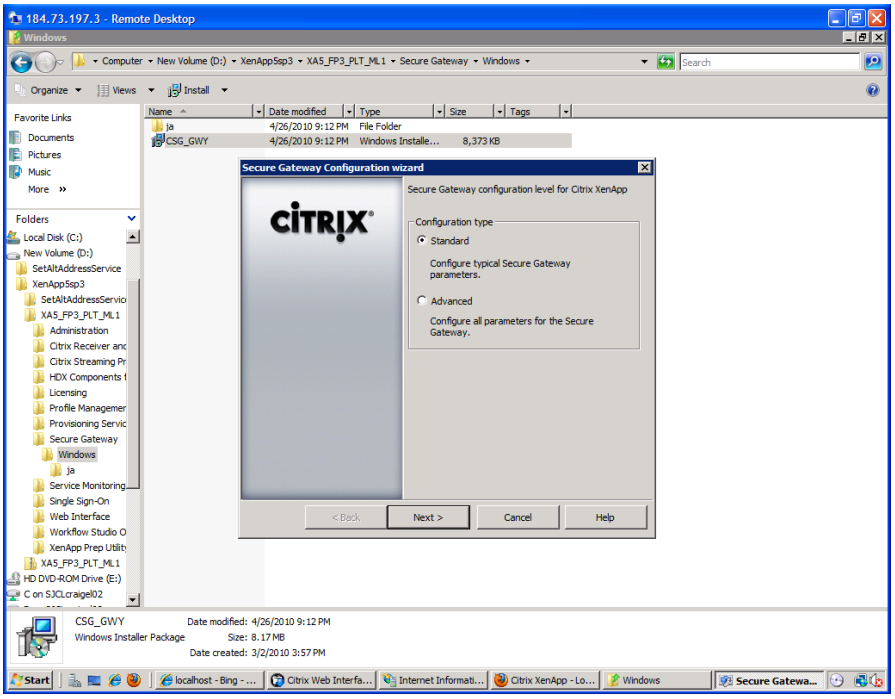


Secure Gateway:

Select the Network Service account.

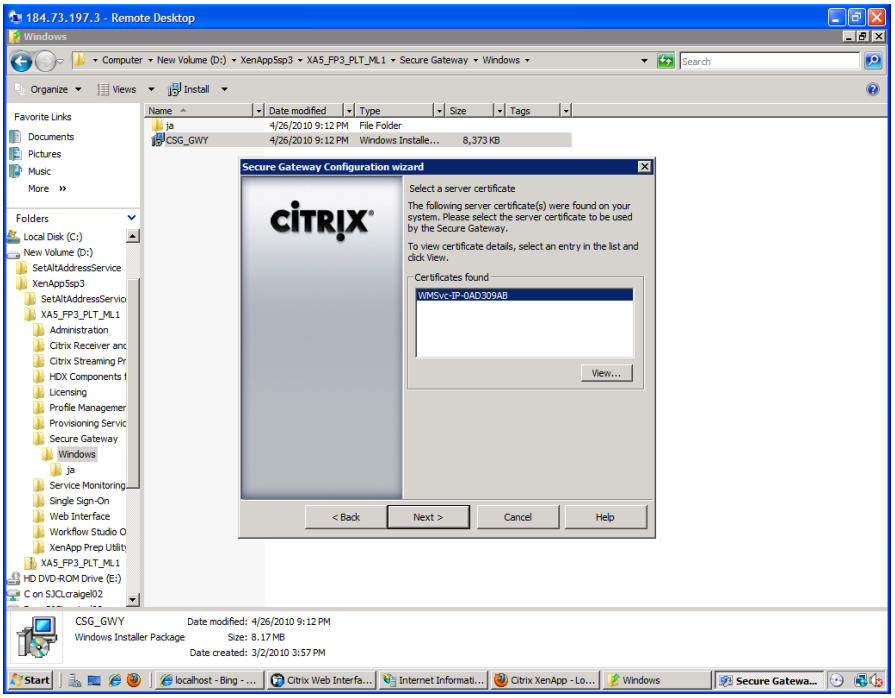
Secure Gateway:

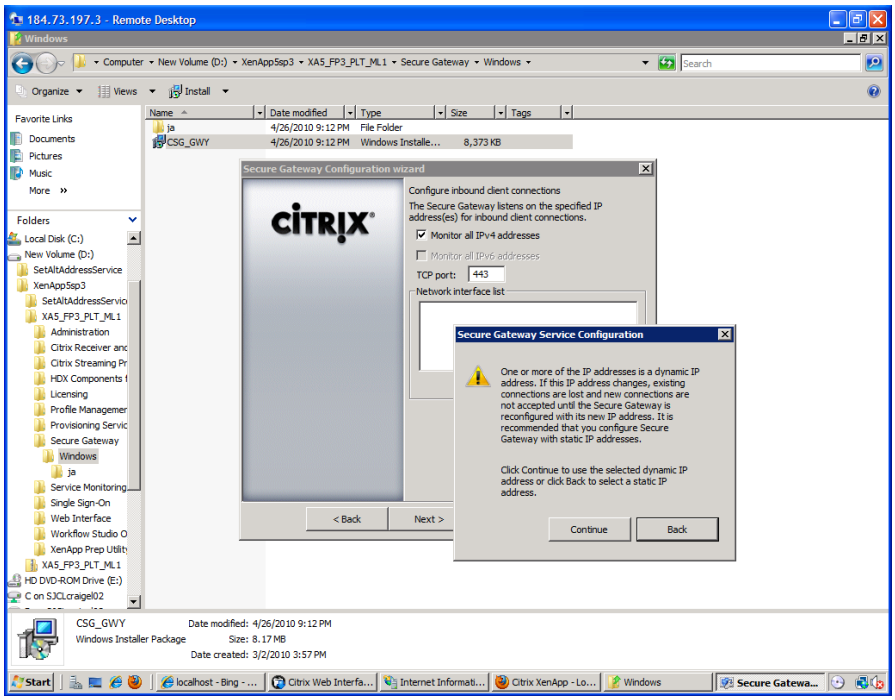
Launch the Secure Gateway installation wizard.



Secure Gateway:

Use the existing certificate, or create one in IIS.

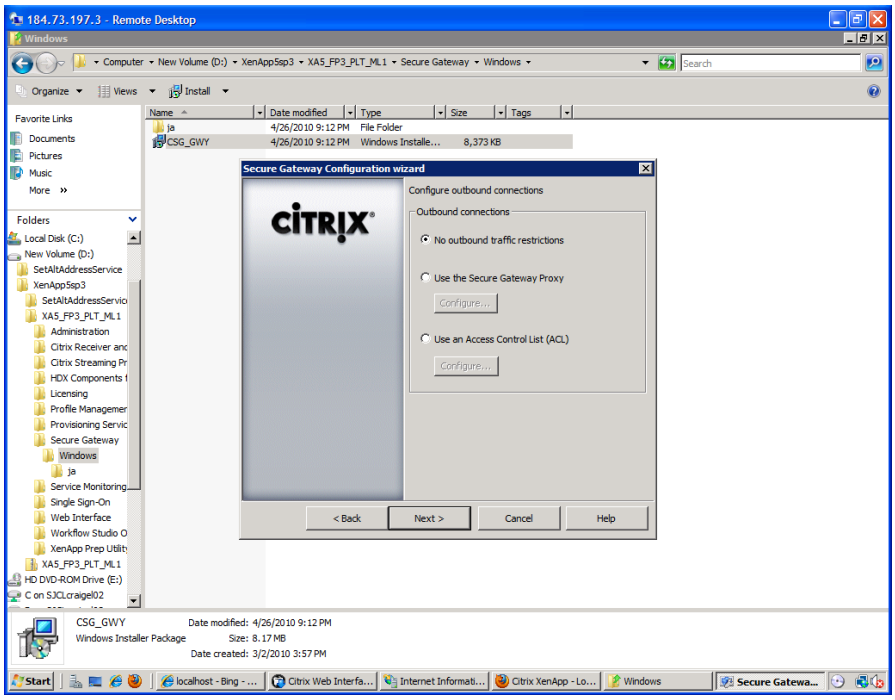




Secure Gateway:

Use port 443 for secure communications.

Note: Ignore the warning for dynamic IP Addresses, as you will be using an Elastic IP Address from Amazon - a Static IP.

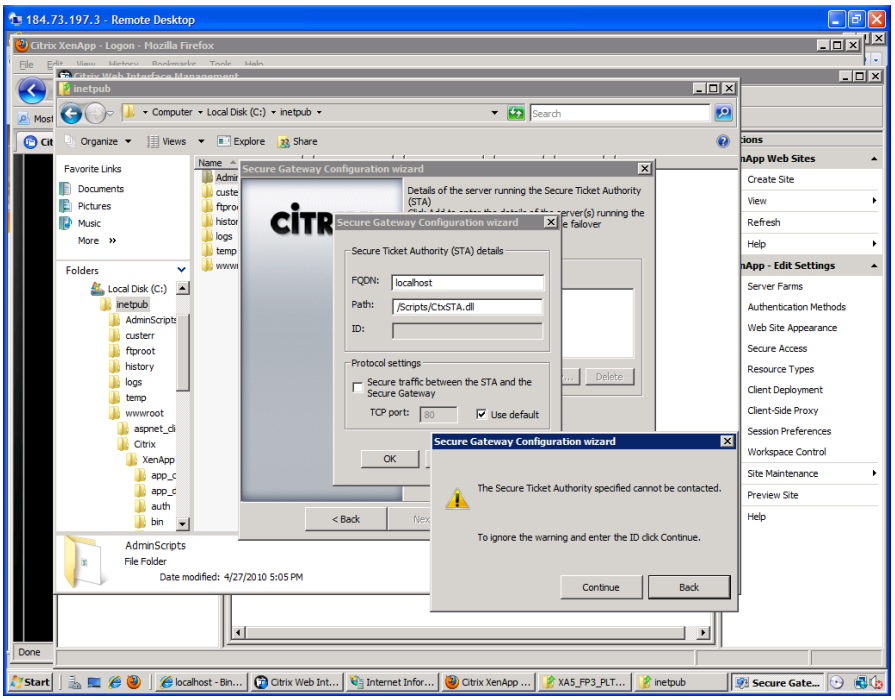


Secure Gateway:

No outbound restrictions.

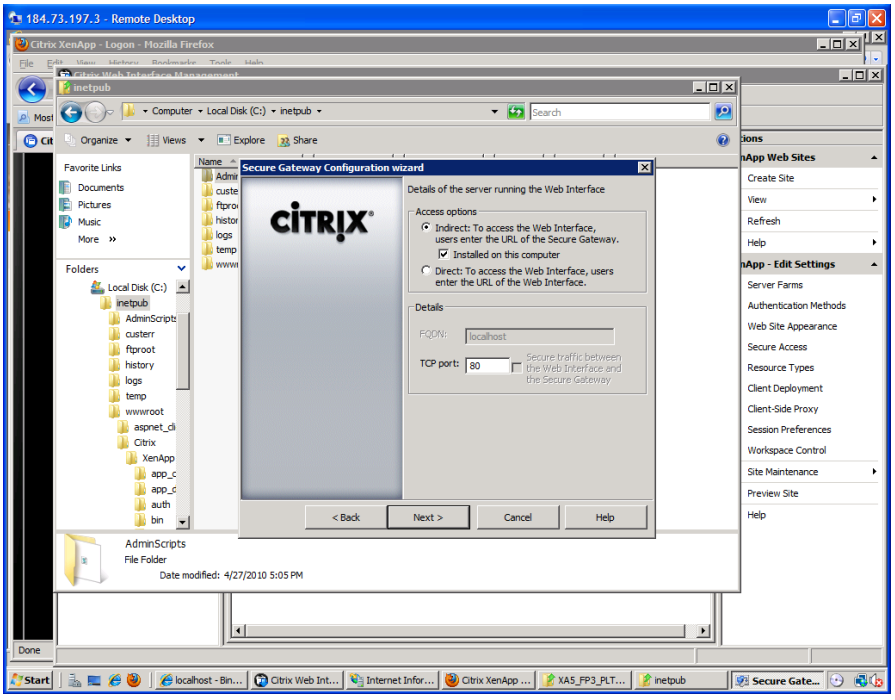
Secure Gateway:

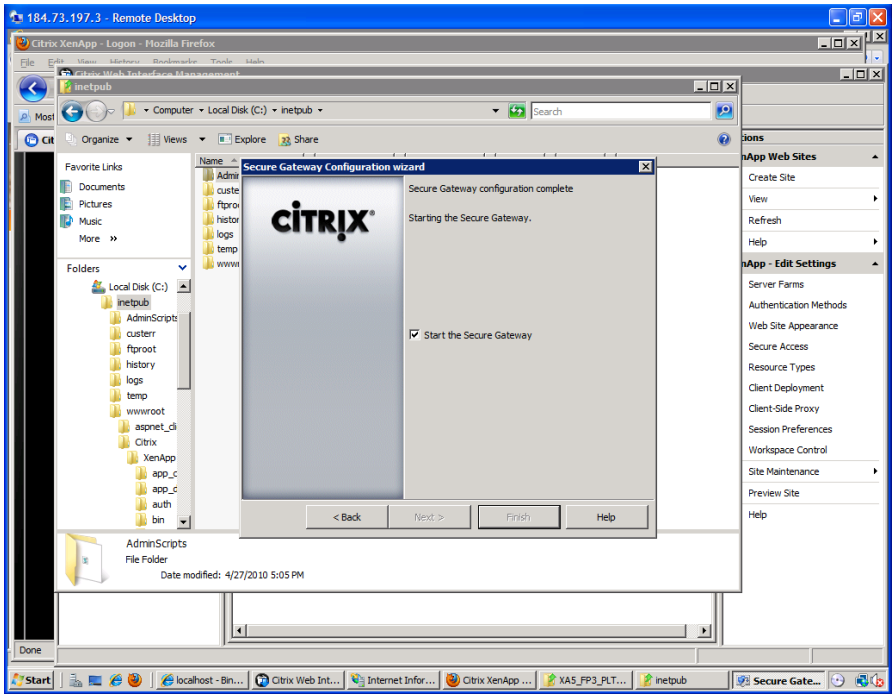
Use localhost for STA temporarily.



Secure Gateway:

Access will be Indirect.





Secure Gateway:

Finish and Start the Gateway.

XenApp Server 1

Install the XenApp Servers

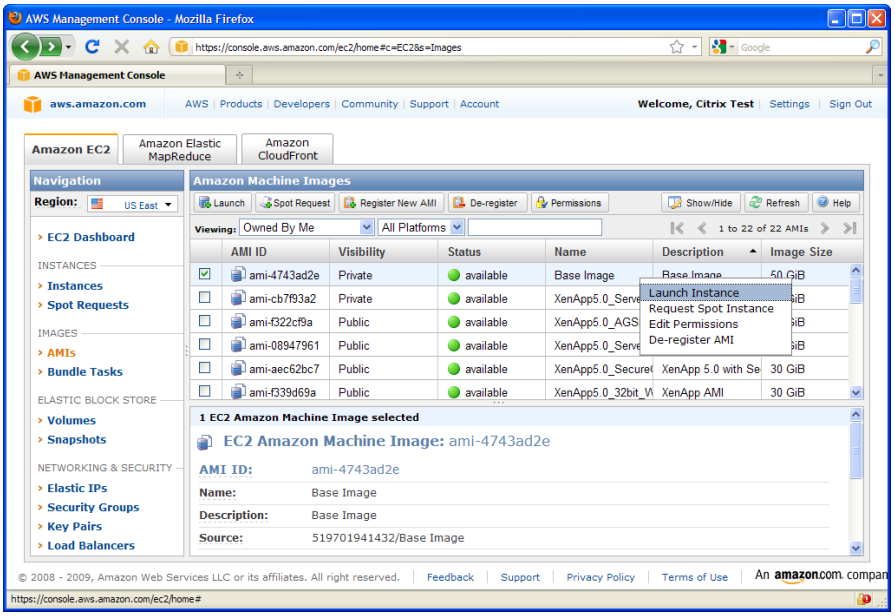
Launch AMI:

From the Amazon EC2 Dashboard, select AMIs.

Find the image that we created as XenApp Base Image.

Launch an instance of this image.

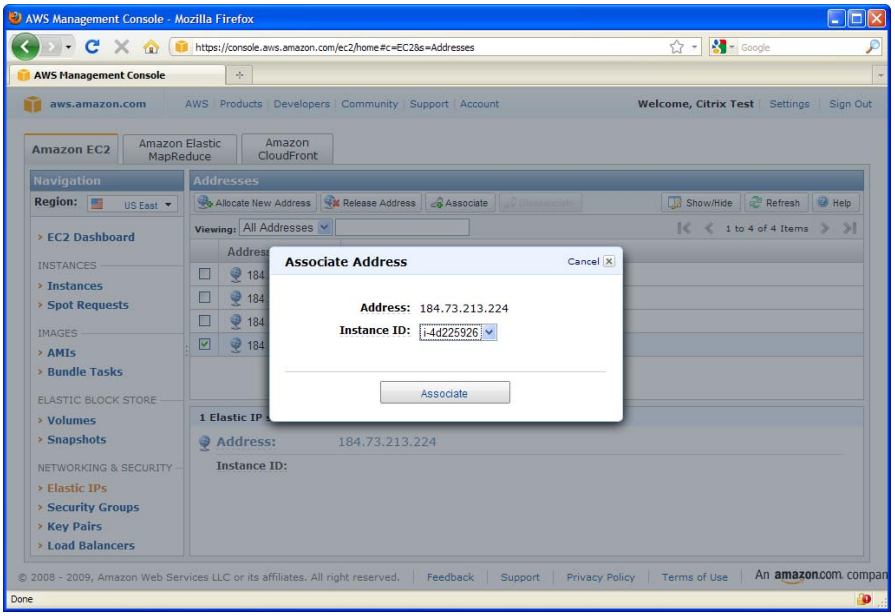
Follow the remaining prompts.

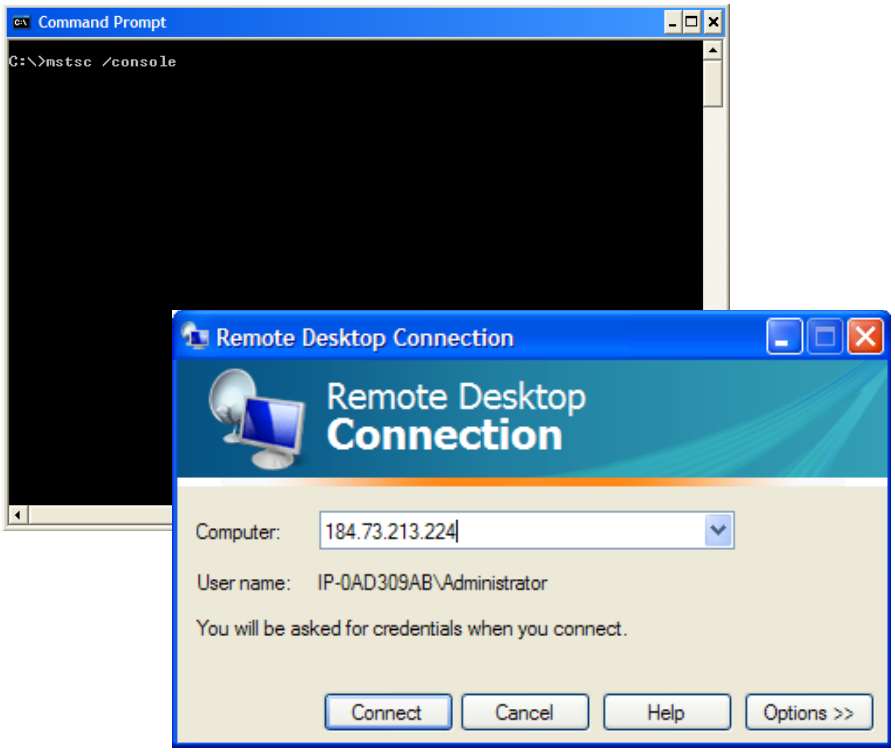


Assign IP Address:

From the Amazon EC2 Dashboard, select Elastic IPs.

Allocate a new IP Address and assign it to the instance.



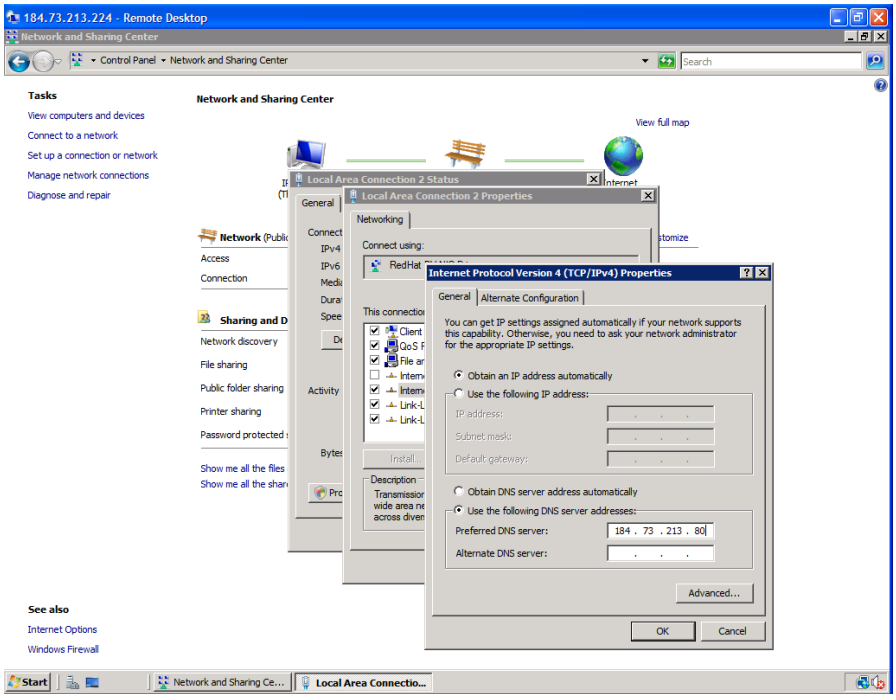


Connect:

Connect to the instances IP Address you just assigned, by running Remote Desktop from your local computer.

From a command prompt:

mstsc /console



DNS Settings:

Navigate to Control Panel -> Network and Sharing Center.

In the IPv4 Properties, use the following DNS server address:

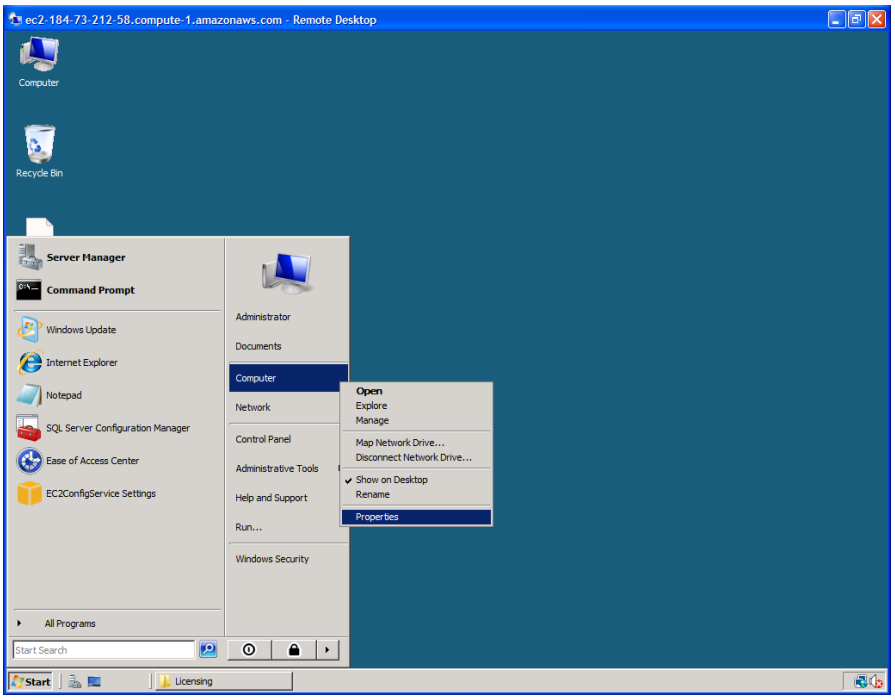
184.73.213.80.

Note: This address will be different for your implementation. It is the Elastic IP Address you assigned to your Domain Controller through the Amazon Console.

XenApp Server:

As a matter of convenience it is recommended to change the hostname to something meaningful.

Navigate to Computer -> Right-Click -> Properties.



XenApp Server:

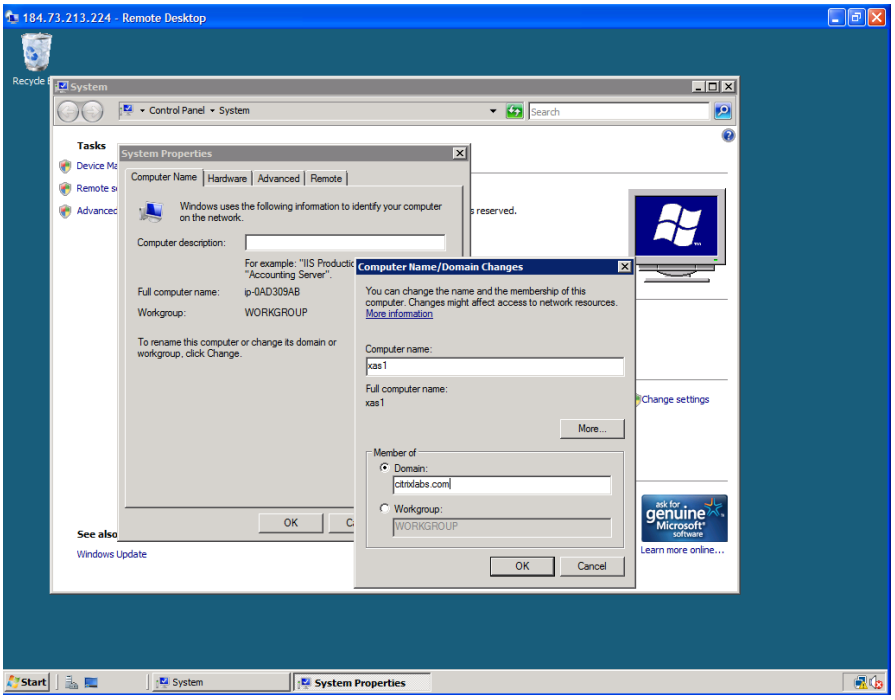
Change Settings for Hostname and join the domain.

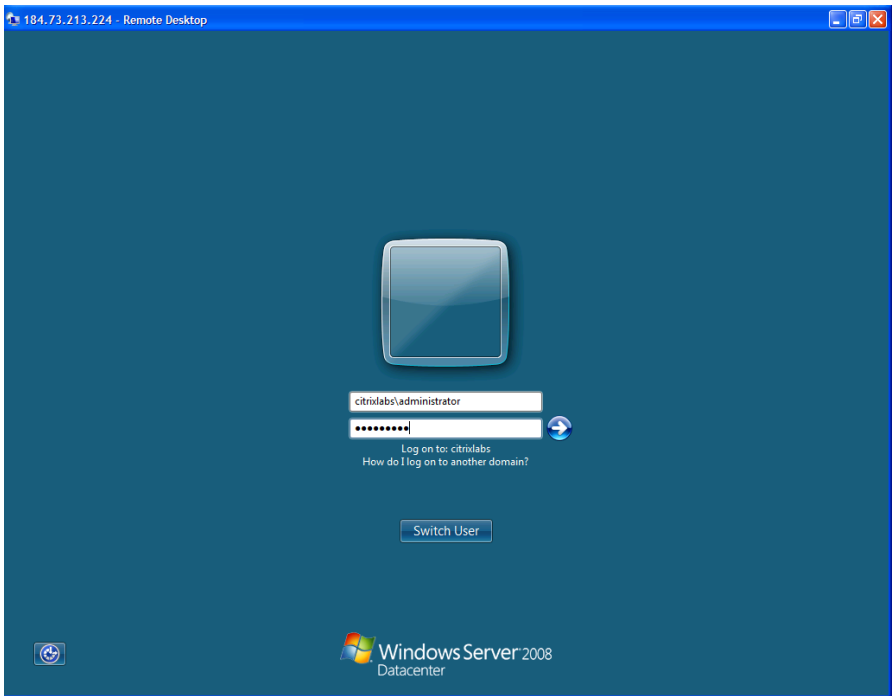
In this example:

Computer Name: WI

Domain: citrixlabs.com

Reboot and Reconnect using Remote Desktop.

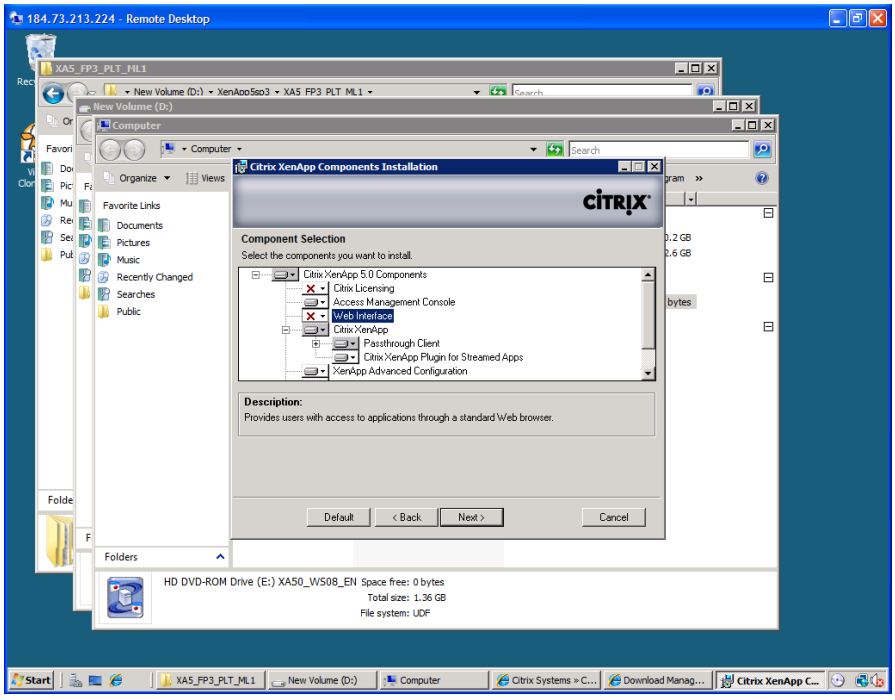




XenApp Server:

You will need to login with domain credentials. For example:

citrixlabs\administrator



XenApp Server:

Navigate to the XenApp install folder on drive D:.

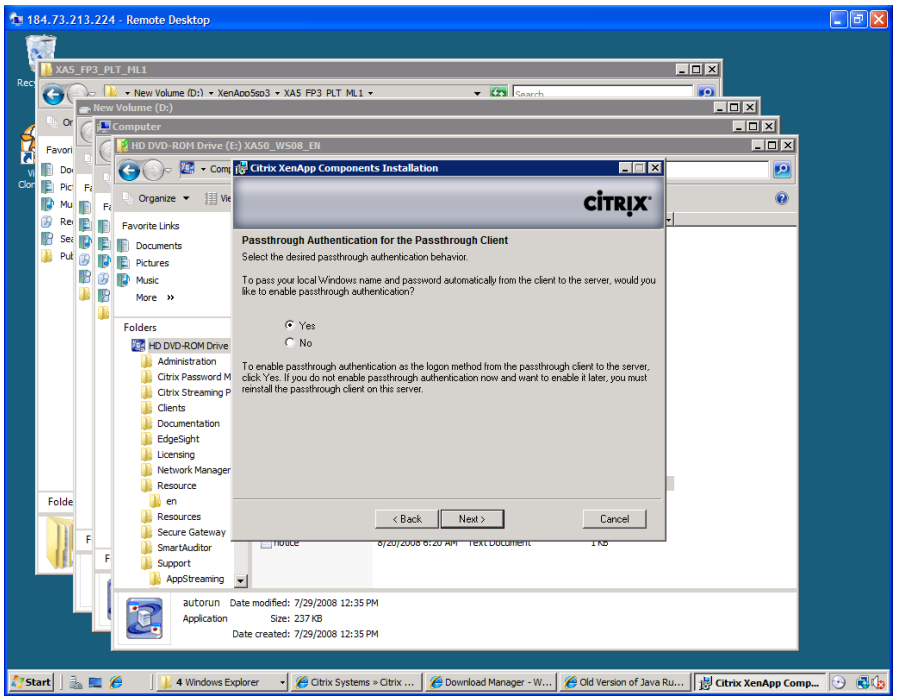
Install XenApp Server.

Note: Microsoft Visual J# 2.0 can be downloaded from Microsoft's website.

Note: If you receive an error message that Web Interface cannot complete installation due to the fact that <domain>\None is an invalid user or group, Remove the machine from the domain, install Web Interface, and the join the domain again.

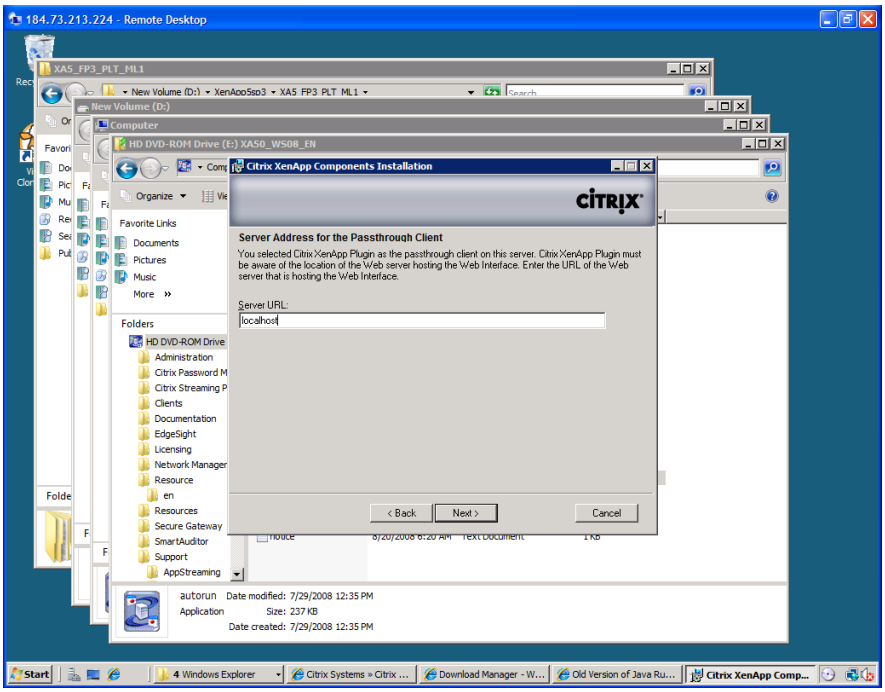
XenApp Server:

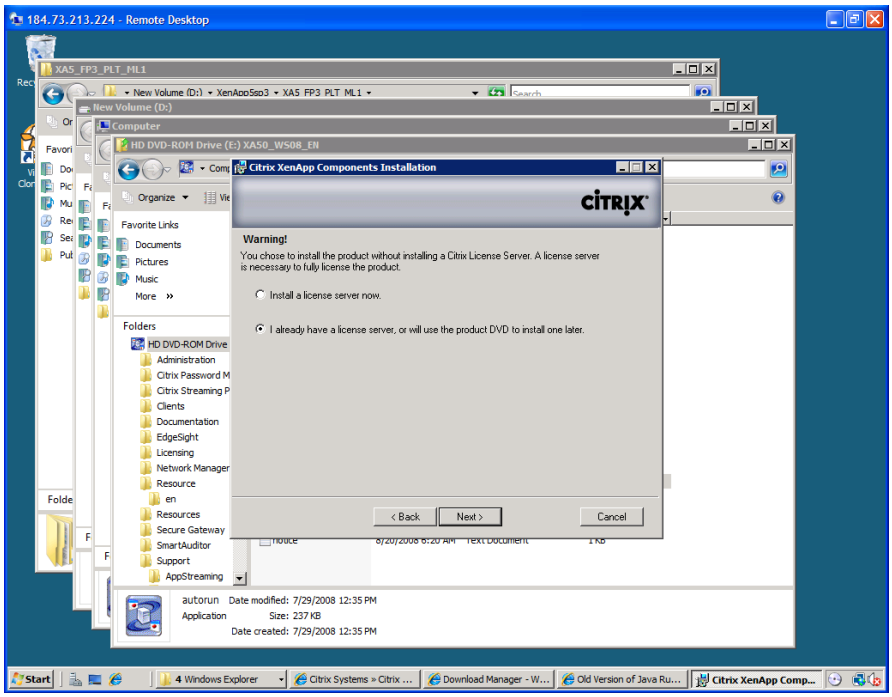
Enable Passthrough Authentication.



XenApp Server:

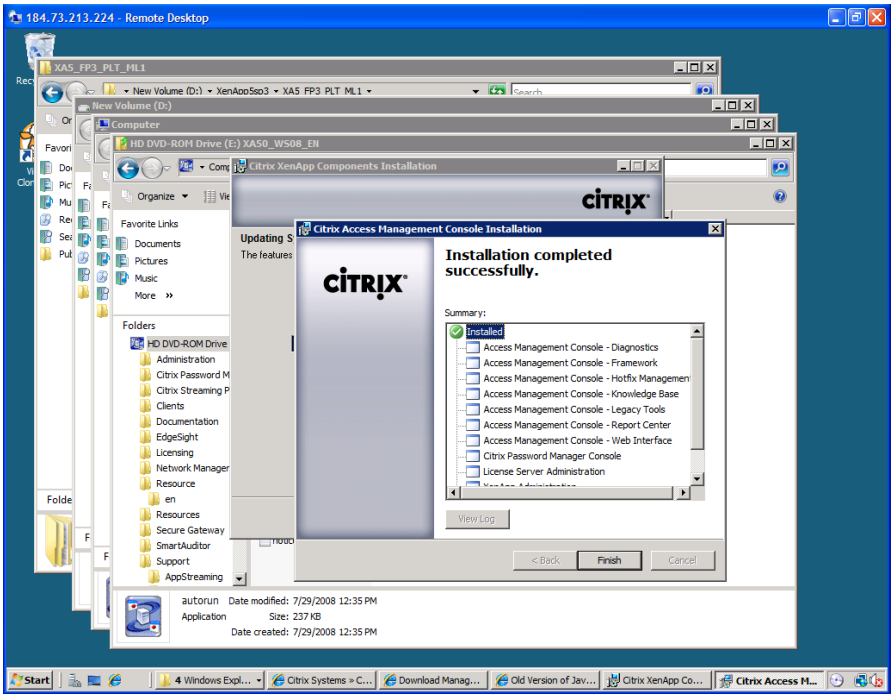
Use localhost.





XenApp Server:

We already installed a license server.



XenApp Server:

Install XenApp Server.

Reboot when finished.

XenApp Servers 2 through *n*

Install the remaining XenApp Servers. If you have a need to "scale" servers, you will need to create additional XenApp Servers, and add them to the farm.

To do so, repeat the previous procedure for as many XenApp Servers that are required, giving them different computer names. For example, in our proof of concept, the XenApp Servers are named the following:

xas1.citrixlabs.com

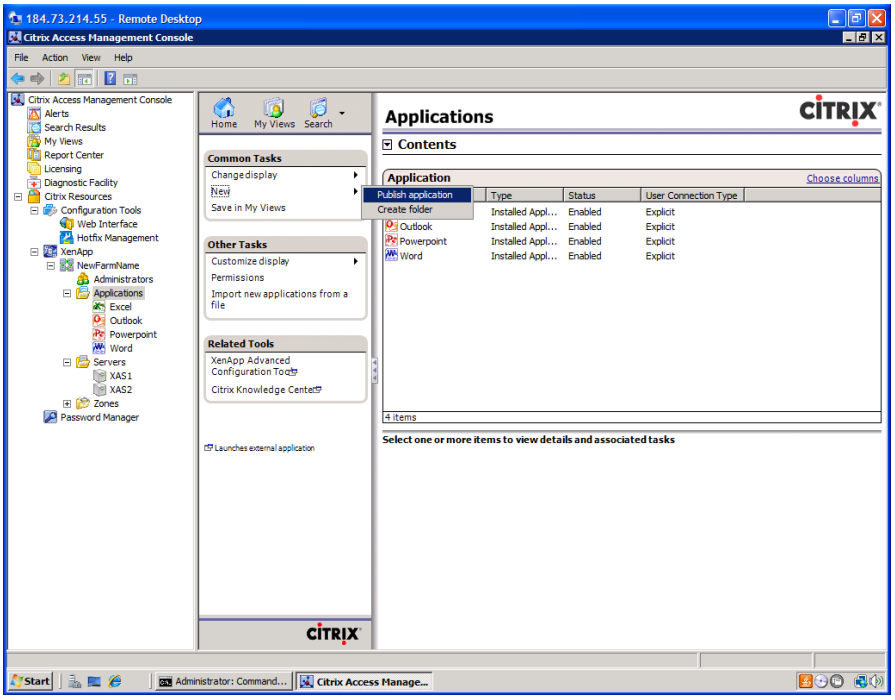
xas2.citrixlabs.com

...

Publish Applications:

On the second XenApp Server (xas2.citrixlabs.com) we will publish some apps that are already installed in the Microsoft Server operating system. For example, Notepad, Internet Explorer, Wordpad, Calculator.

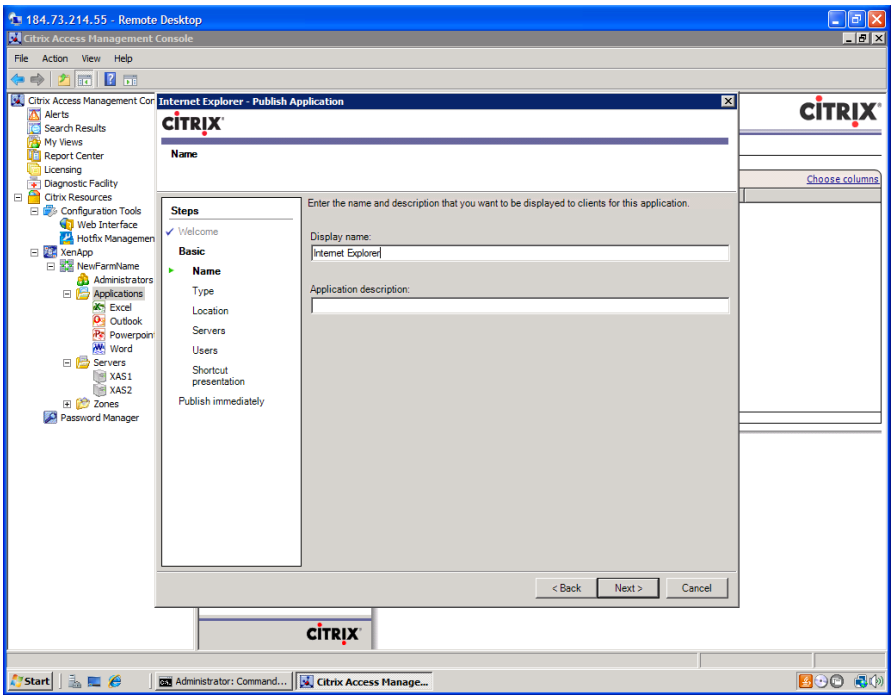
Open the Access Management Console on XenApp Server 2.

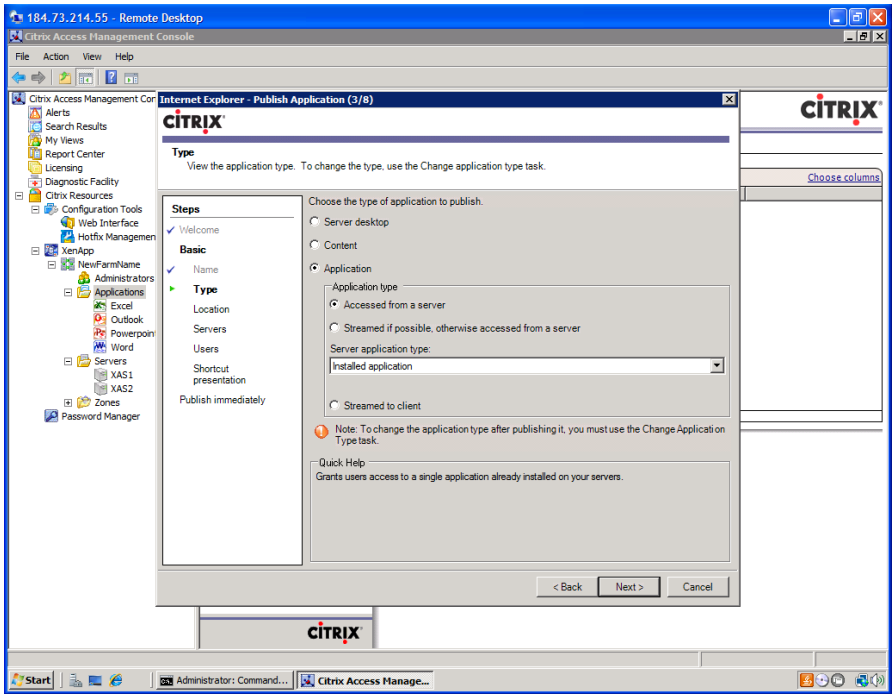


Publish Applications:

Select Applications -> New -> Publish Application.

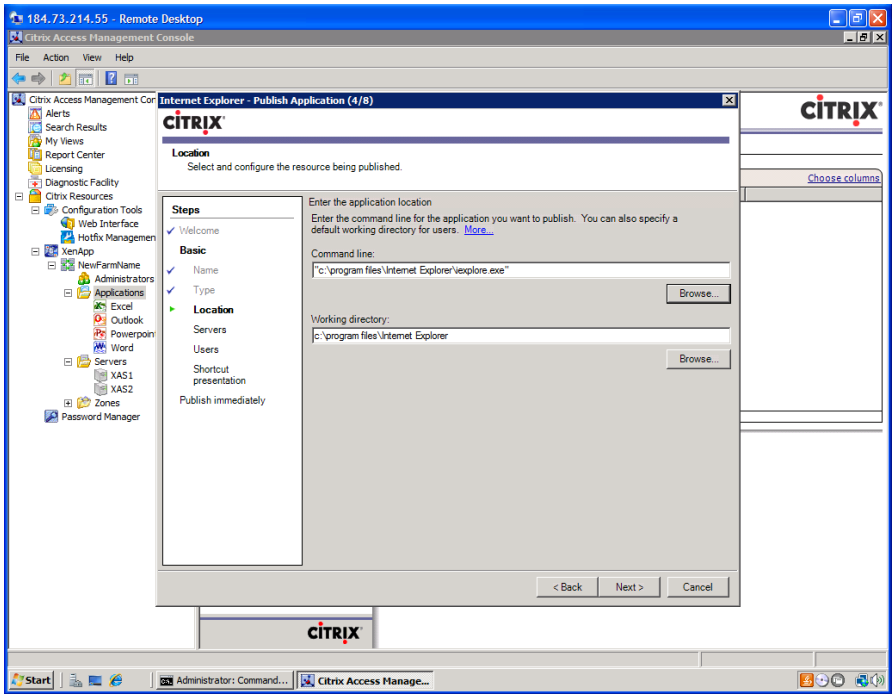
We will publish Internet Explorer as an example application.





Publish Applications:

Run it from this server.



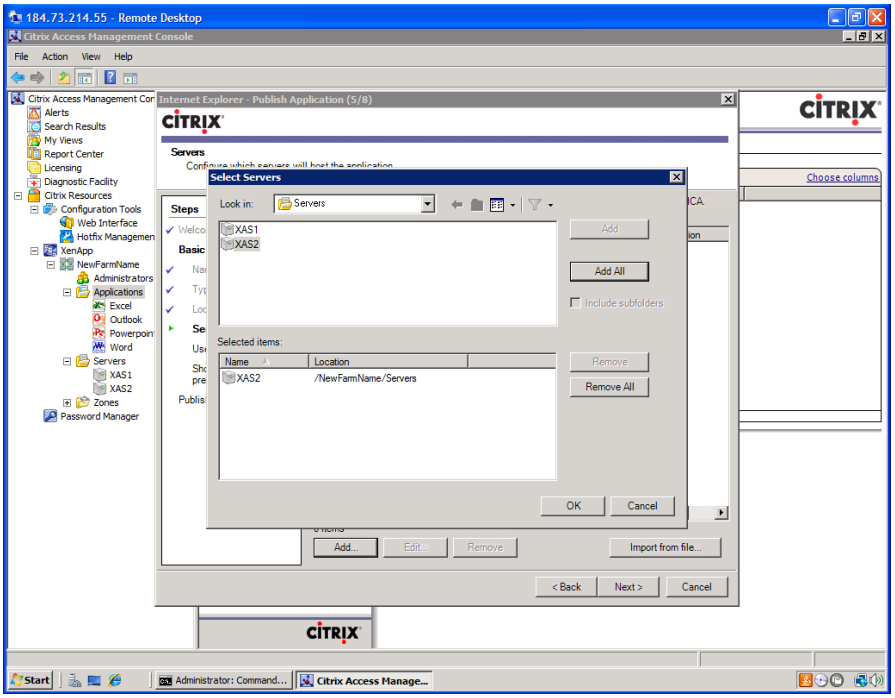
Publish Applications:

Provide the execution path.

Use the Browse button.

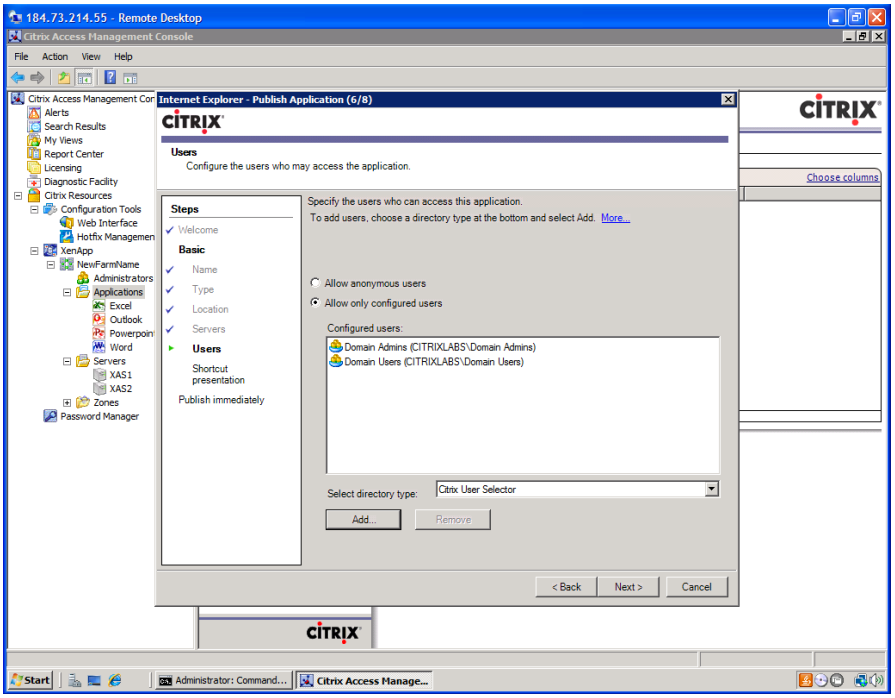
Publish Applications:

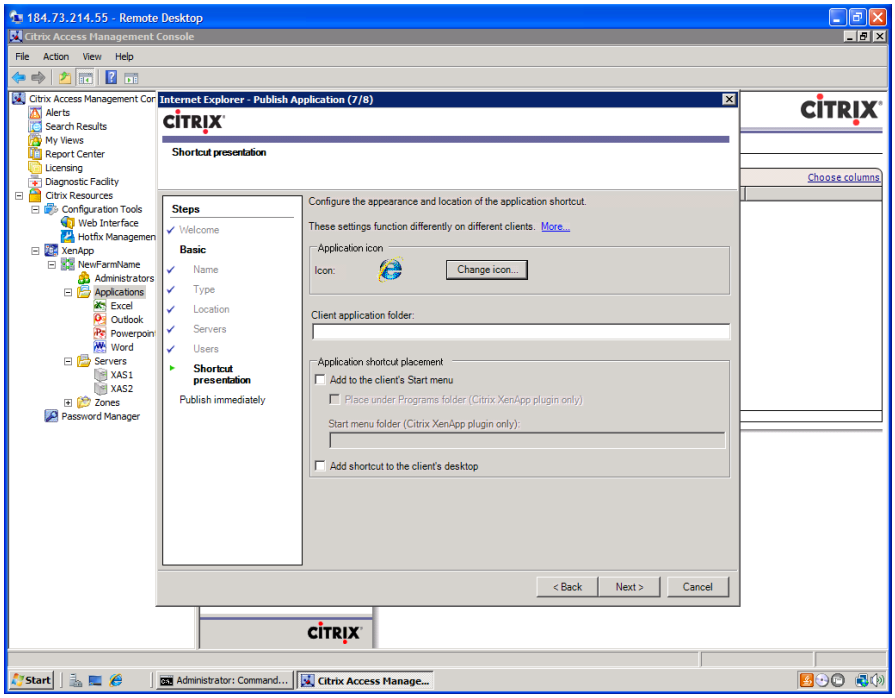
Run it on the XenApp Server 2 - XAS2.



Publish Applications:

Specify the users who can access this application.





Publish Applications:

Use the default IE icon.

Finish.

Repeat the Publish Application procedure for each Application you want to publish, for example Notepad, Wordpad, Calculator, etc.

XenApp Configuration

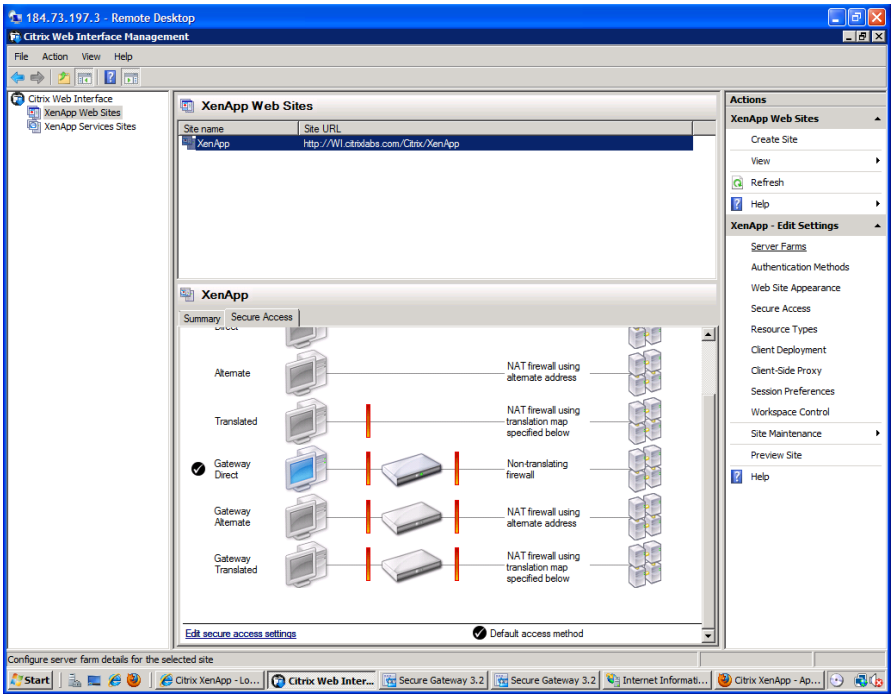
Web Interface Farm

Web Interface needs to be configured.

Web Interface:

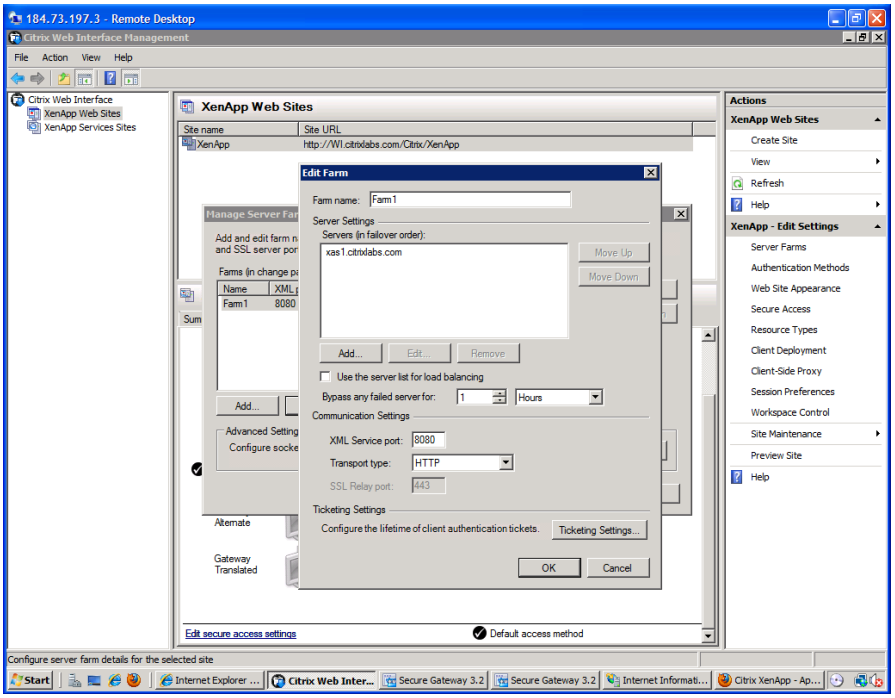
On the Web Interface server, open the Web Interface Management Console.

Select Server Farms.



Web Interface:

Add the XenApp Server to the farm.



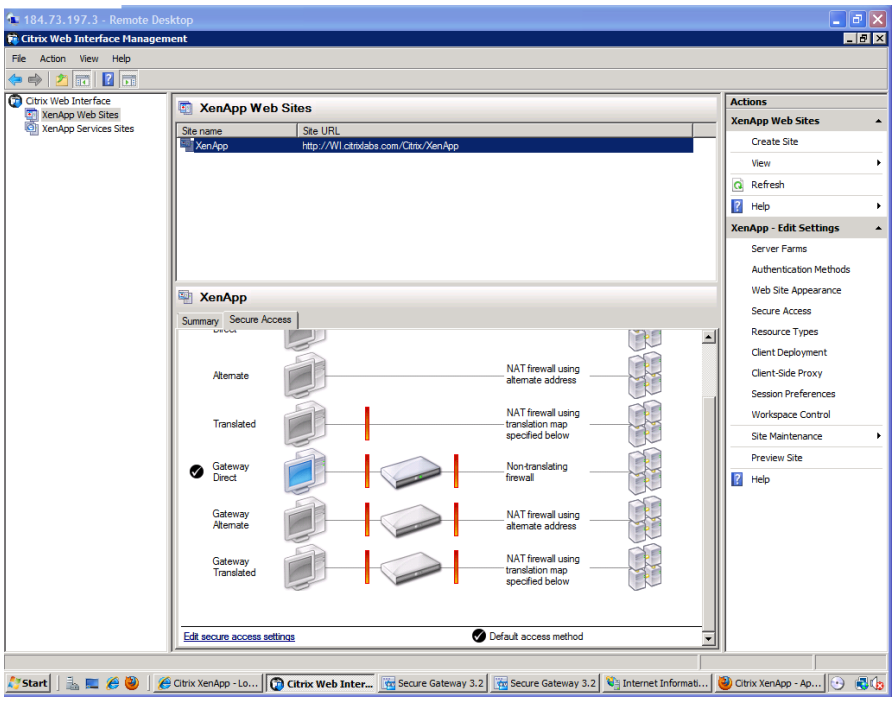
Secure Access

Web Interface Secure Access needs to be configured.

Secure Access:

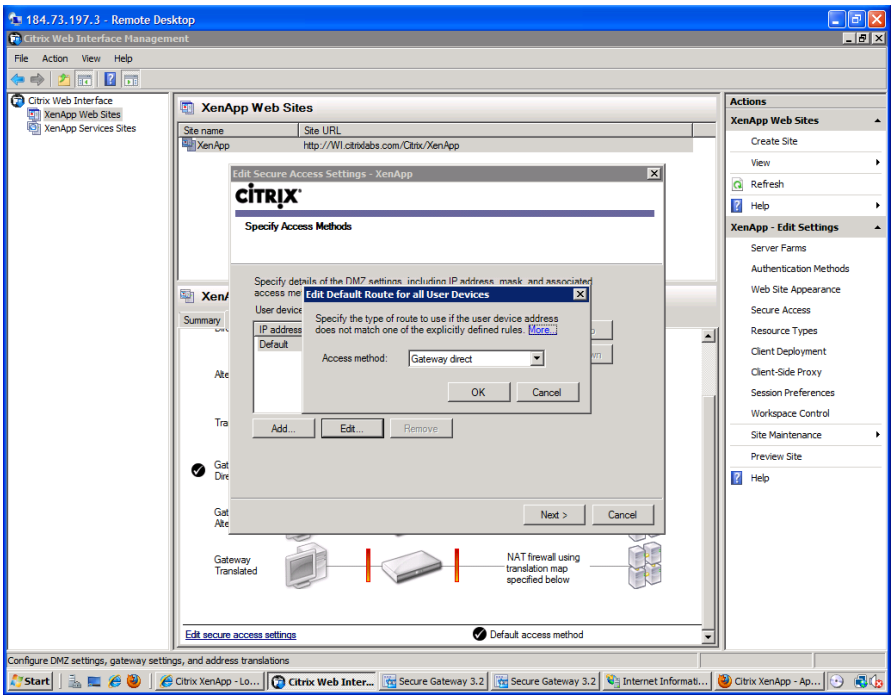
On the Web Interface server, open the Web Interface Management Console.

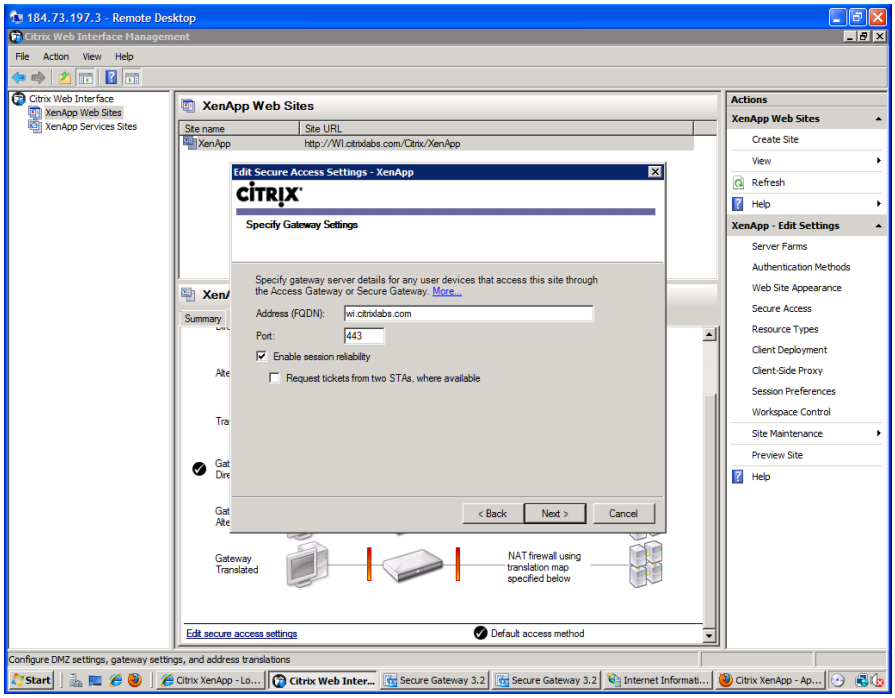
Select Secure Access.



Secure Access:

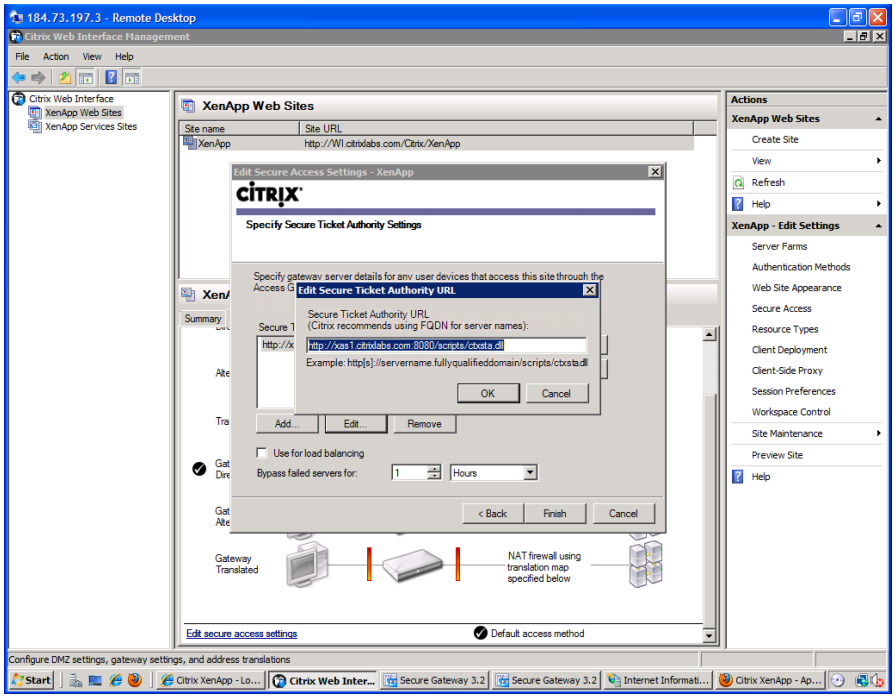
Change the access method to Gateway Direct.





Secure Access:

Specify the FQDN of the Web Interface server.



Secure Access:

Enter the Secure Ticket Authority, which is running on the backend XenApp Server.

Note: Repeat this step for the XenApp Services Site.

XenApp Secure Gateway

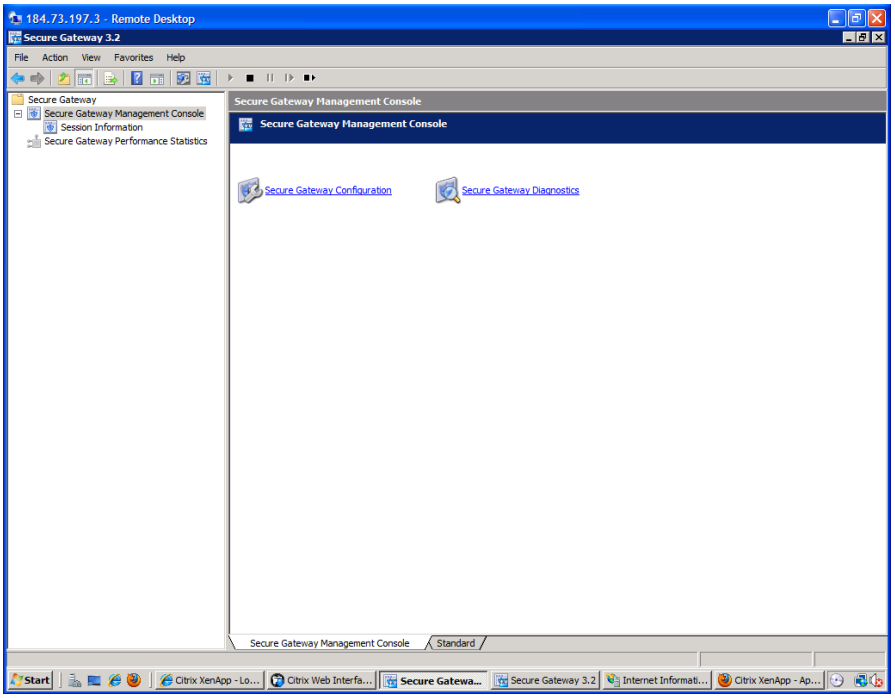
Secure Gateway needs to be configured.

Secure Gateway:

Open the Secure Gateway Management Console.

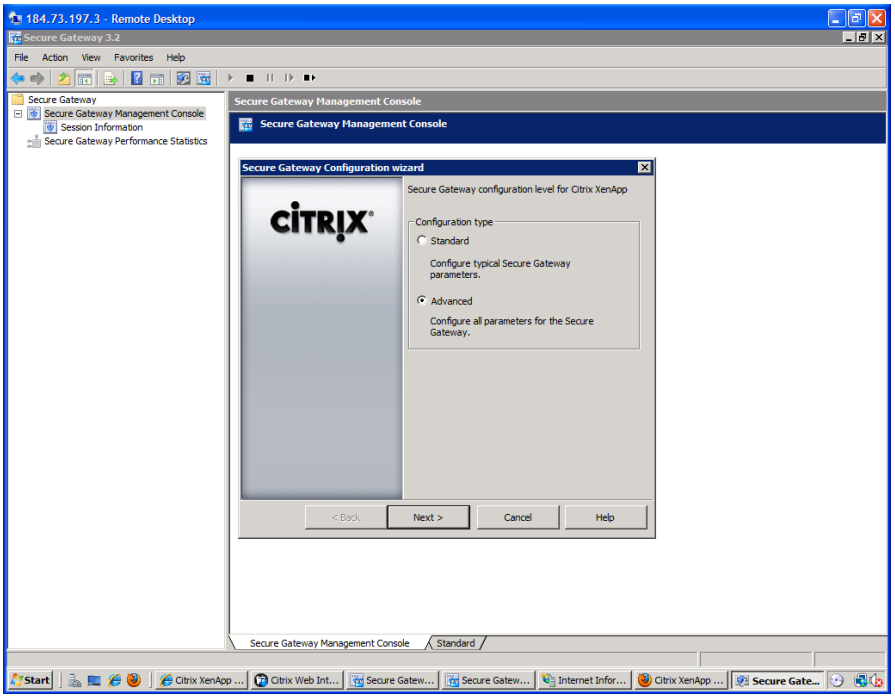
Start -> All Programs -> Citrix -> Management Consoles -> Secure Gateway Management Console.

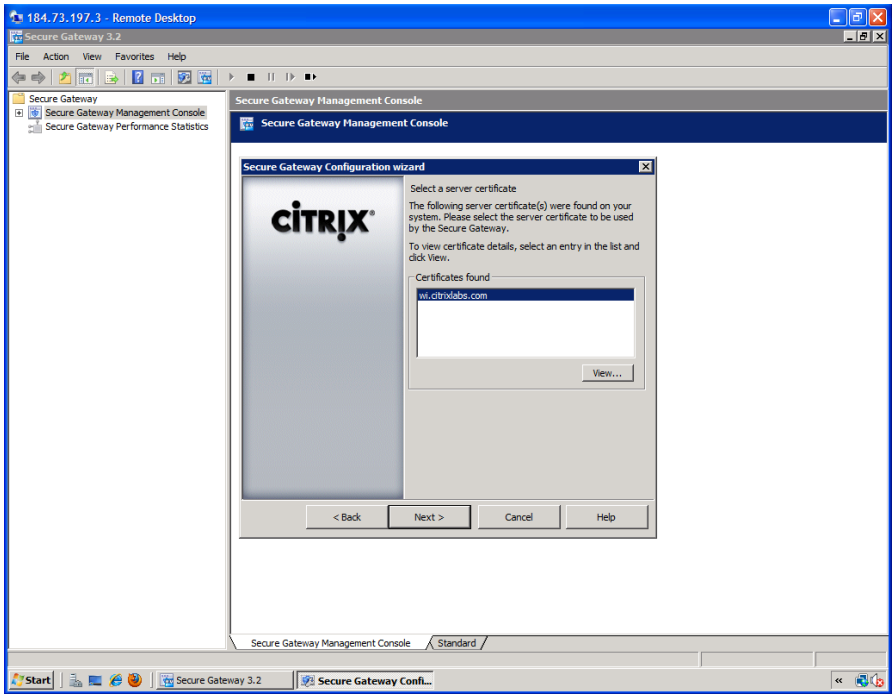
Select Secure Gateway Configuration.



Secure Gateway:

Select Advanced.





Secure Gateway:

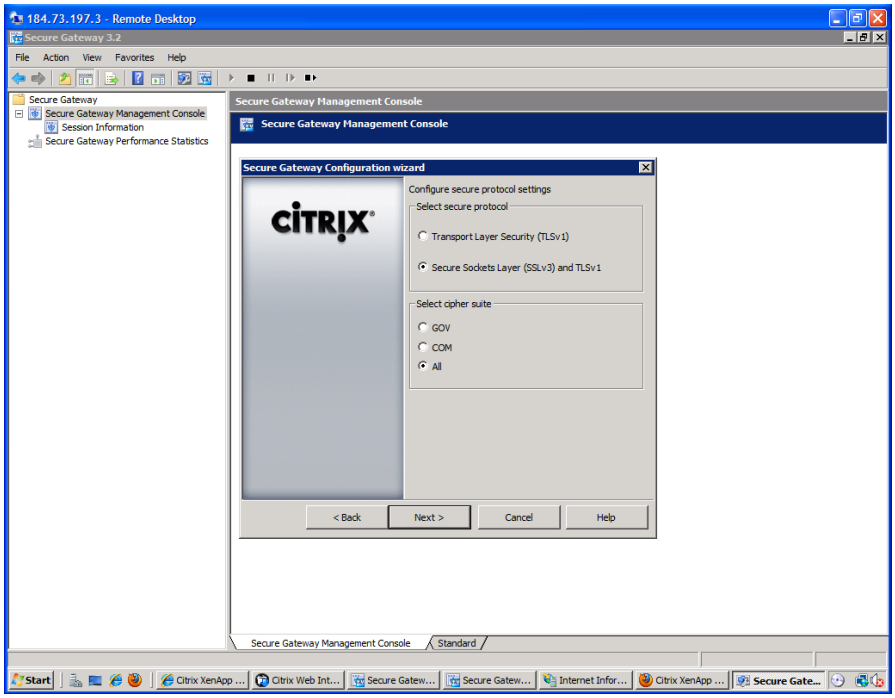
You would have to have a certificate signed by a Certificate Authority, and imported into the Certificate Store on the Web Interface server.

There are two options:

1) Install a bona-fide certificate issued by a Certificate Authority.

2) Install Certificate Services on the Domain Controller and create a self-signed certificate for the Web Interface server. You would then need to import the CA root certificate, from dc.citrixlabs.com, into the clients browser.

(We did #2 for this proof of concept).



Secure Gateway:

Use the defaults.

XenApp Applications

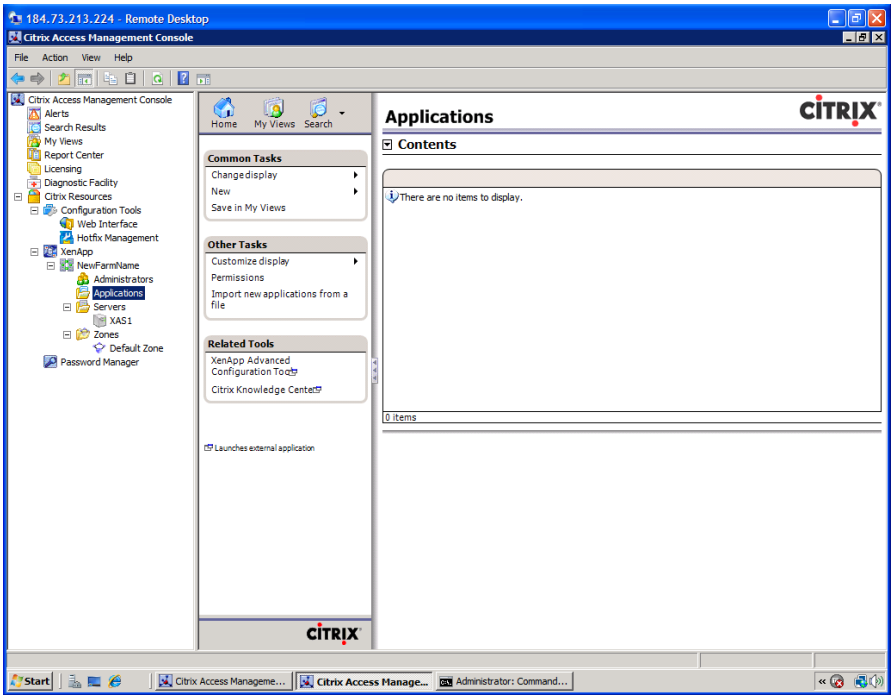
Publish Applications XenApp Server 1

Once the XenApp Server is installed, you need to "publish" applications that you want your users to access and run.

Publish Applications:

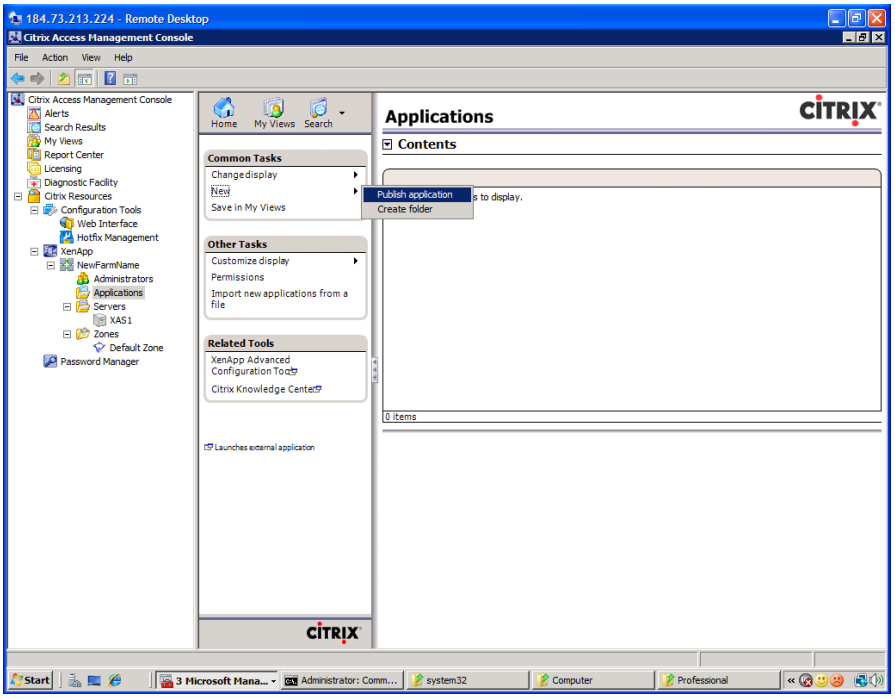
We have installed Microsoft Office 2010 on the first XenApp Server (xas1.citrixlabs.com), and will publish those applications.

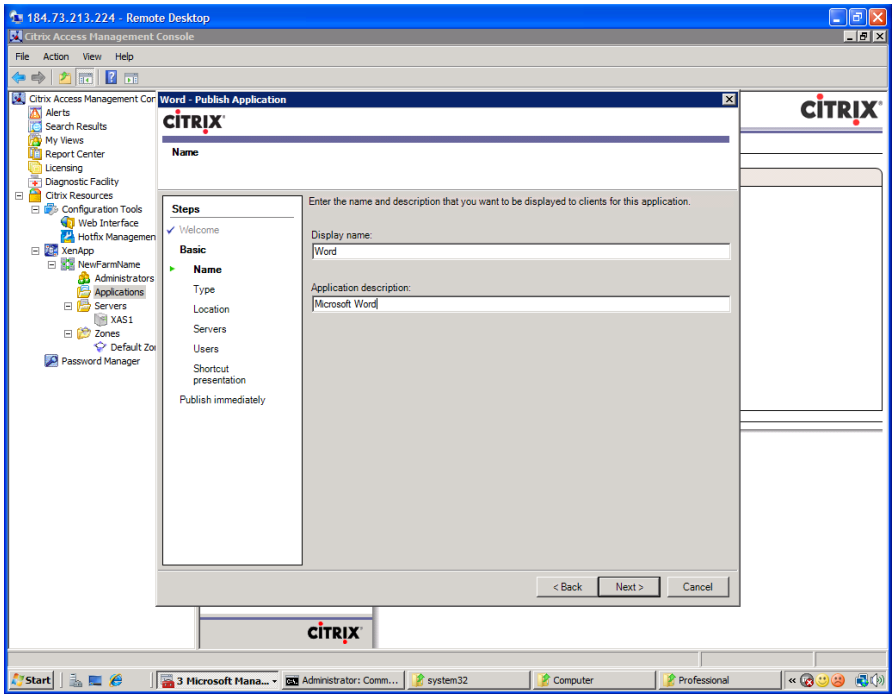
Open the Access Management Console.



Publish Applications:

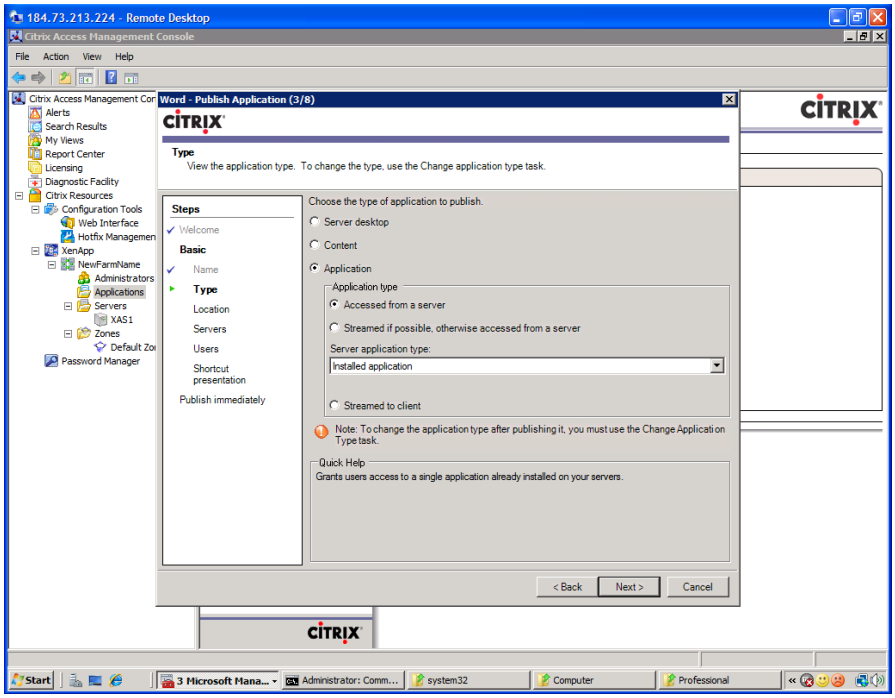
Select Applications -> New -> Publish Application.





Publish Applications:

We will publish Microsoft Word as an example application.



Publish Applications:

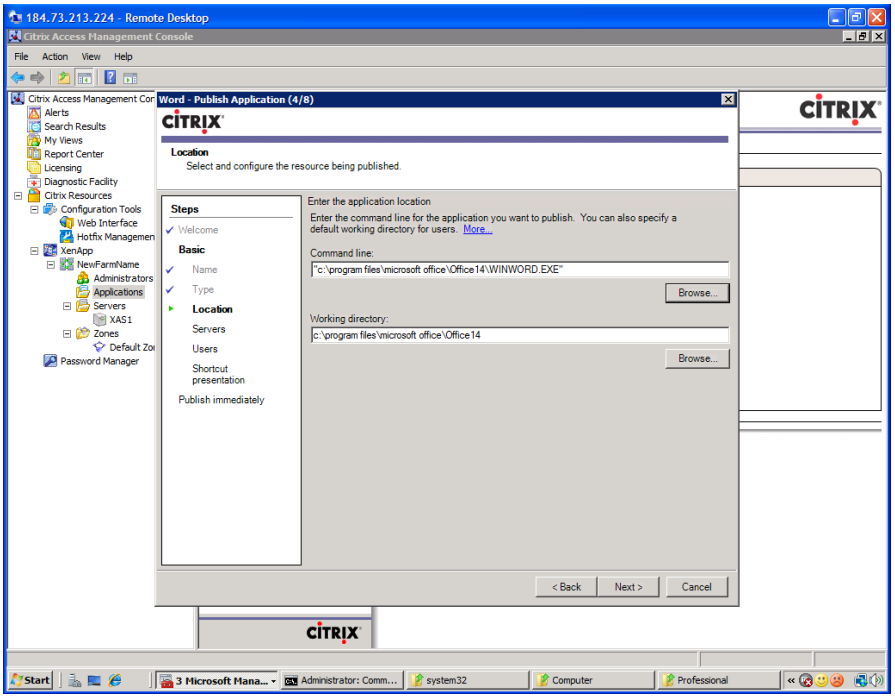
Application will be accessed from a this server.

Publish Applications:

Specify the command line to launch the application:

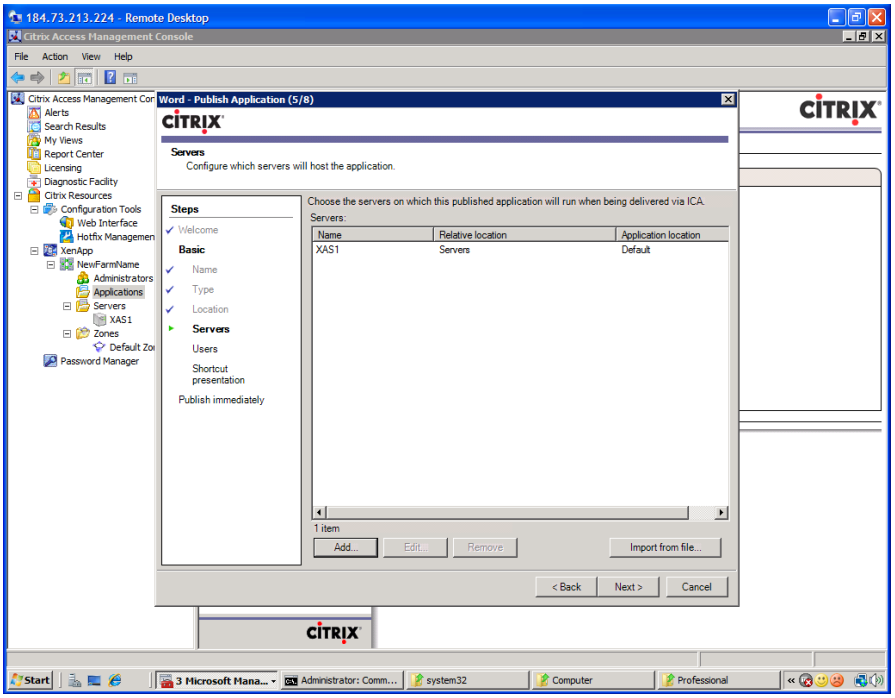
c:\program files\microsoft office\Office14\WINWORD.EXE.

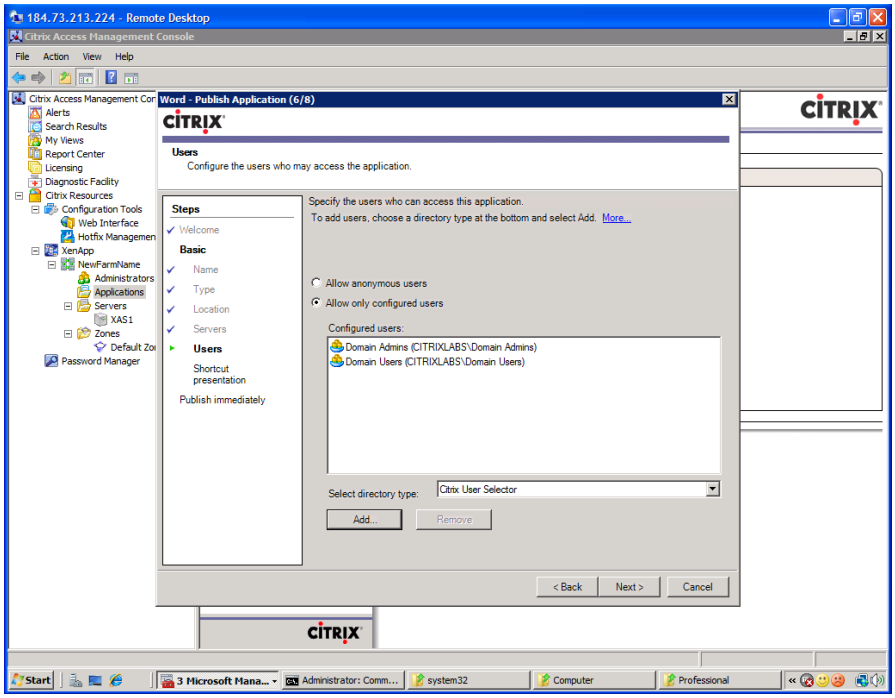
Use the Browse button to locate the application.



Publish Applications:

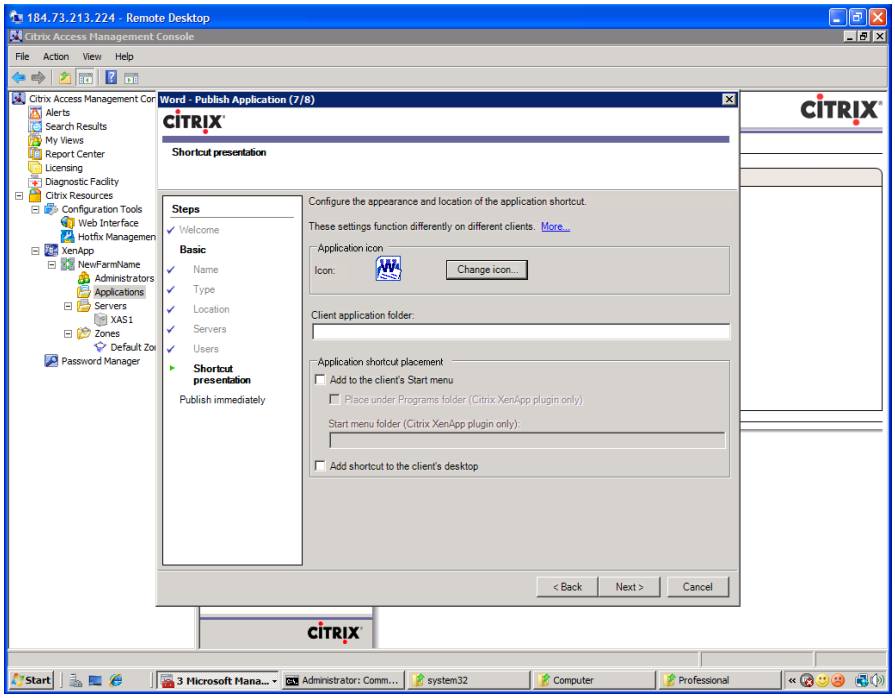
Run it on this server.





Publish Applications:

Specify the users who can access this application.



Publish Applications:

Use the default MS Word icon.

Finish.

Repeat the Publish Application procedure for each Microsoft Office 2010 application that you want to publish, such as Excel, Powerpoint, Outlook.

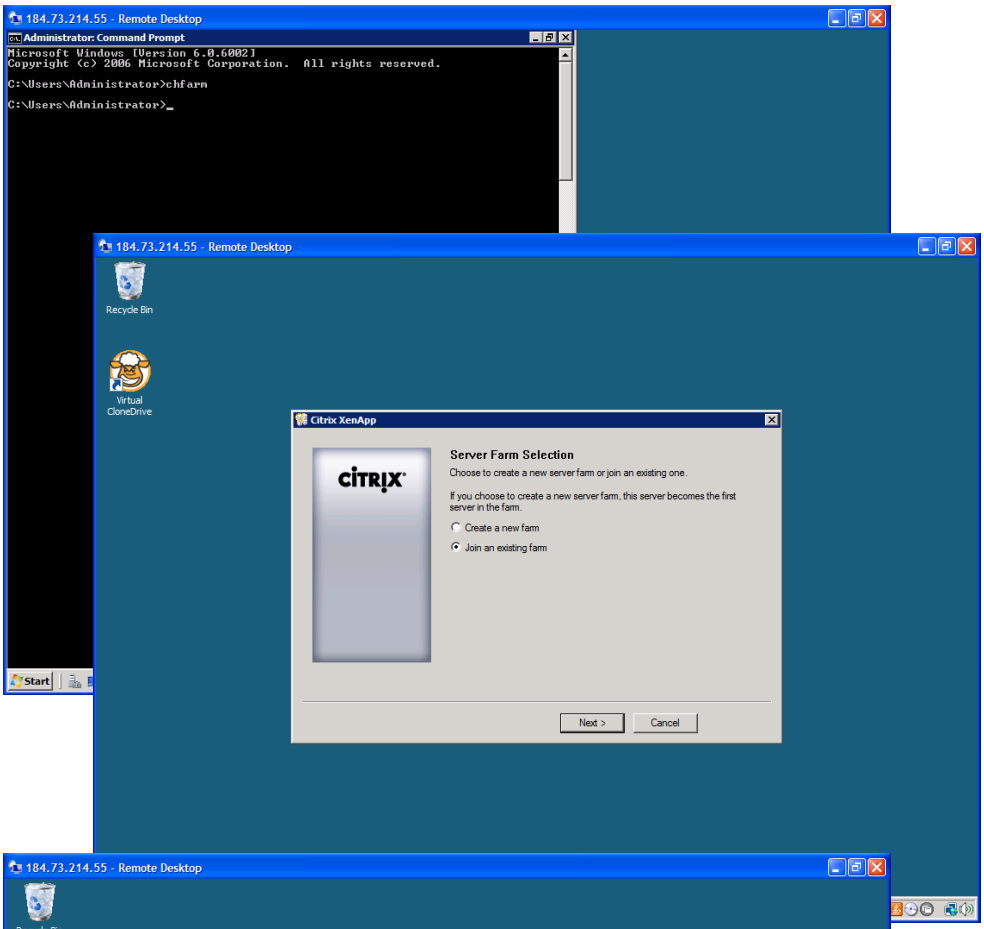
Publish Applications XenApp Server 2

Once the additional XenApp Server is installed, you need to join the server farm on XenApp Server 1, and "publish" applications that you want your users to access and run.

Change Farm:

On the XenApp Server 2, open a command prompt, and run chfarm.

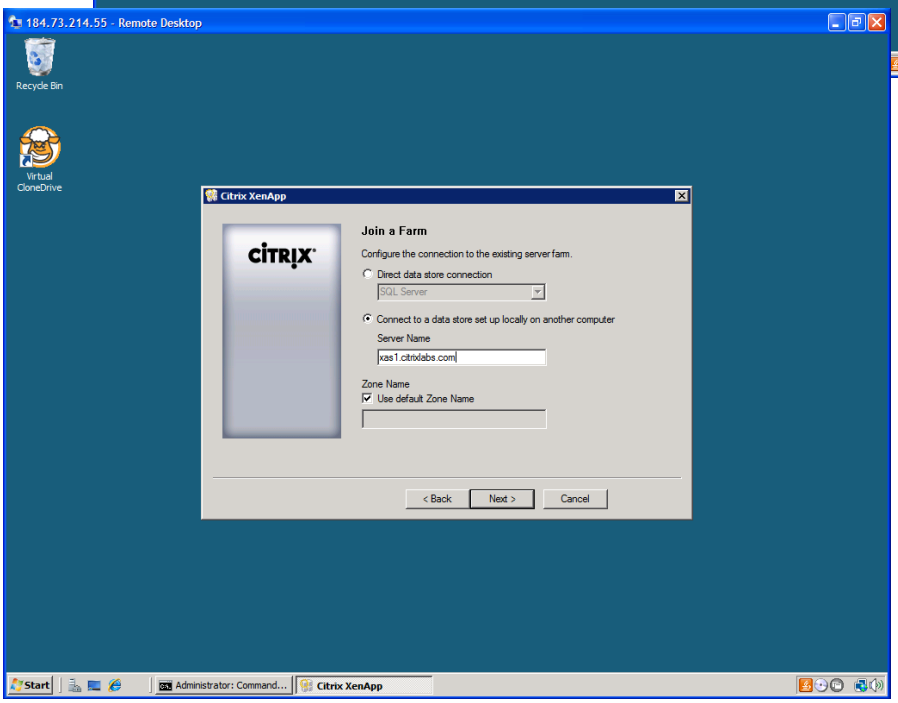
Join an existing farm.

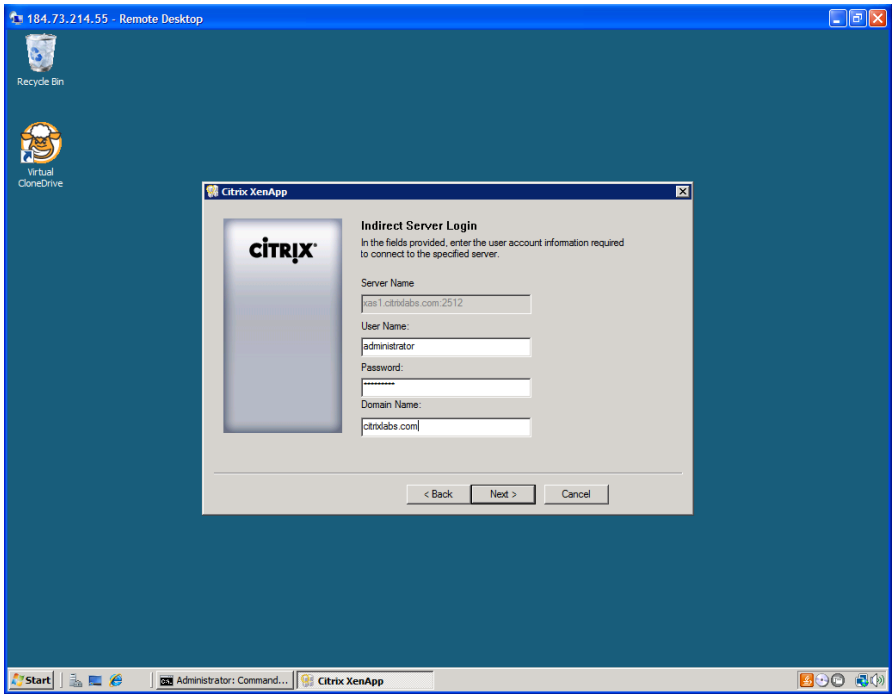


Join Farm:

If using an Access Database in the Farm, choose the second option, Connect to a data store set up locally on another computer.

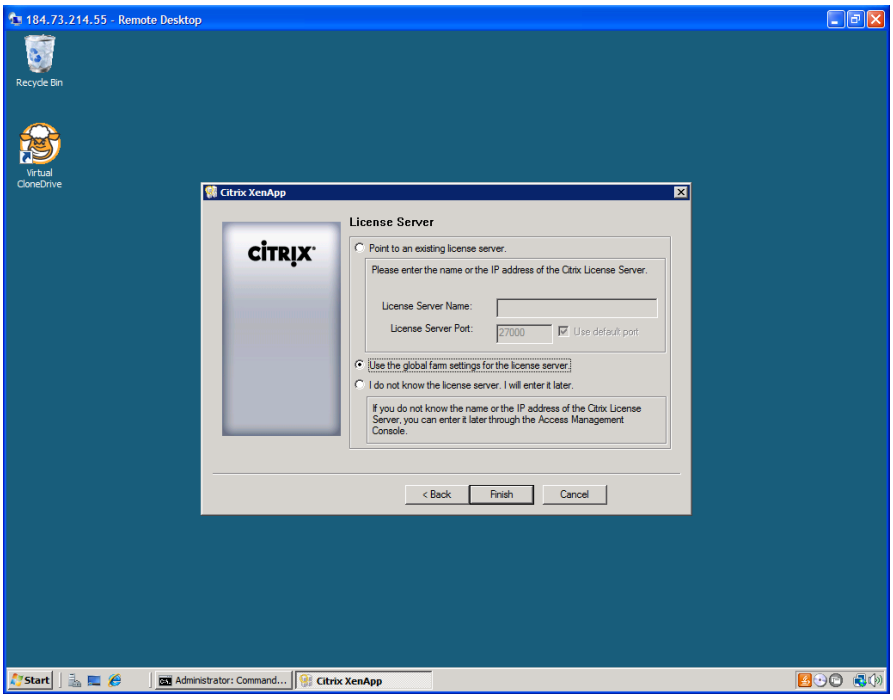
Specify the Server Name that hosts the Server Farm. In this example, it is on XenApp Server 1 - xas1.citrixlabs.com.





Join Farm:

Provide credentials.



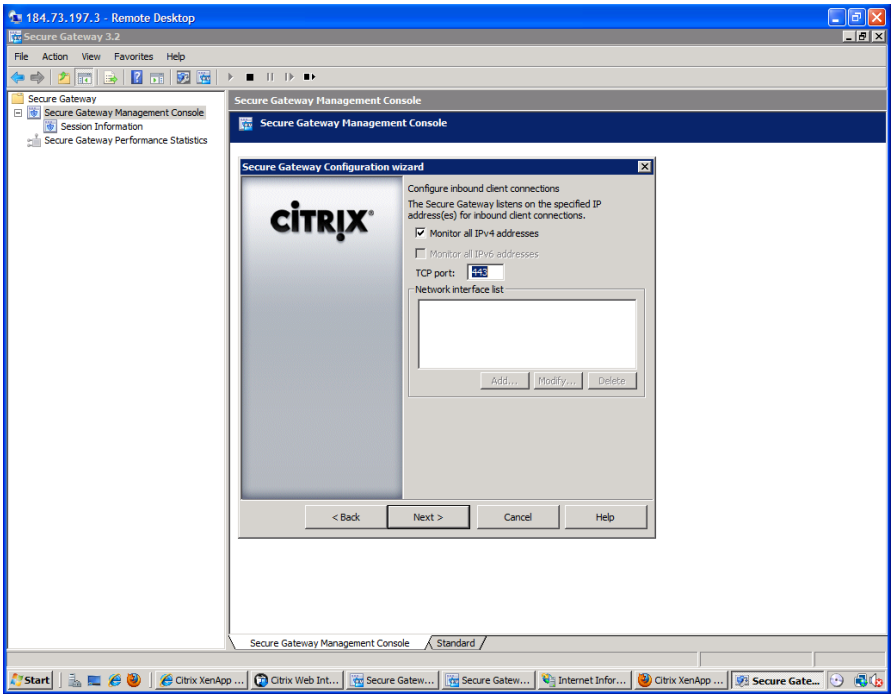
Join Farm:

Use Global Farm Settings.

Secure Gateway:

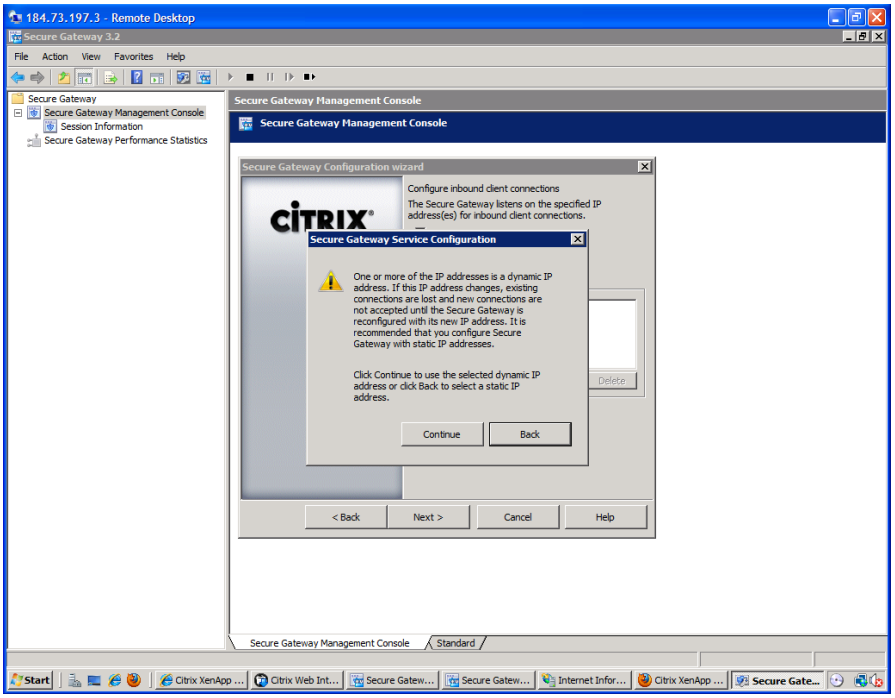
Monitor all IPv4 addresses.

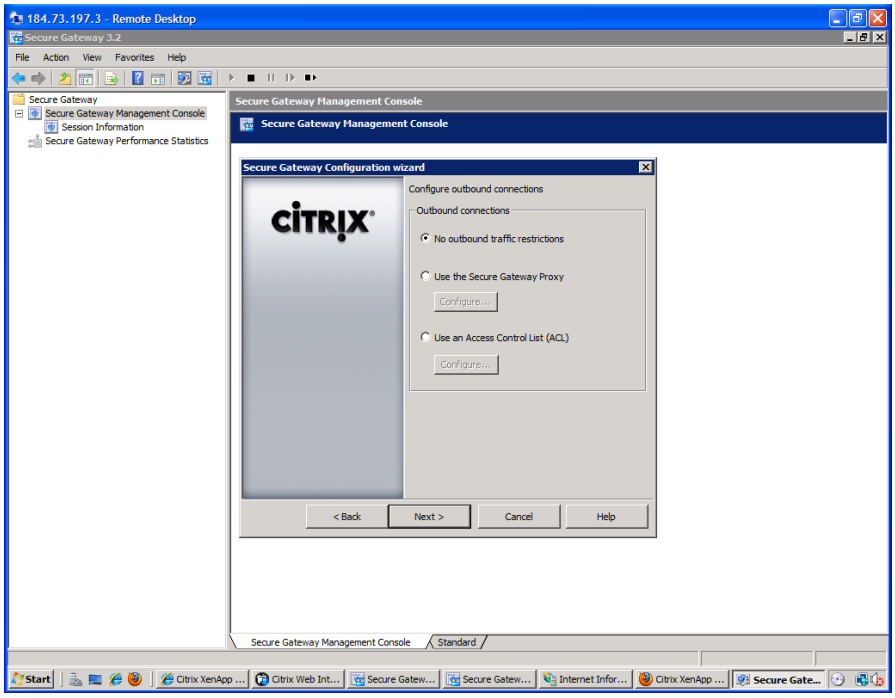
Use port 443.



Secure Gateway:

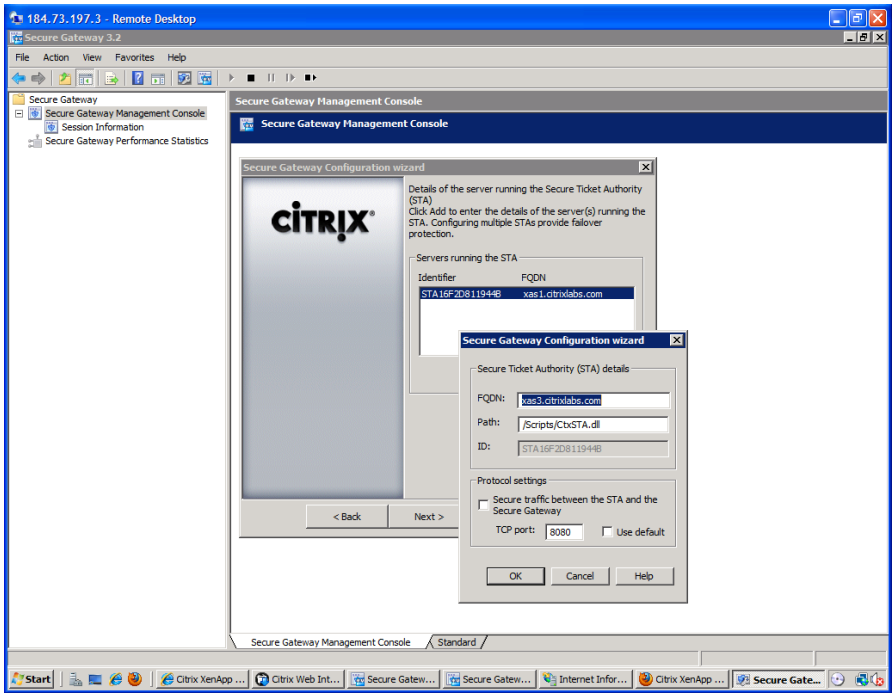
Continue.





Secure Gateway:

No outbound restrictions.

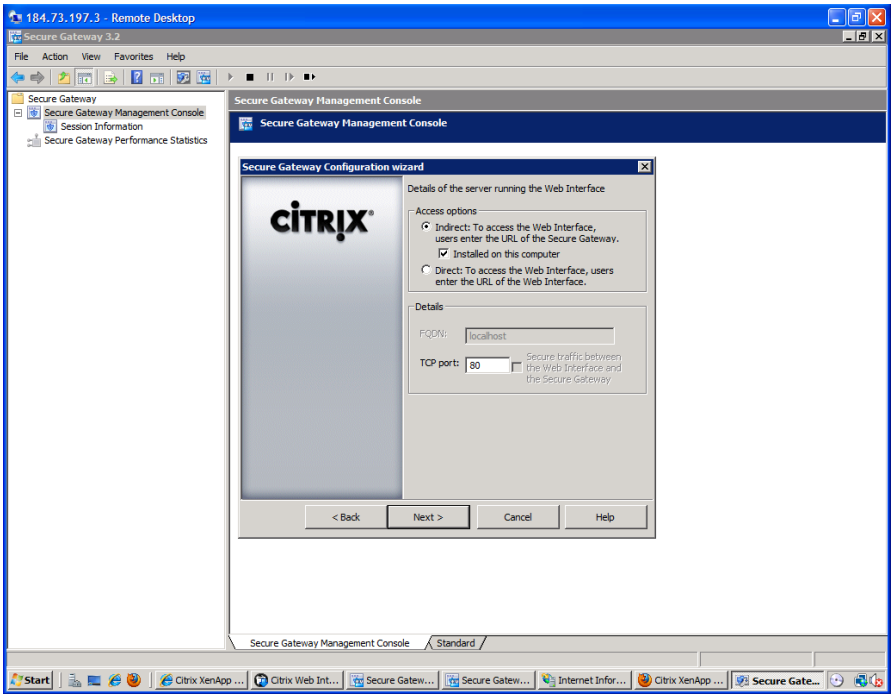


Secure Gateway:

Add the Secure Ticket Authority for the XenApp Server. The STA is on the XenApp Server.

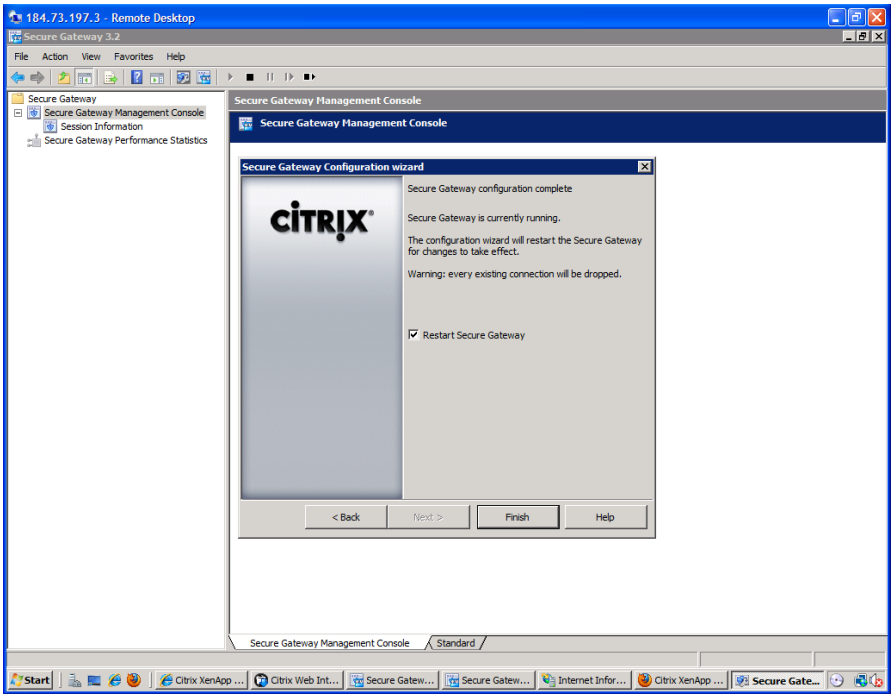
Secure Gateway:

Access Options. Users will connect to the Secure Gateway indirectly, installed on this computer.



Secure Gateway:

Restart Secure Gateway.



XenApp Remote Test

Testing the XenApp installation remotely

Once all of the servers are built and configured, you should test the installation remotely from a client machine.

Remote Test:

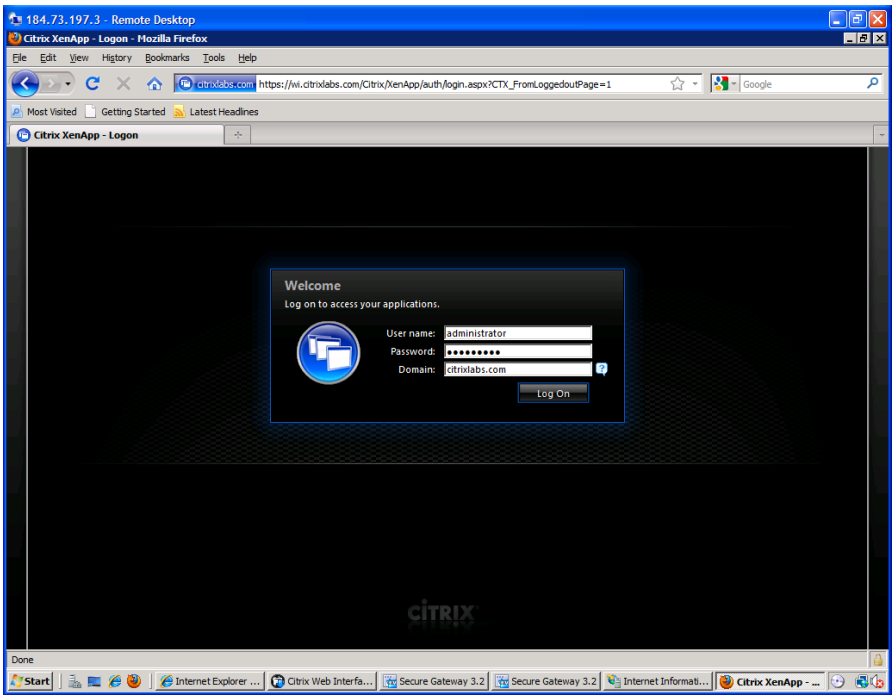
On the remote client machine, launch a web browser.

Try connection to the secure and non-secure Web Interface.

http://wi.citrixlabs.com

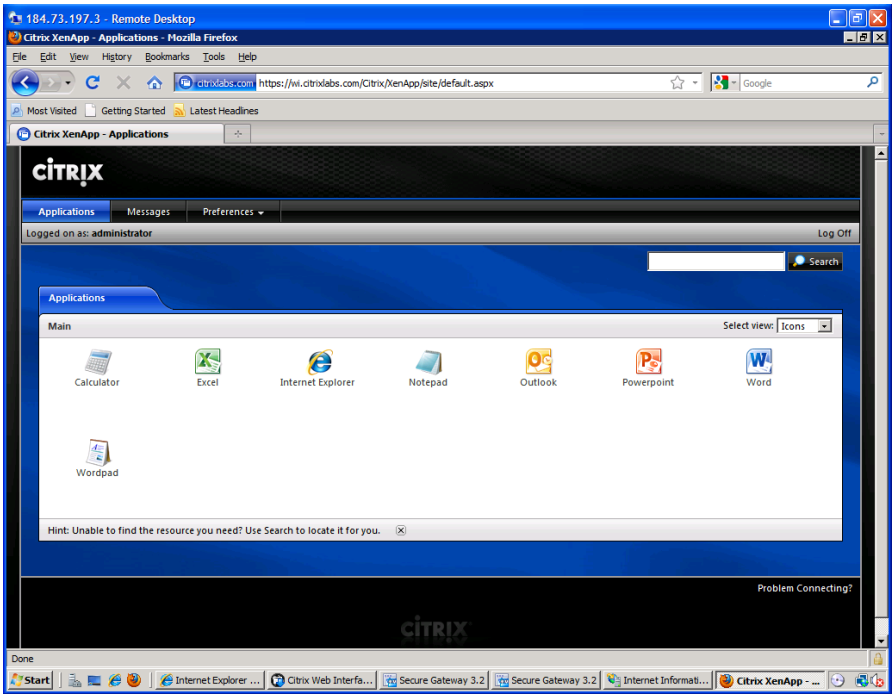
https://wi.citrixlabs.com

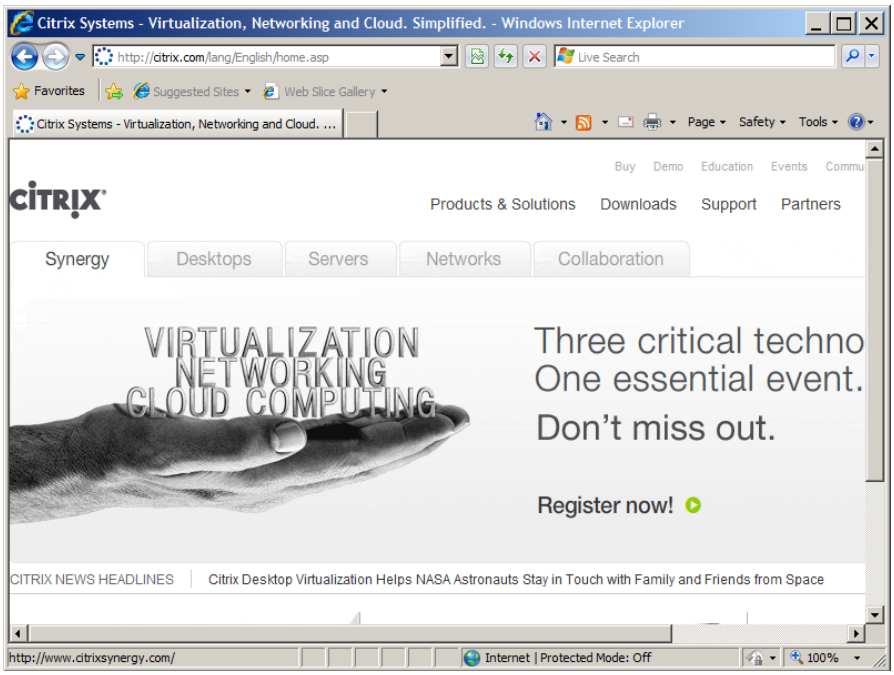
You may need to make an entry in the Client's "hosts" file, if DNS isn't configured to resolve the Web Interface address yet.



Remote Test:

The published apps should appear enumerated in the browser.





Remote Test:

Open one of the applications and it should be delivered to the client - from the XenApp Farm running in Amazon EC2.

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Citrix Systems, Inc. (NASDAQ:CTXS) is the leading provider of virtualization, networking and software as a service technologies for more than 230,000 organizations worldwide. Its Citrix Delivery Center, Citrix Cloud Center (C3) and Citrix Online Services product families radically simplify computing for millions of users, delivering applications as an on-demand service to any user, in any location on any device. Citrix customers include the world's largest Internet companies, 99 percent of *Fortune* Global 500 enterprises, and hundreds of thousands of small businesses and prosumers worldwide. Citrix partners with over 10,000 companies worldwide in more than 100 countries. Founded in 1989, annual revenue in 2008 was $1.6 billion.
The information in this publication is subject to change without notice.