

Built My First Custom VPC

With Windows EC2, Public/Private Subnets, IGW & NAT Gateway



Step 1 - Created VPC

Created VPC (CIDR: 10.0.0.0/16)

The screenshot shows the AWS VPC console 'Create VPC' page. The browser address bar shows the URL: `us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateVpc:createMode=vpcOnly`. The page title is 'Create VPC' with an 'Info' link. Below the title is a description: 'A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.'

VPC settings

Resources to create [Info](#)
Create only the VPC resource or the VPC and other networking resources.

☒ VPC only ☐ VPC and more

Name tag - optional
Creates a tag with a key of 'Name' and a value that you specify.

MyVPC

IPv4 CIDR block [Info](#)
☒ IPv4 CIDR manual input ☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR
10.0.0.0/16
CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)
☒ No IPv6 CIDR block

The bottom of the screenshot shows the Windows taskbar with various icons and the system clock displaying 10:34 PM on 5/20/2025.

Step 2 - Subnet Setup

Added Public & Private Subnets with distinct CIDRs

The screenshot displays the AWS VPC console interface. A green notification banner at the top states: "You have successfully created 2 subnets: subnet-016b51817fc61dbe, subnet-0358ae2792968121e". The main content area is titled "Subnets (2)" and includes a search bar with the text "Find subnets by attribute or tag". Below the search bar, two filters are applied: "Subnet ID : subnet-016b51817fc61dbe" and "Subnet ID : subnet-0358ae2792968121e". A table lists the subnets:

<input type="checkbox"/>	Name	Subnet ID	State	VPC	Block Public
<input type="checkbox"/>	PublicSubnet	subnet-016b51817fc61dbe	Available	vpc-009b2afcc6ac1c7e9 MyVPC	Off
<input type="checkbox"/>	PrivateSubnet	subnet-0358ae2792968121e	Available	vpc-009b2afcc6ac1c7e9 MyVPC	Off

Below the table, there is a section titled "Select a subnet" with a search bar and a list of subnets. The bottom of the console shows the AWS logo, "CloudShell", "Feedback", and a footer with copyright information: "© 2025, Amazon Web Services, Inc. or its affiliates.".

Step 3 - Internet Gateway

Created Internet Gateway and attached it to VPC

The screenshot shows the AWS Management Console interface for creating an internet gateway. The browser address bar shows the URL: `us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateInternetGateway:`. The page title is "Create internet gateway" with an "Info" link. Below the title, a descriptive sentence states: "An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below." The "Internet gateway settings" section contains a "Name tag" label and a text input field with the value "MyIGW". The "Tags - optional" section explains that a tag is a label for an AWS resource and shows a table with one tag: Key "Name" and Value "MyIGW". There is an "Add new tag" button and a note that 49 more tags can be added. At the bottom right, there are "Cancel" and "Create internet gateway" buttons. The footer of the console shows "CloudShell", "Feedback", and copyright information for Amazon Web Services, Inc. or its affiliates. The Windows taskbar at the bottom displays the search bar, various application icons, and system status information including temperature (27°C), weather (Cloudy), and time (10:40 PM on 5/20/2025).

VPC | us-east-1

us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateInternetGateway:

Search [Alt+S]

United States (N. Virginia) syhasir9147@gmail.com

VPC > Internet gateways > Create internet gateway

Create internet gateway [Info](#)

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

Internet gateway settings

Name tag
Creates a tag with a key of 'Name' and a value that you specify.

MyIGW

Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional	
Name	MyIGW	Remove

[Add new tag](#)

You can add 49 more tags.

[Cancel](#) [Create internet gateway](#)

CloudShell Feedback

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Type here to search

27°C Cloudy

ENG IN 10:40 PM 5/20/2025

Step 4 - Public Route Table

Routed 0.0.0.0/0 to IGW for public access

The screenshot displays the AWS Management Console interface for a VPC in the us-east-1 region. The main content area shows the details for a Public Route Table with ID `rtb-0849c652774e42731`. A green notification bar at the top indicates that the PublicRouteTable was created successfully. The left sidebar contains the VPC dashboard navigation menu, with 'Route tables' selected. The main panel shows the route table's details, including its ID, VPC association, and owner ID. Below the details, the 'Routes' tab is active, displaying a table with one route for destination `10.0.0.0/16` targeting 'local' with an 'Active' status.

Route table `rtb-0849c652774e42731` / PublicRouteTable

Details

Route table ID	Main	Explicit subnet associations	Edge associations
<code>rtb-0849c652774e42731</code>	No	-	-

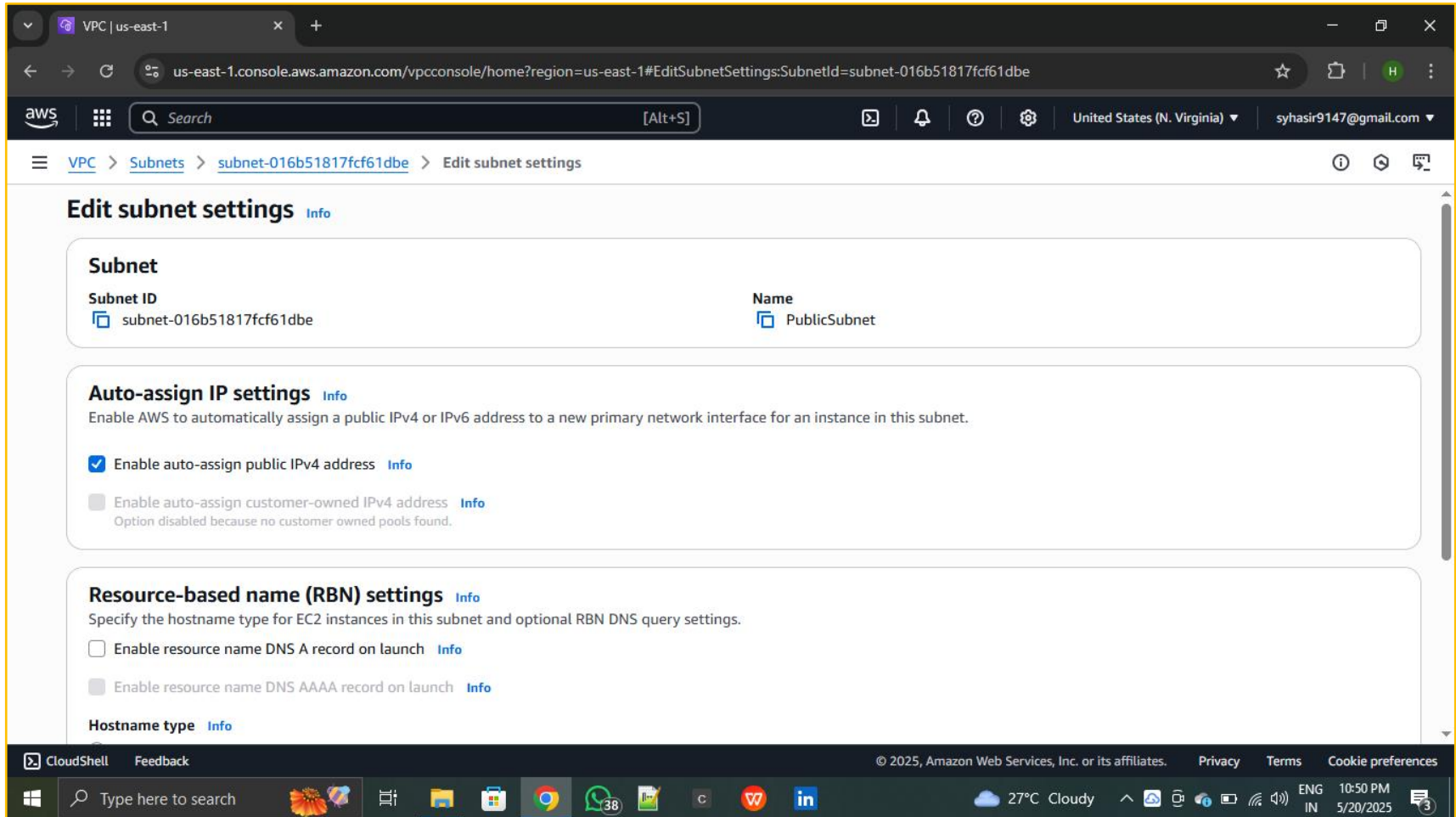
VPC	Owner ID
<code>vpc-009b2afcc6ac1c7e9</code> MyVPC	<code>041683371280</code>

Routes (1)

Destination	Target	Status	Propagated
<code>10.0.0.0/16</code>	local	Active	No

Step 5 - Auto-assign Public IP

Enabled public IP assignment for PublicSubnet



The screenshot displays the AWS Management Console interface for editing subnet settings. The browser address bar shows the URL: `us-east-1.console.aws.amazon.com/vpconsole/home?region=us-east-1#EditSubnetSettings:SubnetId=subnet-016b51817fcf61dbe`. The console header includes the AWS logo, a search bar, and navigation icons. The breadcrumb trail indicates the path: `VPC > Subnets > subnet-016b51817fcf61dbe > Edit subnet settings`.

The main content area is titled **Edit subnet settings** with an [Info](#) link. It contains three sections:

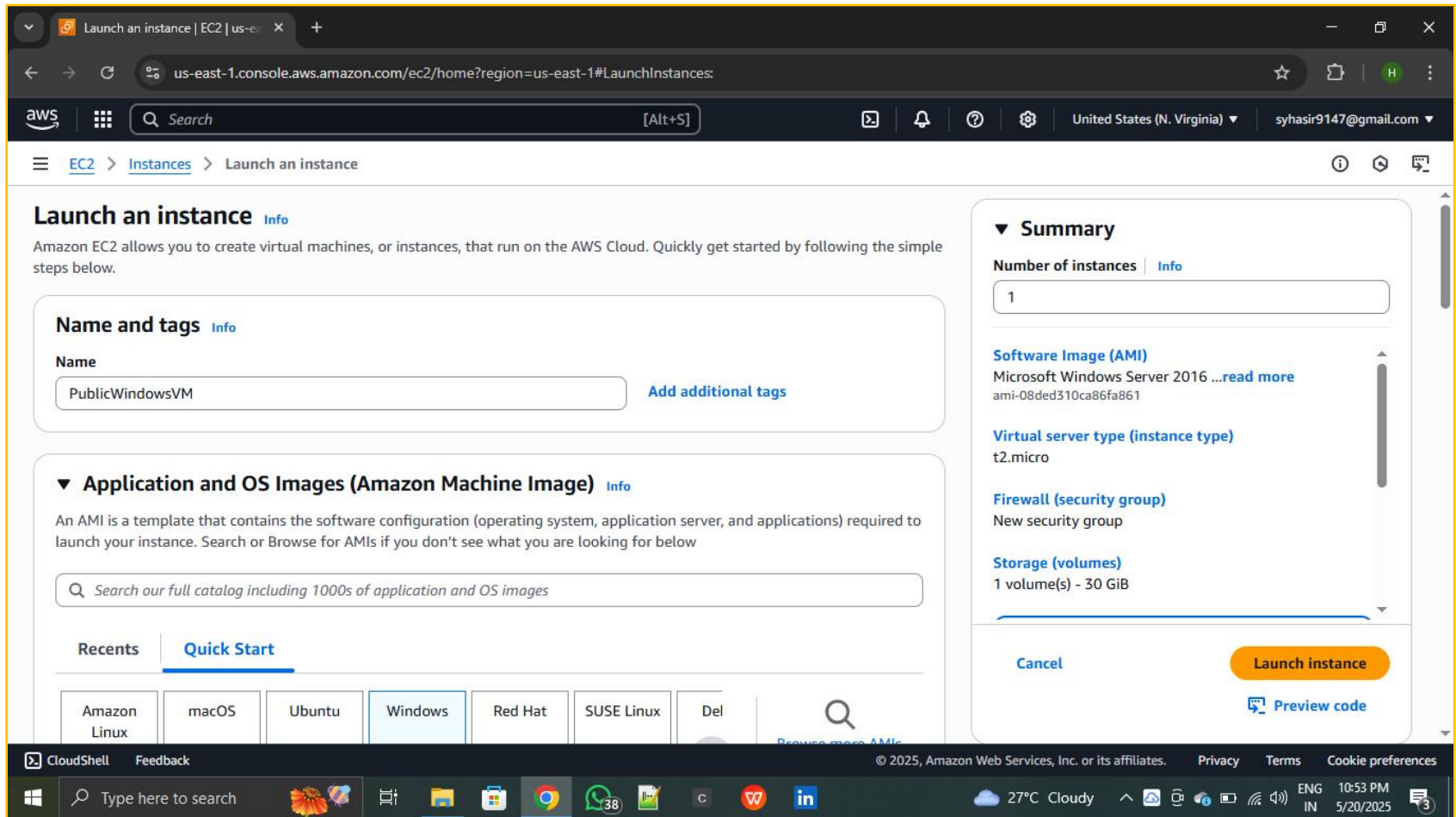
- Subnet**: Displays the Subnet ID as `subnet-016b51817fcf61dbe` and the Name as `PublicSubnet`.
- Auto-assign IP settings** (with an [Info](#) link):
 - Enable AWS to automatically assign a public IPv4 or IPv6 address to a new primary network interface for an instance in this subnet.
 - ☒ **Enable auto-assign public IPv4 address** (with an [Info](#) link)
 - ☐ **Enable auto-assign customer-owned IPv4 address** (with an [Info](#) link)
Option disabled because no customer owned pools found.
- Resource-based name (RBN) settings** (with an [Info](#) link):
 - Specify the hostname type for EC2 instances in this subnet and optional RBN DNS query settings.
 - ☐ **Enable resource name DNS A record on launch** (with an [Info](#) link)
 - ☐ **Enable resource name DNS AAAA record on launch** (with an [Info](#) link)

At the bottom of the console, there is a **Hostname type** section with an [Info](#) link. The footer of the console shows copyright information: `© 2025, Amazon Web Services, Inc. or its affiliates.`, along with links for [Privacy](#), [Terms](#), and [Cookie preferences](#).

The Windows taskbar at the bottom of the image shows the system clock at 10:50 PM on 5/20/2025, and the weather as 27°C Cloudy.

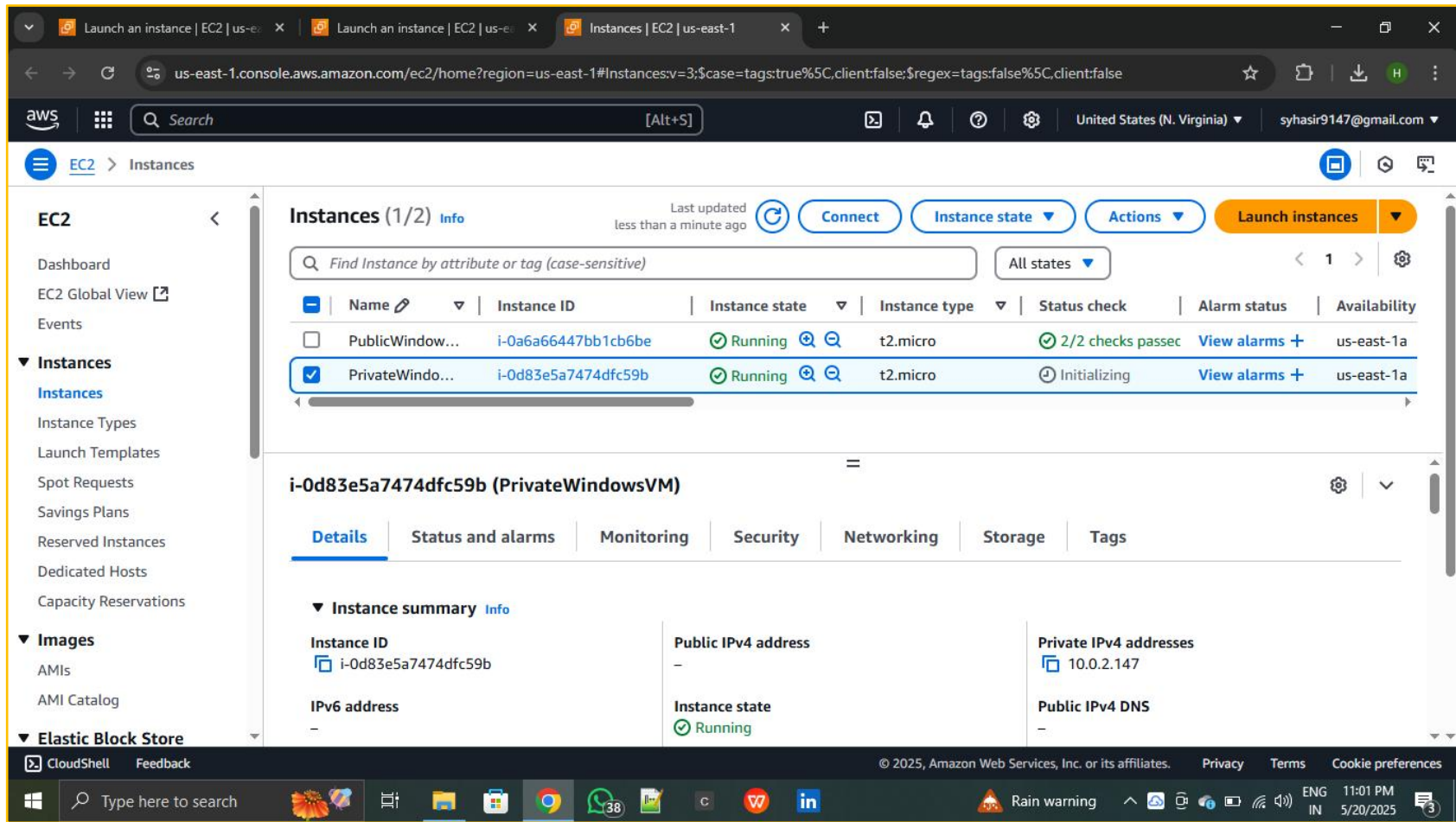
Step 6 - Public EC2 Launch

Launched Windows EC2 in Public Subnet



Step 7 - Private EC2 Launch

Launched another EC2 in Private Subnet (no public IP)



The screenshot displays the AWS Management Console interface for the 'Instances' page in the 'us-east-1' region. The left sidebar shows the navigation menu with 'Instances' selected. The main content area shows a list of two EC2 instances. The 'PrivateWindow...' instance is selected, and its details are shown below the list. The instance is in the 'Running' state and has a Private IPv4 address of 10.0.2.147.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
PublicWindow...	i-0a6a66447bb1cb6be	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a
PrivateWindow...	i-0d83e5a7474dfc59b	Running	t2.micro	Initializing	View alarms +	us-east-1a

i-0d83e5a7474dfc59b (PrivateWindowsVM)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary

Instance ID i-0d83e5a7474dfc59b	Public IPv4 address -	Private IPv4 addresses 10.0.2.147
IPv6 address -	Instance state Running	Public IPv4 DNS -

Step 8 - NAT Gateway

Created NAT Gateway for internet access from private subnet

The screenshot displays the AWS Management Console for a VPC in the us-east-1 region. The main content area shows the details for a NAT Gateway with ID nat-0ac43dc85214f0a14, named MYNATGW. A green banner at the top indicates successful creation. The left sidebar shows the VPC dashboard with a filter by VPC set to nat-0ac43dc85214f0a14. The details section includes:

Details	
NAT gateway ID nat-0ac43dc85214f0a14	Connectivity type Public
NAT gateway ARN arn:aws:ec2:us-east-1:041683371280:natgateway/nat-0ac43dc85214f0a14	Primary public IPv4 address -
VPC vpc-009b2afcc6ac1c7e9 / MyVPC	Subnet subnet-016b51817fc61dbe / PublicSubnet
State Pending	Primary private IPv4 address -
Created Tuesday, May 20, 2025 at 23:06:56 GMT+5:30	Primary network interface ID -
State message -	Deleted -

Below the details, there are tabs for Secondary IPv4 addresses, Monitoring, and Tags. The Secondary IPv4 addresses tab is active, showing a search bar and a table with columns for Private IPv4 address, Network interface ID, Status, and Failure message. The bottom of the console shows the CloudShell and Feedback links, along with the footer information including the copyright notice and regional settings.

Step 9 - Private Route Table

Routed private subnet traffic to NAT Gateway

The screenshot displays the AWS Management Console interface for a Private Route Table. The breadcrumb navigation shows the path: VPC > Route tables > rtb-08a3bcb27ab4ef256. A green notification banner at the top states: "You have successfully updated subnet associations for rtb-08a3bcb27ab4ef256 / PrivateRouteTable." The main heading is "rtb-08a3bcb27ab4ef256 / PrivateRouteTable".

Details

Route table ID rtb-08a3bcb27ab4ef256	Main No	Explicit subnet associations subnet-0358ae2792968121e / PrivateSubnet	Edge associations -
VPC vpc-009b2afcc6ac1c7e9 MyVPC	Owner ID 041683371280		

Subnet associations

Explicit subnet associations (1)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
PrivateSubnet	subnet-0358ae2792968121e	10.0.2.0/24	-

Subnets without explicit associations (0)

Step 10 - Connectivity Testing

Verified connectivity using ping & RDP

The screenshot displays the AWS Management Console interface for connecting to an EC2 instance. The browser tabs at the top include 'Connect to instance | EC2 | us-east-1', 'Launch an instance | EC2 | us-east-1', and 'VPC | us-east-1'. The address bar shows the URL: `us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance:instanceId=i-0a6a66447bb1cb6be`. The breadcrumb navigation path is `EC2 > Instances > i-0a6a66447bb1cb6be > Connect to instance`.

The main content area is titled 'Connect Info' and includes the instruction: 'Connect to an instance using the browser-based client.' Below this, there are three tabs: 'Session Manager', 'RDP client' (which is selected), and 'EC2 serial console'.

A light blue banner at the top of the RDP client section states: 'Record RDP connections. You can now record RDP connections using AWS Systems Manager just-in-time node access. [Learn more](#)'. A 'Try for free' button is located on the right side of this banner.

The 'Instance ID' section shows the instance `i-0a6a66447bb1cb6be` (PublicWindowsVM). The 'Connection Type' section has two options: 'Connect using RDP client' (selected) and 'Connect using Fleet Manager'. The 'Connect using RDP client' option includes the instruction: 'Download a file to use with your RDP client and retrieve your password.' The 'Connect using Fleet Manager' option includes the instruction: 'To connect to the instance using Fleet Manager Remote Desktop, the SSM Agent must be installed and running on the instance. For more information, see [Working with SSM Agent](#)'.

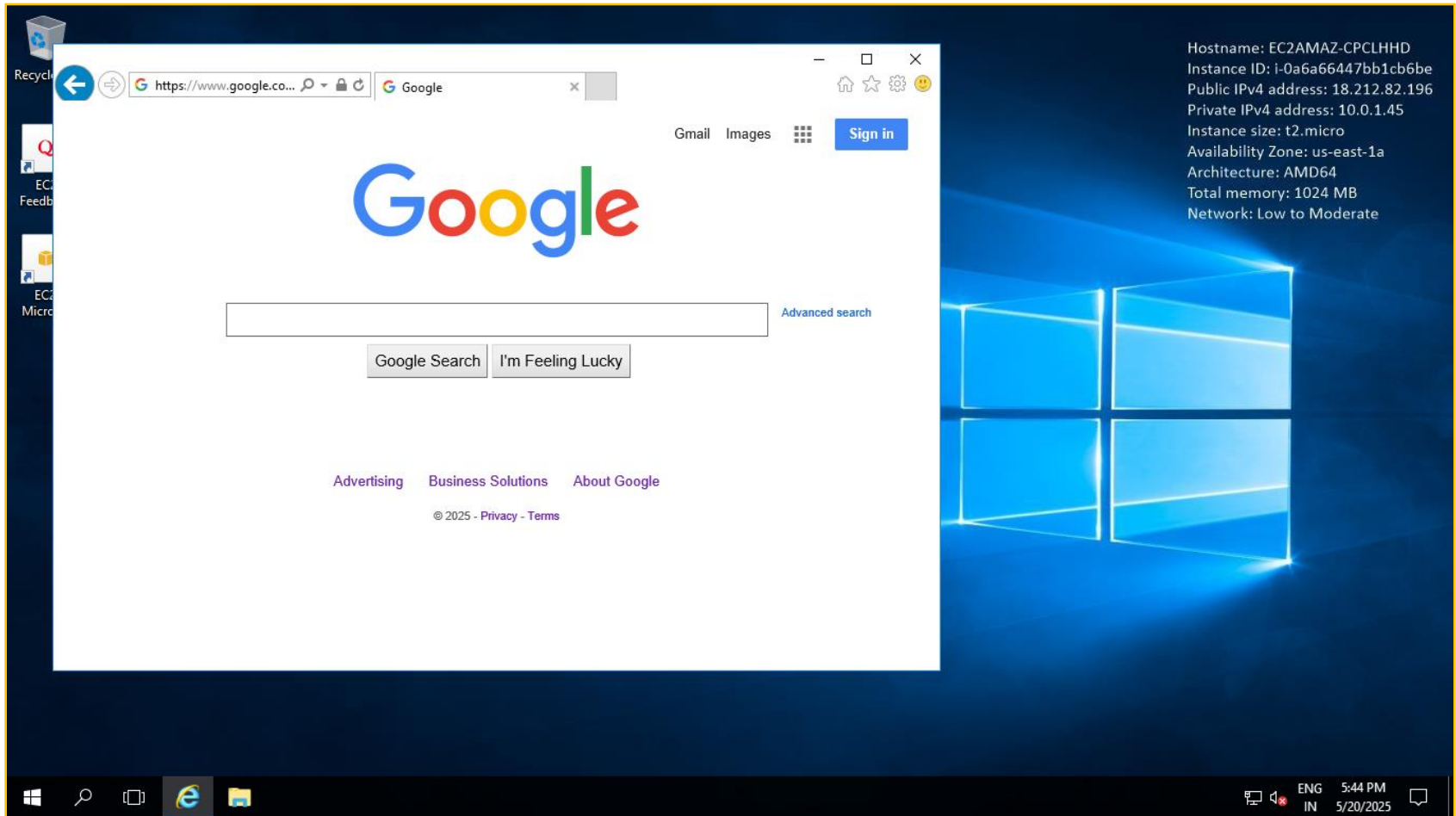
Below the connection type options, a message states: 'You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:'. A button labeled 'Download remote desktop file' is provided.

At the bottom, a message states: 'When prompted, connect to your instance using the following username and password:'. The footer of the console shows 'CloudShell', 'Feedback', and copyright information: '© 2025, Amazon Web Services, Inc. or its affiliates.' Links for 'Privacy', 'Terms', and 'Cookie preferences' are also present.

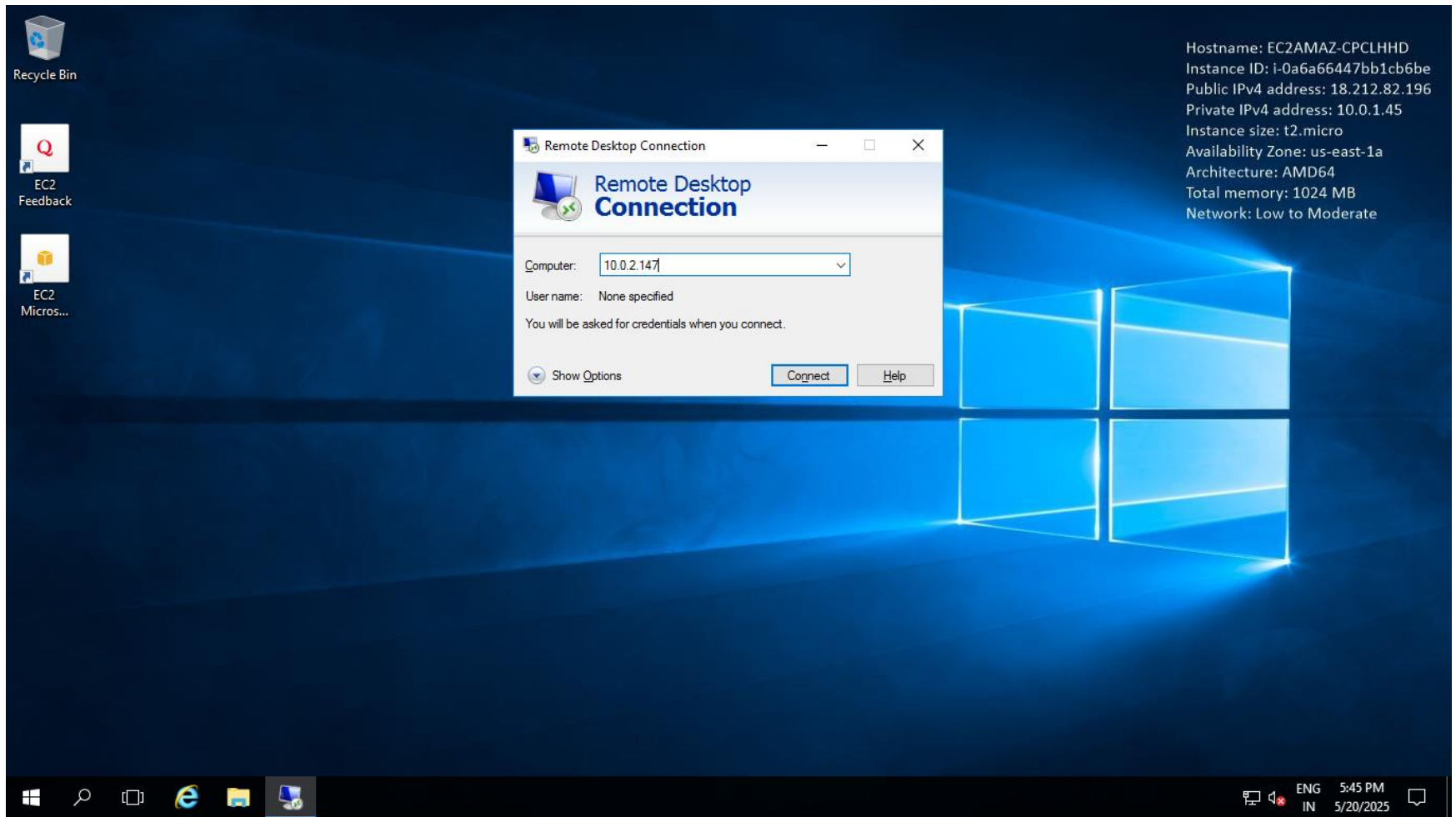
The Windows taskbar at the bottom of the screen shows the search bar, task view button, and several application icons including File Explorer, Microsoft Store, Google Chrome, WhatsApp, and Word. The system tray on the right shows the date and time as '11:10 PM 5/20/2025' and the weather as '27°C Light rain'.

Connectivity Testing

Verified connectivity using ping & RDP



Connectivity Testing



Connectivity Testing

