

# Verify EC2 Instances Do Not Have Public DNS

You are on a Research and Development team at a large enterprise that is exploring the usage of Amazon Web Services. One of these exploratory projects is a "lift and shift", with the goal of migrating a set of virtual machines from an on-premises data center into the AWS cloud. Because of the hybrid environment (on-premises + cloud), your virtual machines require the ability to address each other using the Domain Name System (DNS) via the internet. To fulfill this requirement, you will update VPC (Virtual Private Cloud) configuration settings to support DNS for Amazon EC2.

In this first challenge, you will inspect the current EC2 instances and verify that they do not have public DNS names assigned to them.

1. Wait for the environment to load, then use the **user name**, **Password**, and button to the right of this content to log into the AWS Console.

**Note:** It should take about two or three minutes for the environment to load.

2. At the top of the page in the search box, type in and click on **EC2**.
3. At the **EC2 Dashboard**, under the **Resources** section, click on the **Instances (running)** link.
4. On the **Instances** page, you should see two running instances named **WebServer-a** and **WebServer-b**.
5. Check the box next to **WebServer-a**.

On the **Instance** pane below, you should now be on the **Details** tab. Look for the **Public IPv4 DNS** attribute. Notice that the value for this attribute is not set, with a hyphen as a place holder. This means that the instance has not been assigned a publicly accessible DNS name from your VPC.

Congratulations! You've verified that the existing EC2 instances do not have public DNS names. Continue on to the next challenge where you will update the VPC settings to enable public DNS addresses for your EC2 instances.

The screenshot shows the AWS Management Console interface. On the left is a navigation sidebar with options like 'EC2 Dashboard', 'Events', 'Tags', 'Limits', 'Instances', 'Instance Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Scheduled Instances', 'Capacity Reservations', 'Images', 'AMIs', 'AMI Catalog', and 'Elastic Block Store'. The main area displays 'Instances (1/2)' with a search bar and a table of instances. Two instances are listed: 'WebServer-b' and 'WebServer-a'. 'WebServer-a' is selected, and a detailed view for 'Instance: i-0632a8d9e3d8b6276 (WebServer-a)' is shown. This view includes tabs for 'Details', 'Security', 'Networking', 'Storage', 'Status checks', 'Monitoring', and 'Tags'. The 'Details' tab is active, showing instance summary information such as Instance ID, Instance state (Running), Public IPv4 address (35.92.167.91), Private IPv4 addresses (10.0.40.213), and Elastic IP addresses (none). The footer of the console shows '© 2022, Amazon Web Services, Inc. or its affiliates.' and links for 'Privacy', 'Terms', and 'Cookie preferences'.

# Update VPC Settings to Enable DNS Services

In the previous challenge, you verified that your EC2 instances are not receiving public DNS names. In this challenge, you'll update your VPC configuration to enable public DNS names for EC2 instances.

1. In the top-left click on **Services**, then in the search box type in and click on **VPC**.
2. On the **VPC Dashboard** page, underneath **Resources by Region**, click the **VPCs** link.
3. Check the box next to the **main** VPC.

**Note:** You will now see details for this VPC. Notice that on the **Details** tab the attributes for **DNS resolution** and **DNS hostnames** are **Disabled**.

4. Near the top-right, click **Actions** > **Edit DNS resolution**.
5. On the **Edit DNS resolution** page, check the box next to **DNS resolution**, and then click the **Save Changes** button.

**Note:** You should receive a confirmation in a green box that says **DNS resolution successfully updated**.

6. Click **Actions** > **Edit DNS hostnames**.

7. Check the box next to **DNS hostnames** to enable it, and then click the **Save Changes** button.

Notice that the VPC now shows both the **DNS hostnames** and **DNS resolution** as **Enabled**.

Congratulations! You have successfully edited your VPC configuration to implement DNS services for EC2.

The screenshot displays the AWS Management Console interface for VPCs. The left sidebar shows the navigation menu with 'Virtual private cloud' expanded. The main content area shows 'Your VPCs (1/2)' with a table listing VPCs. The 'main' VPC is selected, and its details are shown below. The 'DNS hostnames' and 'DNS resolution' settings are both 'Disabled'. A context menu is open over the 'DNS resolution' setting, showing options like 'Edit DNS resolution', 'Manage middlebox routes', and 'Delete VPC'.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP opt
main	vpc-03663c59e2874a0b3	Available	10.0.0.0/16	-	dopt-94c
-	vpc-0f4b5a18184e84bbb	Available	172.31.0.0/16	-	dopt-94c

**vpc-03663c59e2874a0b3 / main**

**Details**

Property	Value
VPC ID	vpc-03663c59e2874a0b3
State	Available
DNS hostnames	Disabled
DNS resolution	Disabled
Tenancy	Default
DHCP option set	dopt-94c4b9ec
Main route table	rtb-05df27029d6a0ada8
Main network ACL	acl-0604a59b325b3ff63
Default VPC	
IPv4 CIDR	
IPv6 pool	
IPv6 CIDR (Network border group)	

**Edit DNS resolution**

- Create default VPC
- Create flow log
- Edit VPC settings
- Edit CIDRs
- Edit DHCP option set
- Edit DNS hostnames
- Edit DNS resolution
- Manage middlebox routes
- Manage tags
- Delete VPC

Edit DNS resolution [Info](#)

## DNS resolution settings

Indicates whether DNS resolution is supported.

VPC ID

vpc-03663c59e2874a0b3

DNS resolution

☐ Enable

On November 30th, 2022, these settings will be moved to 'Edit VPC settings'. To reach these settings, on the navigation pane click 'Your VPCs', select a VPC, and choose 'Actions' > 'Edit VPC settings'.

[Go to Edit VPC settings](#)

Cancel

Save changes

VPC dashboard

EC2 Global View [New](#)

Filter by VPC:

Select a VPC

## Virtual private cloud

## Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

Carrier gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

## Security

Network ACLs

DNS resolution successfully updated.

Your VPCs (1/2) [Info](#)

Filter VPCs

	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP opt
<input checked="" type="checkbox"/>	main	vpc-03663c59e2874a0b3	Available	10.0.0.0/16	–	dopt-94c
<input type="checkbox"/>	–	vpc-0f4b5a18184e84bbb	Available	172.31.0.0/16	–	dopt-94c

vpc-03663c59e2874a0b3 / main

Details CIDRs Flow logs Tags

## Details

VPC ID	State	DNS hostnames	DNS resolution
vpc-03663c59e2874a0b3	Available	Disabled	Enabled
Tenancy	DHCP option set	Main route table	Main network ACL
Default	dopt-94c4b9ec	rth-05c4f77029d6a0a1a8	arl-0604a59b325b3ff63

VPC dashboard

EC2 Global View [New](#)

Filter by VPC:

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## Security

Network ACLs

DNS resolution successfully updated.

Your VPCs (1/2) [Info](#)

Filter VPCs

	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP opt
<input checked="" type="checkbox"/>	main	vpc-03663c59e2874a0b3	Available	10.0.0.0/16	–	dopt-94c
<input type="checkbox"/>	–	vpc-0f4b5a18184e84bbb	Available	172.31.0.0/16	–	dopt-94c

vpc-03663c59e2874a0b3 / main

Details CIDRs Flow logs Tags

## Details

VPC ID	State	DNS hostnames	DNS resolution
vpc-03663c59e2874a0b3	Available	Disabled	Enabled
Tenancy	DHCP option set	Main route table	Main network ACL
Default	dopt-94c4b9ec	rth-05c4f77029d6a0a1a8	arl-0604a59b325b3ff63

- Actions
- Create default VPC
- Create flow log
- Edit VPC settings
- Edit CIDRs
- Edit DHCP option set
- Edit DNS hostnames
- Edit DNS resolution
- Manage middlebox routes
- Manage tags
- Delete VPC

Edit DNS hostnames [Info](#)

## DNS hostnames settings

Indicates whether instances with public IP addresses get corresponding public DNS hostnames.

VPC ID

vpc-03663c59e2874a0b3  
DNS hostnames☐ Enable

On November 30th, 2022, these settings will be moved to 'Edit VPC settings'. To reach these settings, on the navigation pane click 'Your VPCs', select a VPC, and choose 'Actions' > 'Edit VPC settings'.  
[Go to Edit VPC settings](#)

Cancel

Save changes

VPC dashboard

EC2 Global View [New](#)

Filter by VPC:

Select a VPC

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## Security

Network ACLs

DNS hostnames successfully updated.

Your VPCs (1/2) [Info](#)

Filter VPCs

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<input checked="" type="checkbox"/>	main	vpc-03663c59e2874a0b3	Available	10.0.0.0/16	–	dopt-94c
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Details CIDRs Flow logs Tags

## Details

VPC ID	State	DNS hostnames	DNS resolution
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Tenancy	DHCP option set	Main route table	Main network ACL
Default	dopt-94c4b9ac	rth-05c4f27029d6a0ada8	acl-0604a59b325b3ff63

# Verify EC2 Instances Have Public DNS

Now that your VPC has been updated to support public DNS for EC2 instances, you will verify that your running EC2 instances now have DNS records assigned to them.

1. At the top of the page in the search box, type in and click on **EC2**.
2. Under the **Resources** section, click the **Instances (running)** link.
3. Check the box next to **WebServer-a**.

On the Instance pane below, you should now be on the **Details** tab.

Under the **Instance summary** section, look for the **Public IPv4 DNS** attribute. Notice that the value for this attribute is now set, with a value like **ec2-`<unique-ip-address>`.us-west-2.compute.amazonaws.com**. This means that the instance has been assigned a publicly accessible DNS name from your VPC. The EC2 instance can now be addressed over the internet using this DNS name.

Congratulations! With your newly enabled VPC DNS settings, you've verified that the existing EC2 instances now have public DNS names. Your lift and shift experiment into AWS can now proceed as planned, and your hybrid environment can now communicate with your Amazon EC2 hosts using public DNS.

The screenshot displays the AWS Management Console interface. On the left, the navigation menu includes 'New EC2 Experience', 'EC2 Dashboard', 'EC2 Global View', 'Events', 'Tags', 'Limits', 'Instances', 'Images', and 'Elastic Block Store'. The 'Instances' section is expanded, showing a list of instances. Two instances are listed: 'WebServer-b' and 'WebServer-a'. 'WebServer-a' is selected, and its details are shown in the main pane. The details pane has tabs for 'Details', 'Security', 'Networking', 'Storage', 'Status checks', 'Monitoring', and 'Tags'. The 'Details' tab is active, showing the 'Instance summary' section. The 'Public IPv4 DNS' attribute is highlighted, showing the value 'ec2-35-92-167-91.us-west-2.compute.amazonaws.com'. A green checkmark and the text 'Public IPv4 DNS copied' are visible next to the attribute.

Name	Instance ID	Instance state	Instance type	Status check	Alarm state
WebServer-b	i-0dfe1bf3841cdb340	Running	t3.nano	2/2 checks passed	No alarm
WebServer-a	i-0632a8d9e3d8b6276	Running	t3.nano	2/2 checks passed	No alarm

**Instance: i-0632a8d9e3d8b6276 (WebServer-a)**

**Instance summary**

Instance ID: i-0632a8d9e3d8b6276 (WebServer-a)

IPv6 address: -

Hostname type: IP name: ip-10-0-40-213.us-west-2.compute.internal

Answer private resource DNS name: -

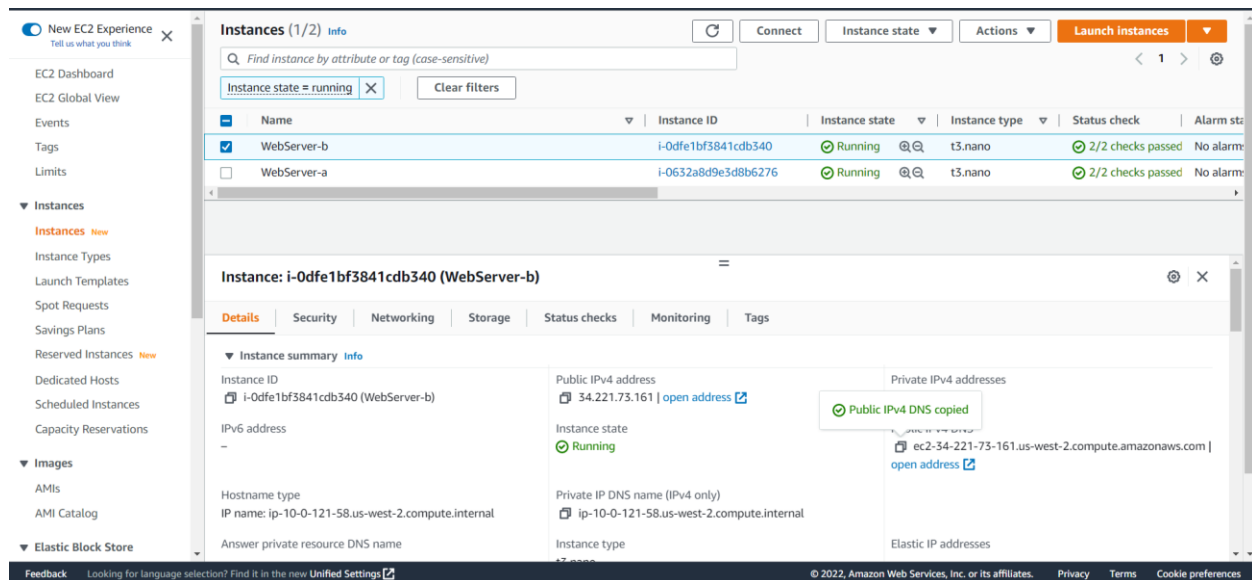
Public IPv4 address: 35.92.167.91 | [open address](#)

Instance state: Running

Private IP DNS name (IPv4 only): ip-10-0-40-213.us-west-2.compute.internal

Private IPv4 addresses: ec2-35-92-167-91.us-west-2.compute.amazonaws.com | [open address](#)

Elastic IP addresses: -



Written Steps :-

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## DNS

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