

Building scalable and resilient applications using AZURE

1. Creating Virtual Machine scale set

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information (nkumar2185@gmail.com). The breadcrumb trail is: Home > Scalable resilient application > New > Virtual machine scale set.

The main section is titled "Virtual machine scale set" with a "Create" button. Below this, there are tabs for "Overview" and "Plans". The "Overview" tab is active, showing a description of Virtual Machine Scale Sets (VMSS) and a list of features:

- Easy to create and manage multiple VMs
- Provides high availability and application resiliency
- Allows your application to automatically scale as resource demand changes
- Works at large-scale

Useful Links: [Learn more](#), [Documentation](#)

The second part of the screenshot shows the "Create virtual machine scale set" form. The "BASICS" tab is active, displaying the following fields:

- Virtual machine scale set name: webappvmset
- Operating system disk image: Windows Server 2016 Datacenter
- Subscription: Free Trial
- Resource group: (New) Scalable_resilient_application
- Location: (US) Central US
- Availability zone: Zones 3
- Username: nagendra
- Password: [masked]
- Confirm password: [masked]

At the bottom, there is a "Create" button and a link to "Automation options".

2. Auto scaling options

The screenshot shows the "Create virtual machine scale set" form with the "AUTOSCALE" tab selected. The "AUTOSCALE" section contains the following fields:

- Autoscale: ☐ Disabled ☒ Enabled
- Minimum number of VMs: 1
- Maximum number of VMs: 1
- Scale out: CPU threshold (%) 75, Number of VMs to increase by 1
- Scale in: CPU threshold (%) 25, Number of VMs to decrease by 1

The "NETWORKING" section is partially visible at the bottom.

3. Creating virtual network

The screenshot shows the Microsoft Azure portal interface. On the left, the 'Create virtual machine scale set' page is visible, with the 'Load balancer' option selected. On the right, a modal window titled 'Create virtual network' is open. The modal contains the following sections:

- Name:** webappvnet
- Address space:** The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

Address range	Addresses	Overlap
<input type="checkbox"/> 10.1.0.0/16	10.1.0.0 - 10.1.255.255 (65536 addresses)	None
<input type="text"/>	(0 Addresses)	None
- Subnets:** The subnet's address range in CIDR notation. It must be contained by the address space of the virtual network.

Subnet name	Address range	Addresses
<input type="checkbox"/> default	10.1.0.0/24	10.1.0.0 - 10.1.0.255 (256 addresses)
<input type="text"/>	<input type="text"/>	(0 Addresses)

Buttons at the bottom of the modal are 'OK' and 'Discard'.

The screenshot shows the Microsoft Azure portal interface for the 'Create virtual machine scale set' page. The 'NIC network security group' section is expanded, showing the following settings:

- NIC network security group:** Basic (selected)
- Public inbound ports:** Allow selected ports (selected)
- *Select inbound ports:** HTTP (80), HTTPS (443), RDP (3389)
- MANAGEMENT:**
 - Boot diagnostics:** Off (selected)
 - System assigned managed identity:** Off (selected)

A warning message is displayed: "This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses."

Buttons at the bottom are 'Create' and 'Automation options'.

Microsoft Azure

Search resources, services, and docs (G+)

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DEFAULT DIRECTORY

Home > microsoft.vms-20191130200718 - Overview

Deployment

Search (Ctrl+)

Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name: microsoft.vms-20191130200718

Subscription: [Free Trial](#)

Resource group: [Scalable_resilient_application](#)

Start time: 11/30/2019, 9:19:49 PM

Correlation ID: f5f178c1-994f-446d-961a-66472949750e

▼ Deployment details [\(Download\)](#)

^ Next steps

[Go to resource](#)

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Home > microsoft.vms-20191130200718 - Overview > webappvmset - Scaling

webappvmset - Scaling

Virtual machine scale set

Search (Ctrl+)

Save Discard Refresh

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Instances

Scaling

Storage

Operating system

Security

Size

Extensions

Continuous delivery (Preview)

Configuration

Upgrade policy

Health and repair

Autoscale setting name: cpuaautoscalewebappvms

Resource group: Scalable_resilient_application

Instance count: 1

Default Profile1

Delete warning: The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to turn off autoscale.

Scale mode

☒ Scale based on a metric ☐ Scale to a specific instance count

Scale out

When: webappvmset (Average) Percentage CPU > 75 Increase count by 1

Scale in

When: webappvmset (Average) Percentage CPU < 25 Decrease count by 1

+ Add a rule

Instance limits

Minimum: 1 Maximum: 1 Default: 1

Schedule

This scale condition is executed when none of the other scale condition(s) match

Part-2

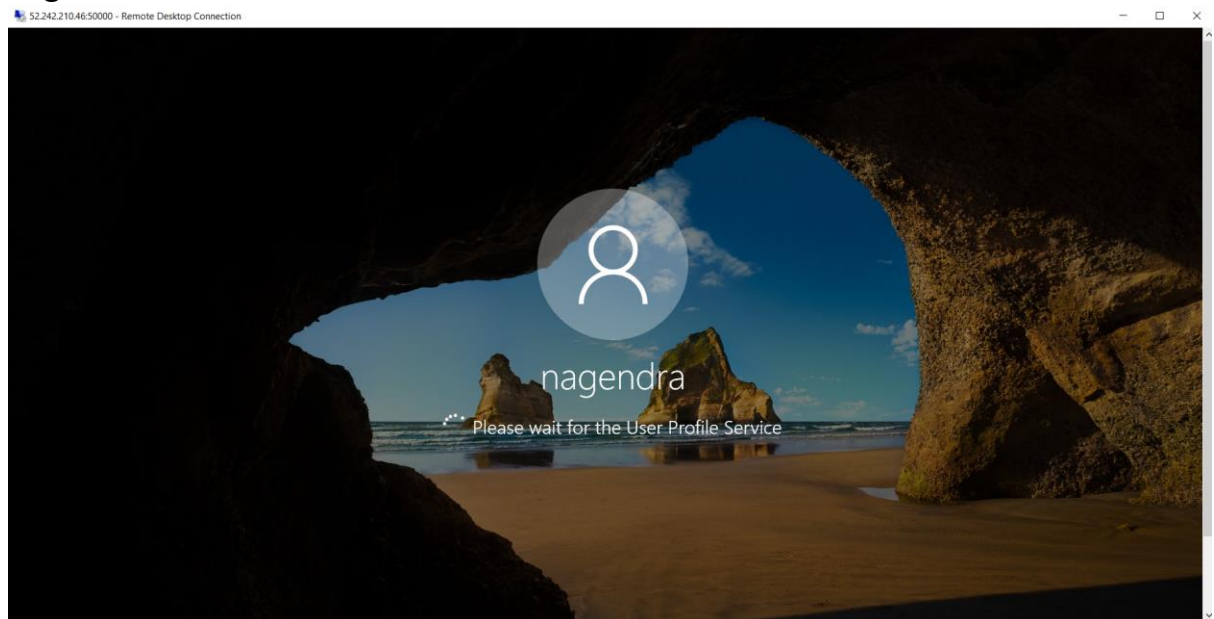
1. Connect to virtual machine using RDP

The image consists of two screenshots from the Microsoft Azure portal, illustrating the steps to connect to a virtual machine (VM) using Remote Desktop Protocol (RDP).

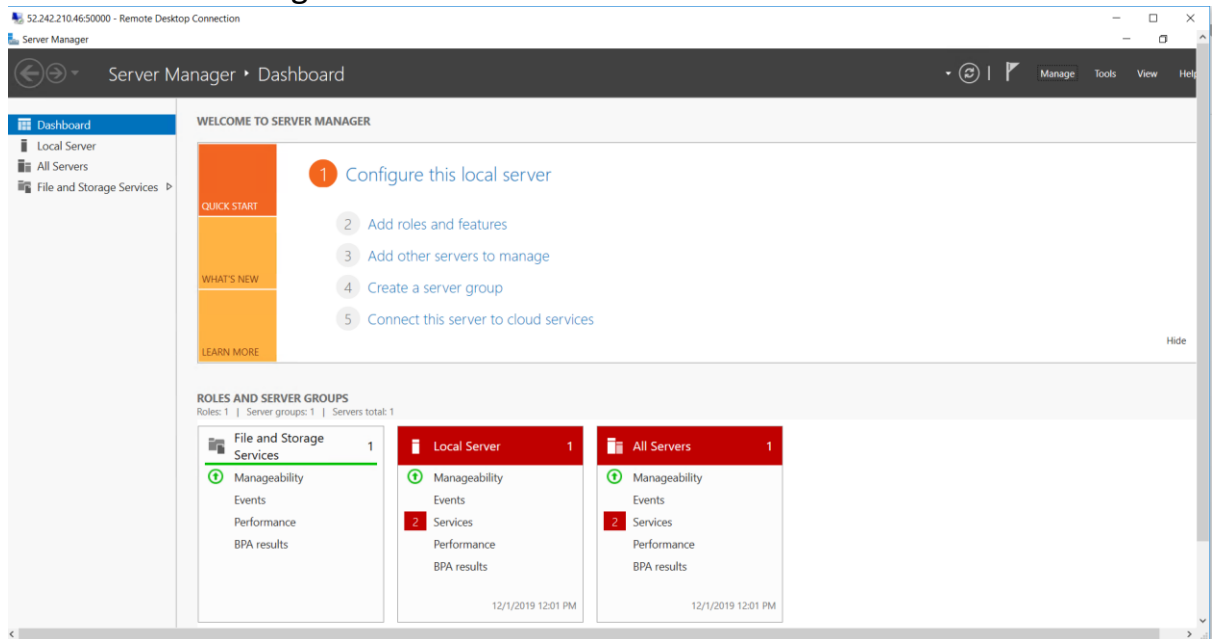
Top Screenshot: The user is viewing the 'Inbound NAT rules' for a load balancer named 'webappvmsetlb'. A 'Remote Desktop Connection' dialog box is open, showing the 'Computer' field with the IP address '52.242.210.46' and the 'User name' field with 'None specified'. The 'Connect' button is highlighted.

Bottom Screenshot: The user is still viewing the 'Inbound NAT rules' for the same load balancer. A 'Windows Security' dialog box titled 'Enter your credentials' is open, prompting for credentials to connect to the IP address '52.242.210.46'. The username 'nagendra k' is entered, and the password field is masked with dots. The 'Remember me' checkbox is checked. The 'OK' button is highlighted.

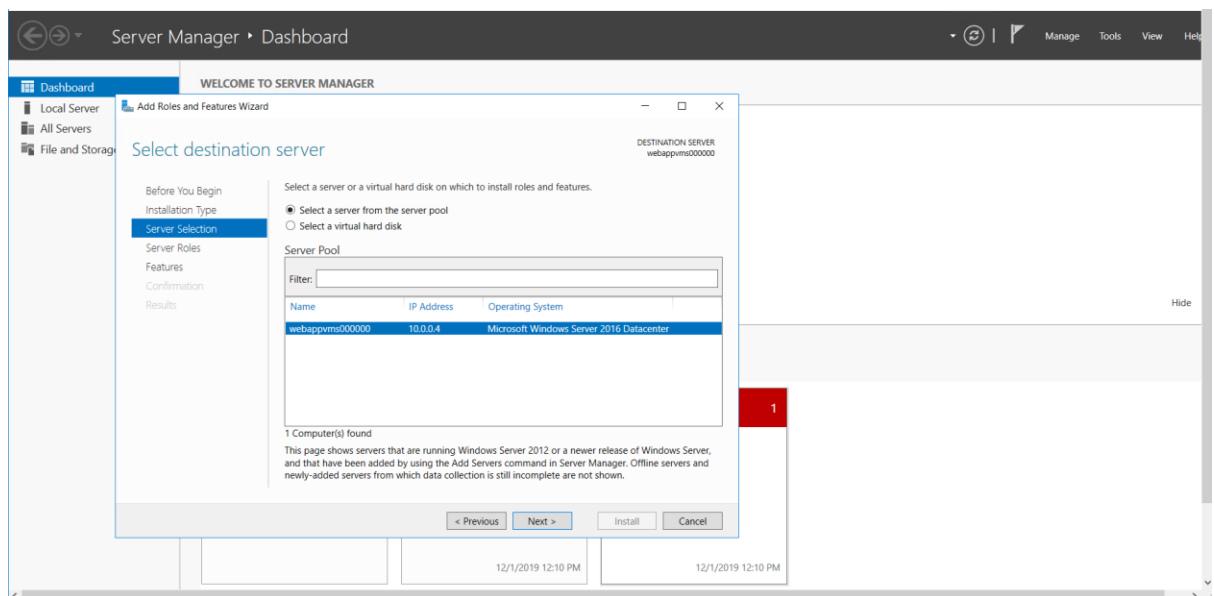
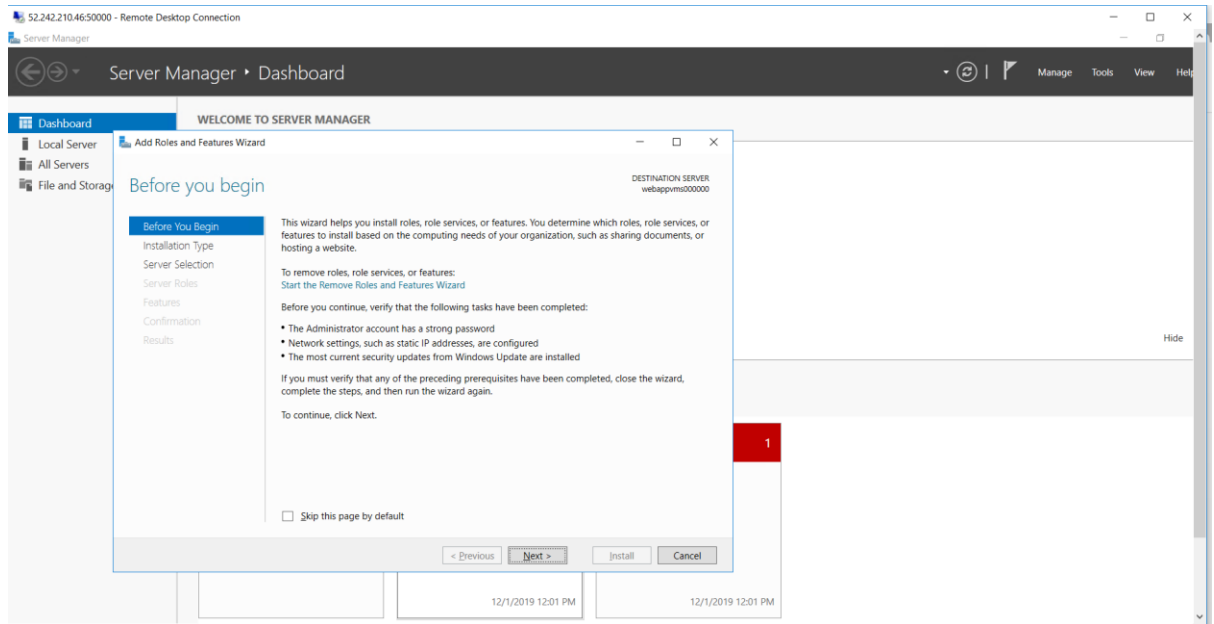
2. Login to machine



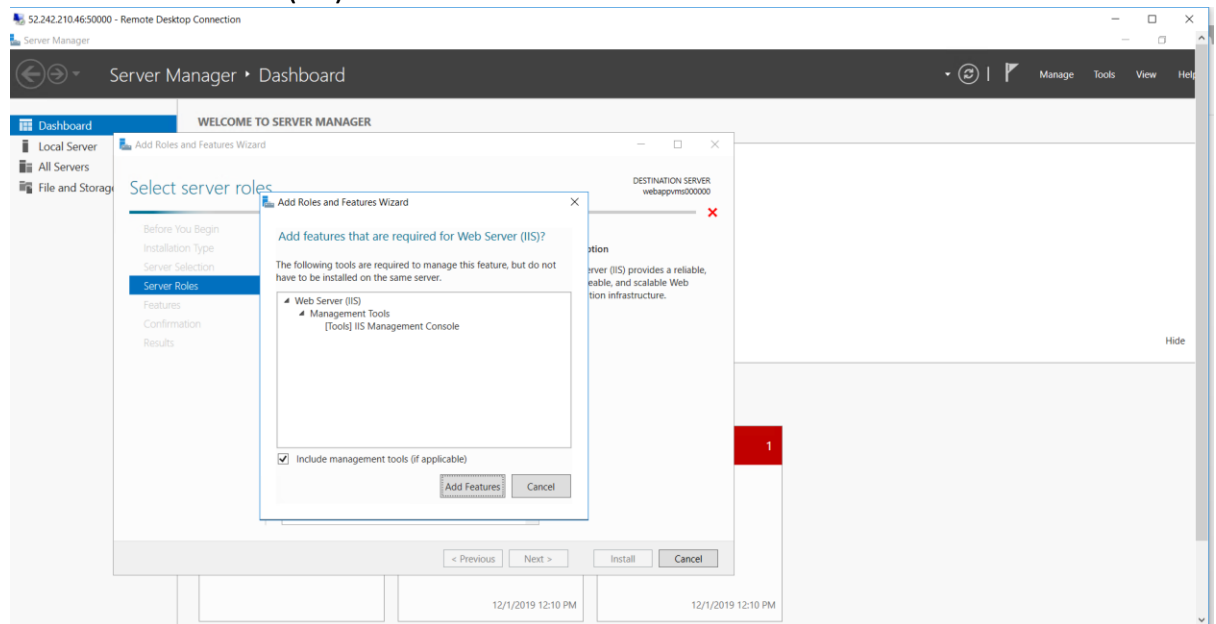
3. Go to Server manager



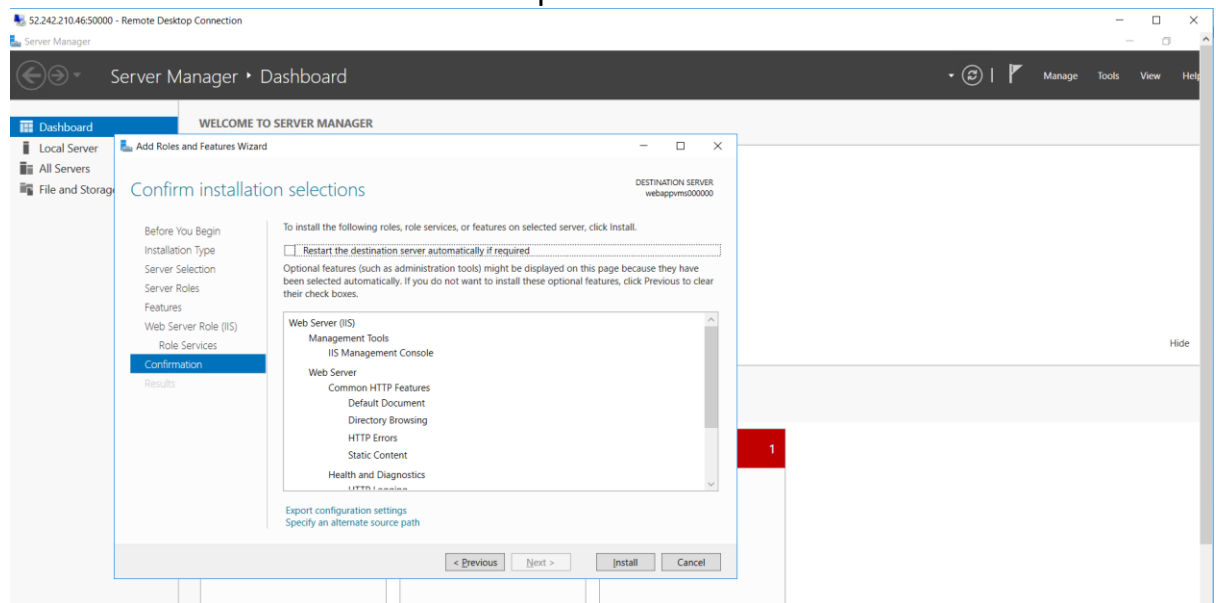
4. Go to add roles and feature

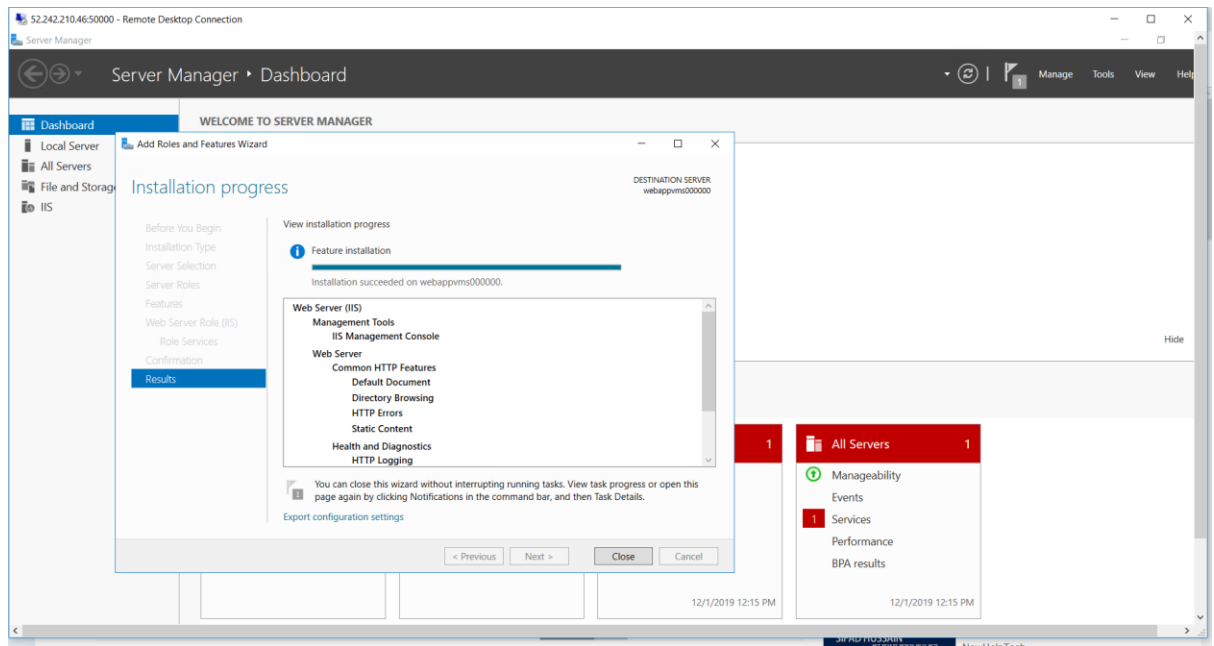


5. Select Web Server(IIS)

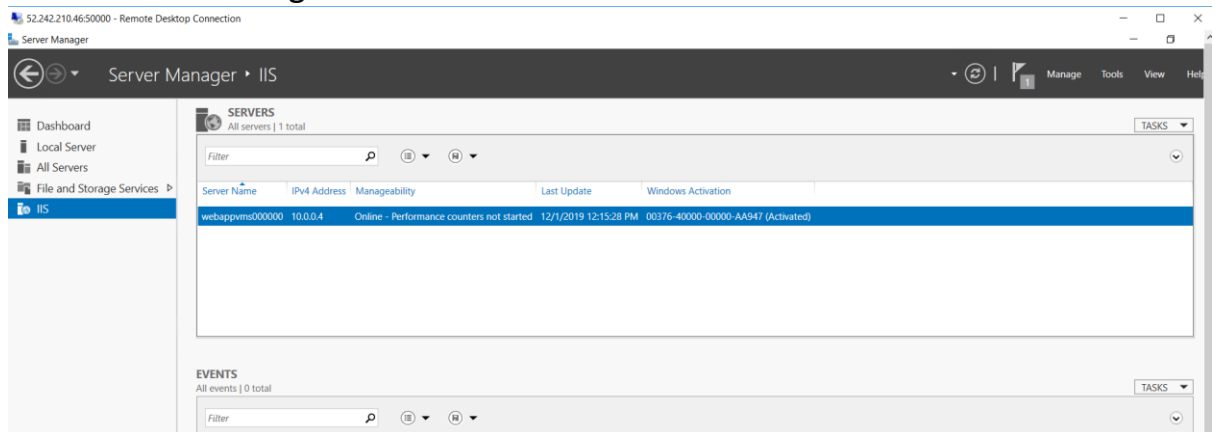


6. Continue the wizard with default options and install

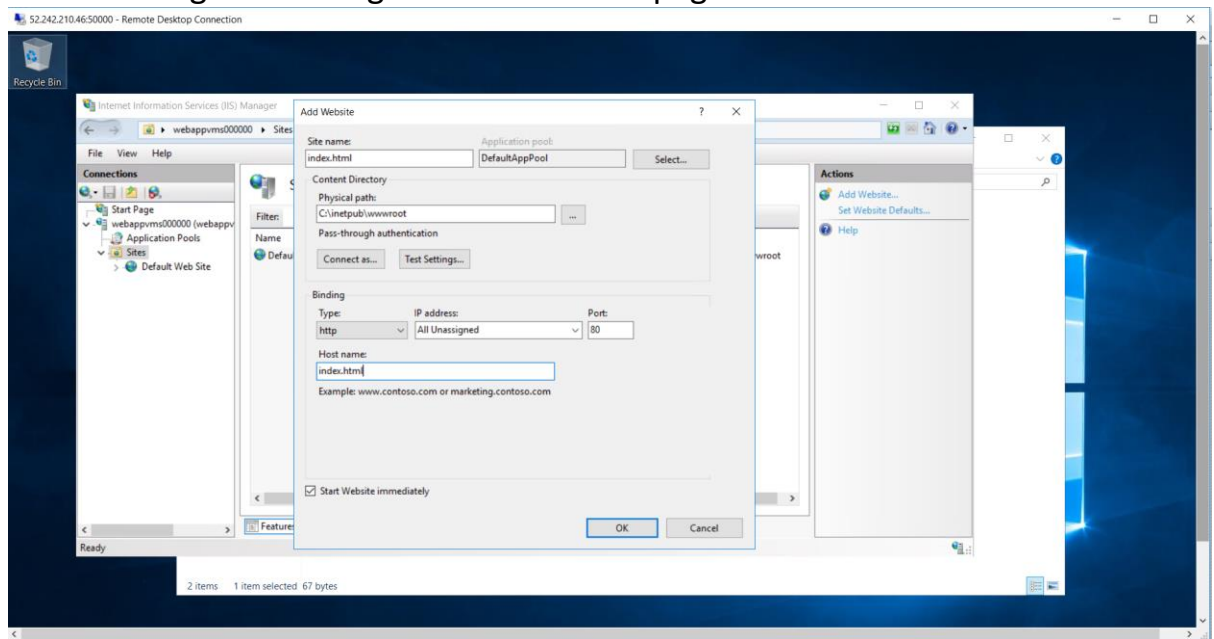




7. Go to server manager



8. Go to Inetmgr and change the default webpage



9. Go to wwwroot folder to change the default page with below sample script



10. Open Default page

