Prerequisites

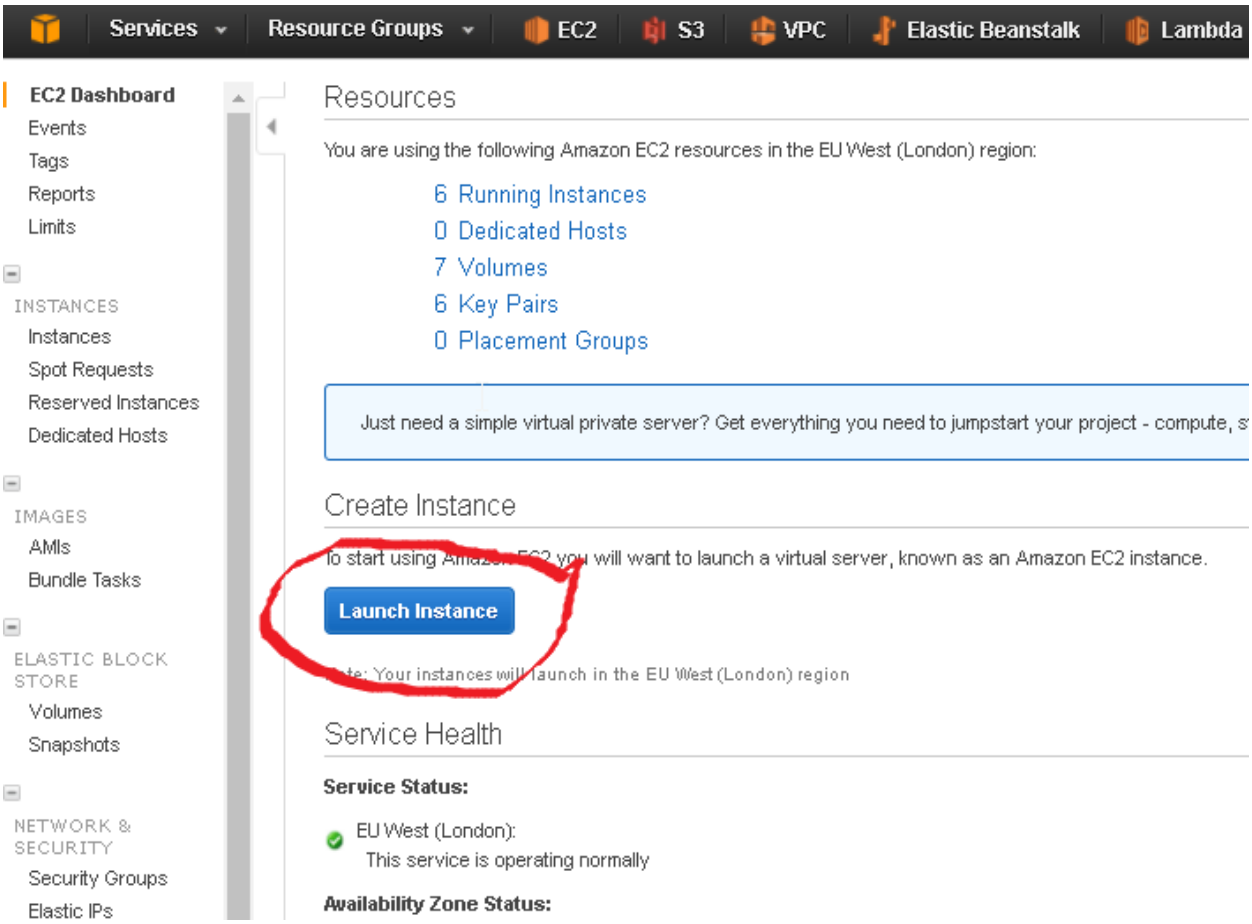
- Visual Studio 2015 or Higher
- Enable IIS Locally
  Powershell >>
  Import-Module ServerManager
  install-windowsfeature web-server, web-webserver -IncludeAllSubFeature
  install-windowsfeature web-mgmt-tools
- Web Deploy 3.6 (download)
- Aws Cll (Not Mandatory)
- Nuget (download) to path C:\temp
- AWS Access Keys (Not Mandatory)
- Git Cli (download)
- Aws Login (Use AD Cred)
- Seige Windows (Download)

Lets Build & Package

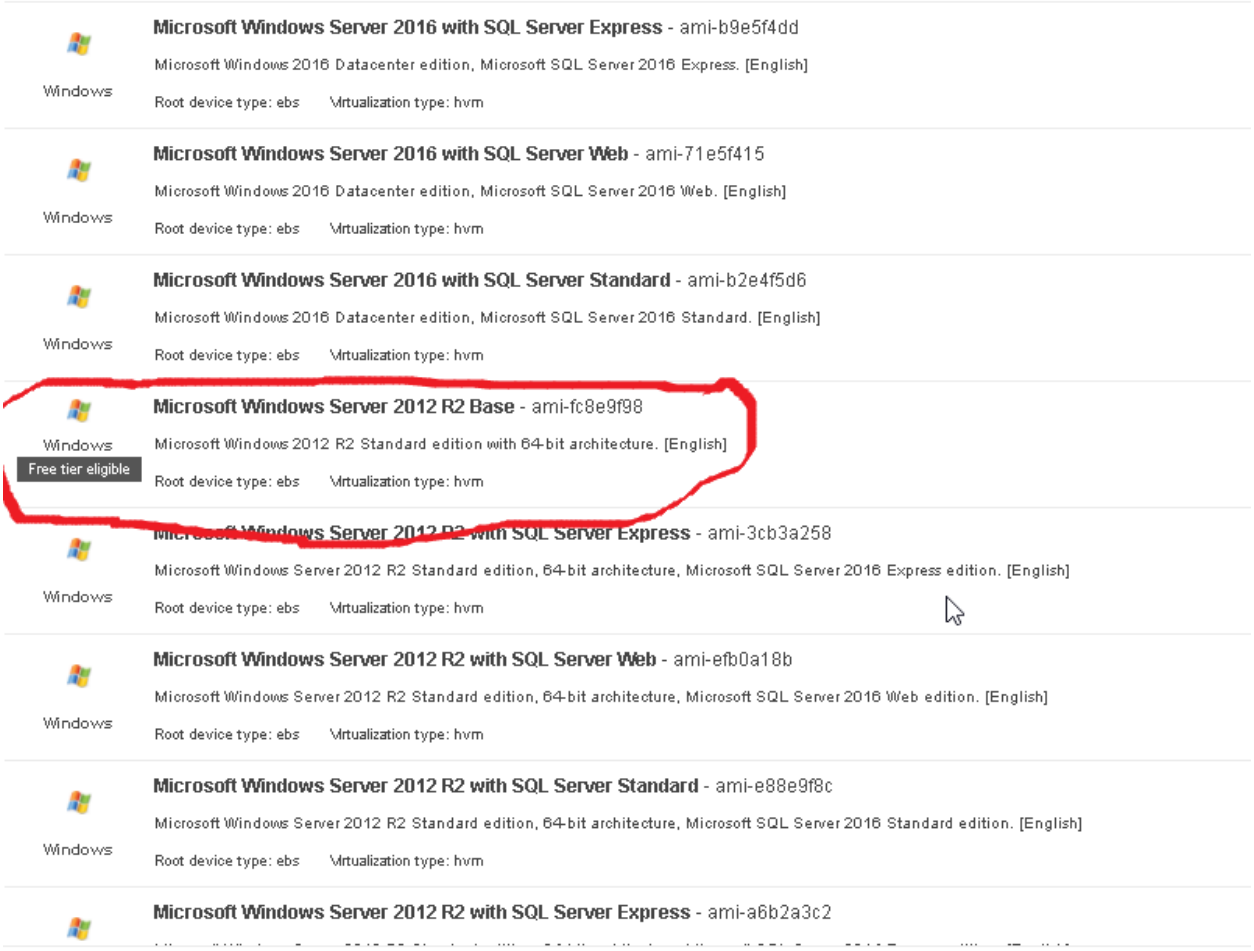
- Clone Source Code to C:\src
- CMD(Administrator) >> cd C:\src\sample-web-api
- Restore packages C:\temp\nuget.exe restore sample-web-api.sln
- Build & Package the solution (Select MsBuild Path)
  "C:\Program Files (x86)\MSBuild\14.0\Bin\MSBuild.exe" sample-web-api.sln /verbosity:minimal /p:outputPath="%cd%/build" /p:DeployOnBuild=True,DeployIISAppPath="Default Web Site/"

Lets Deploy To AWS EC2 Instance

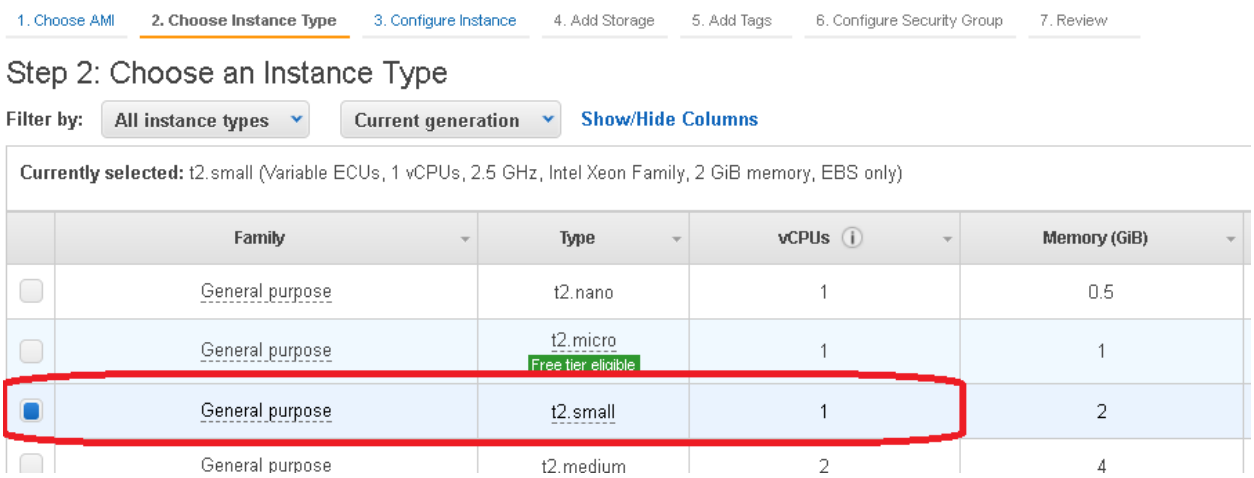
Click on Launch EC2 Instance



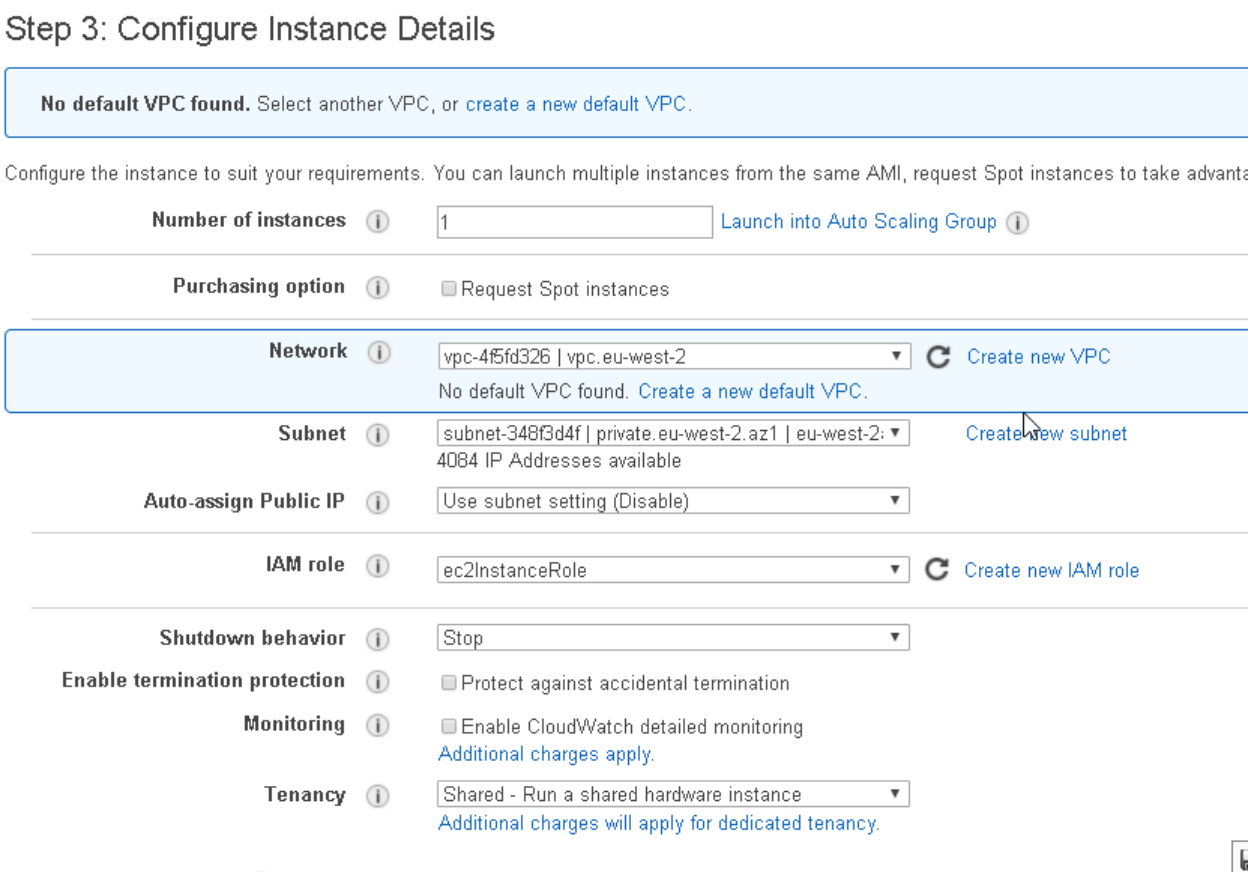
Choose AMI



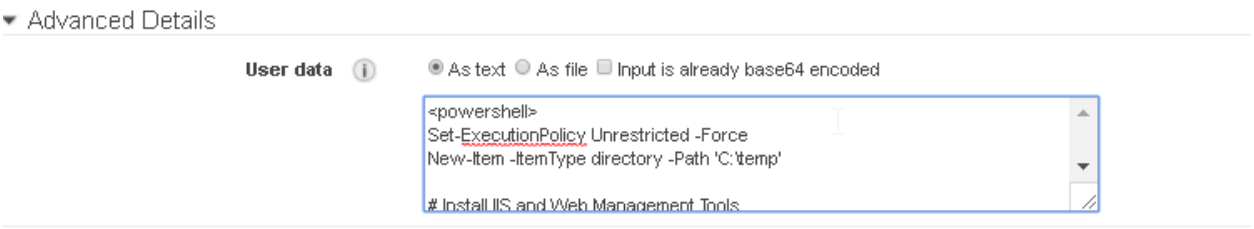
Choose an Instance Type



Configure Instance Details

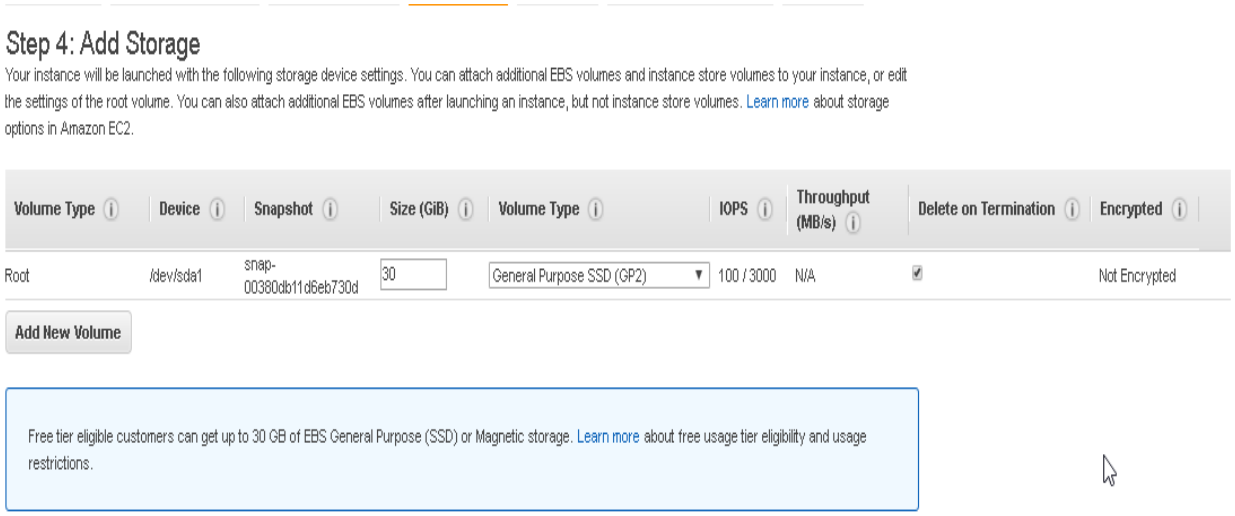


Click on Advanced Details and add below powershell to the userdata select As text option

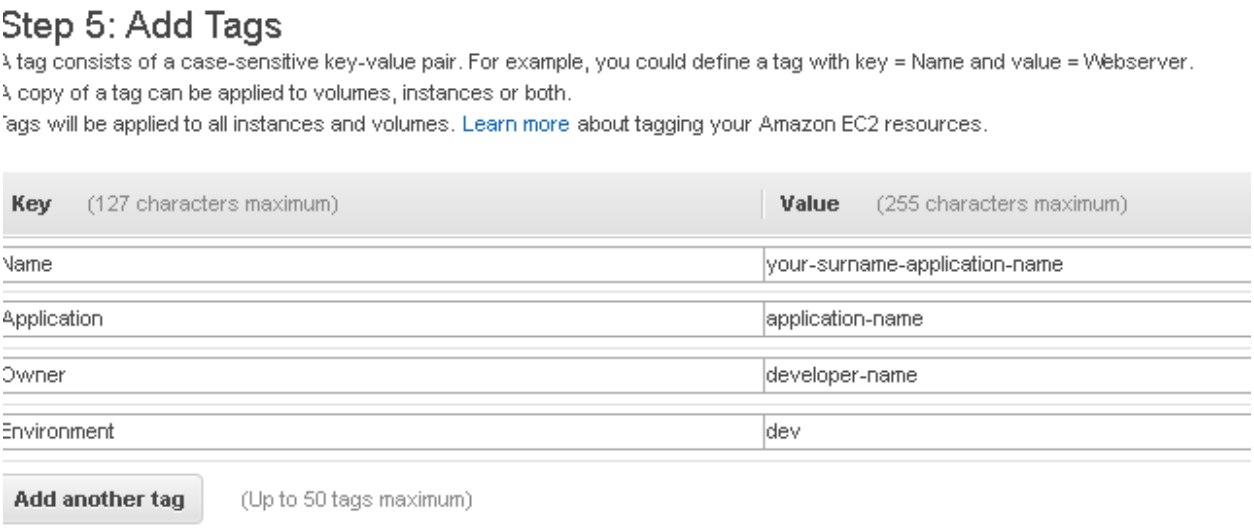


```
<powershell>
Set-ExecutionPolicy Unrestricted -Force
New-Item -ItemType directory -Path 'C:\temp'

# Install IIS and Web Management Tools.
Import-Module ServerManager
install-windowsfeature web-server, web-webserver -IncludeAllSubFeature
install-windowsfeature web-mgmt-tools

# Download And Install WebDeploymentAgent
$url = "https://download.microsoft.com/download/0/1/D/01DC28EA-638C-4A22-A57B-4CEF97755C6C/WebDeploy_amd64_en-US.msi"
$output = "C:\temp\webdeploy_3.6.msi"
$start_time = Get-Date

$wc = New-Object System.Net.WebClient
$wc.DownloadFile($url, $output)

Write-Output "Time taken: $((Get-Date).Subtract($start_time).Seconds) second(s)"

msiexec /I $output ADDLOCAL=all /passive /norestart LicenseAccepted="0" /l* C:\temp\msDeployInstall.log
Start-Sleep -s 60

#Add To Domain
$svc_account = "directory.zuto.cloud\svc_domain_join"
$svc_pwd_secure = ConvertTo-SecureString "C5trNsulgQV0" -AsPlainText -Force
$creds = New-Object -typename System.Management.Automation.PSCredential -argumentlist ($svc_account,$svc_pwd_secure)
Add-Computer -DomainName directory.zuto.cloud -Credential $creds -Restart
```

Add Storage

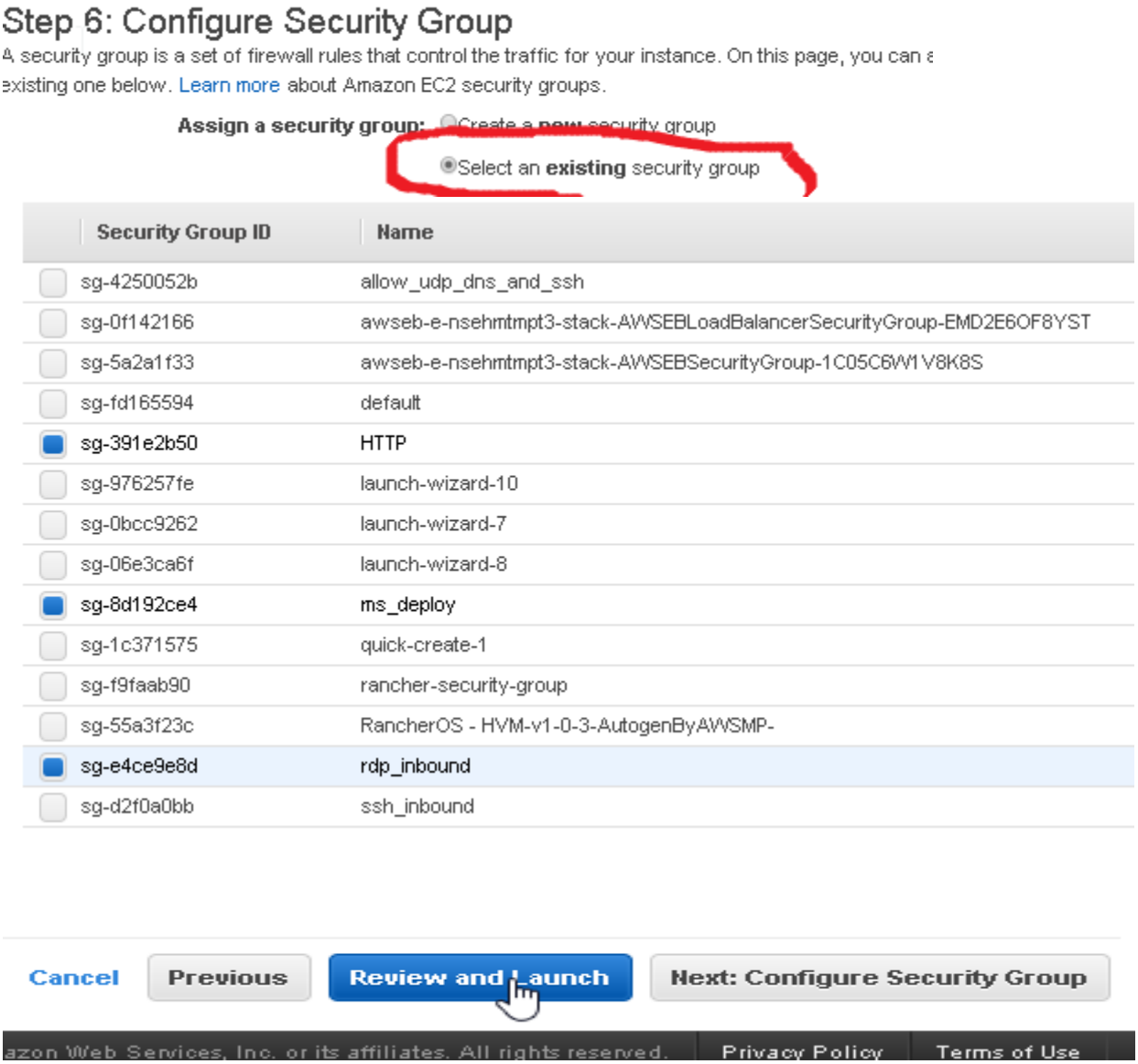


Add Tags

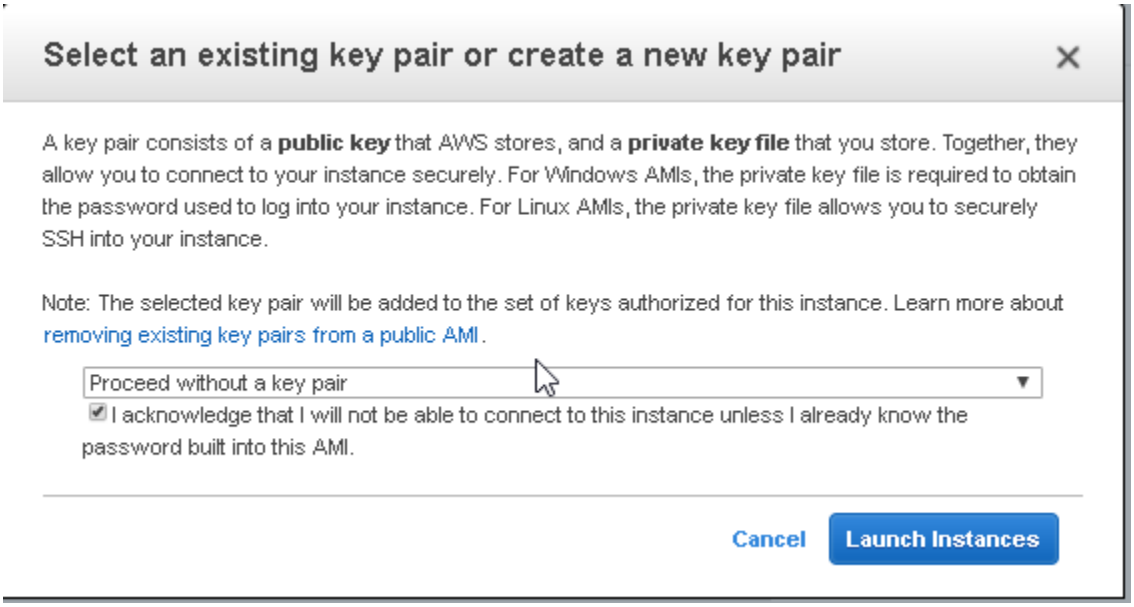


Review Instance Launch

Security Groups : HTTP, rdp_inbound, ms_deploy are setup upfront manually



Select a key pair



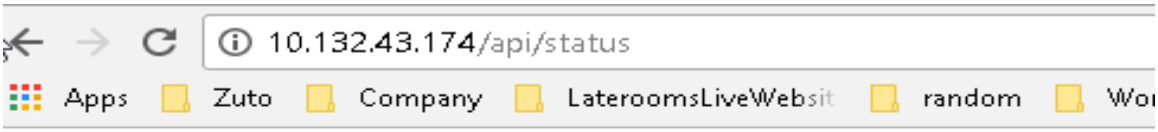
Wait for 10 mins

Deploy To Ec2

Via Command Line

"C:\Program Files (x86)\IIS\Microsoft Web Deploy V3/msdeploy" -verb:sync -source:package="%cd%/build/_PublishedWebsites/sample-web-api_Package/sample-web-api.zip" -dest:auto,computerName=https://10.132.xx.xxx:8172/MsDeploy.axd,userName="zuto\deploy",password="9k4KRUFOJTwr",authType=Basic -debug -verbose -allowUntrusted

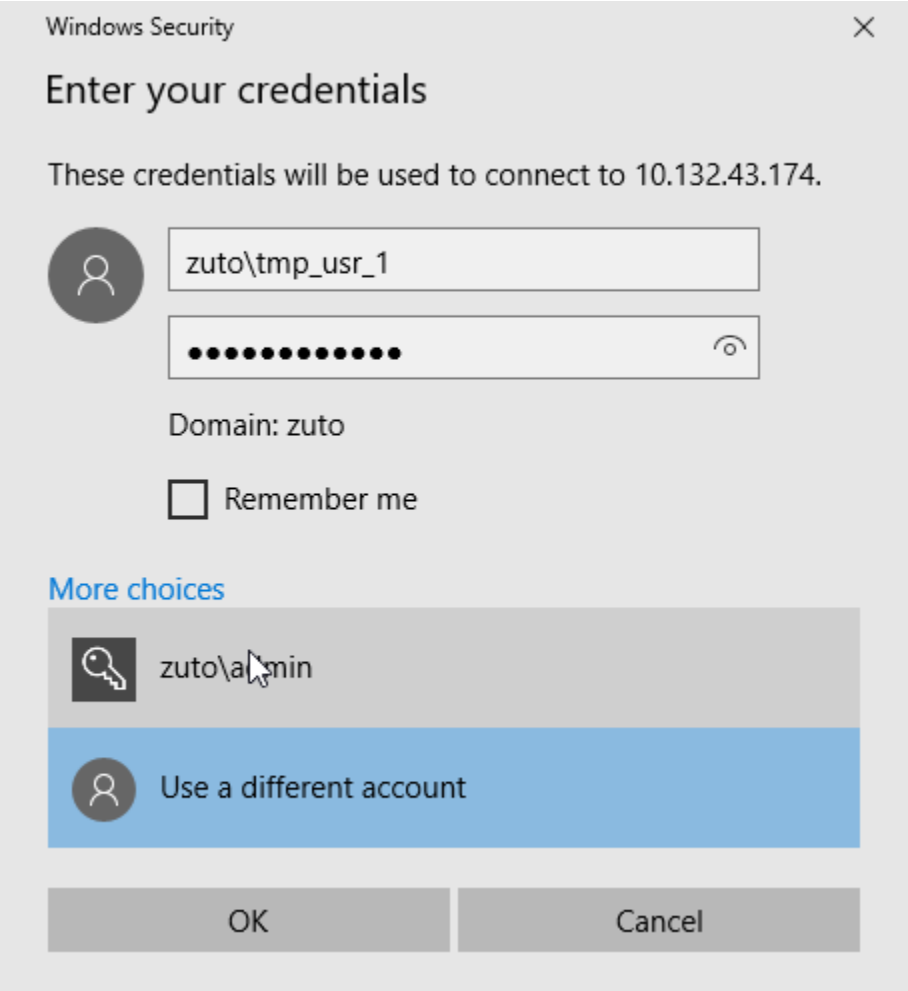
Verify App Status



{"Status":"OK"}

Trouble Shooting

RDP Access



Username : zuto\tmp_usr_1

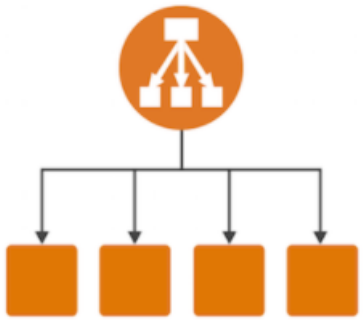
Password: p1CpBV7rNCus

ELB

Create ELB

re.

Classic Load Balancer



A Classic Load Balancer makes routing decisions at either the transport layer (TCP/SSL) or the application layer (HTTP/HTTPS), and supports either EC2-Classic or a VPC.

Step 1: Define Load Balancer

Basic Configuration

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load b your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer name: srinivas-sunkari-elb-sample-web-api

Create LB Inside: vpc-4f5fd326 (10.132.0.0/16) | vpc.eu-west-2

Create an internal load balancer: (what's this?)

Enable advanced VPC configuration:

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port
HTTP	80	HTTP	80

Add

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. If you have instances in only one Availability Zone, please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-4f5fd326 (10.132.0.0/16) | vpc.eu-west-2

Available subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
⊕	eu-west-2a	subnet-0f8d3f74	10.132.48.0/21	data.eu-west-2.az1
⊕	eu-west-2a	subnet-4172c03a	10.132.0.0/20	public.eu-west-2.az1
⊕	eu-west-2b	subnet-15cf0458	10.132.64.0/20	public.eu-west-2.az2
⊕	eu-west-2b	subnet-1acf0457	10.132.112.0/21	data.eu-west-2.az2

Selected subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
⊖	eu-west-2a	subnet-348f3d4f	10.132.32.0/20	private.eu-west-2.az1
⊖	eu-west-2b	subnet-f2ce05bf	10.132.96.0/20	private.eu-west-2.az2

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. If you have instances in only one Availability Zo please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-4f5fd326 (10.132.0.0/16) | vpc.eu-west-2

Available subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
⊕	eu-west-2a	subnet-0f8d3f74	10.132.48.0/21	data.eu-west-2.az1
⊕	eu-west-2a	subnet-4172c03a	10.132.0.0/20	public.eu-west-2.az1
⊕	eu-west-2b	subnet-15cf0458	10.132.64.0/20	public.eu-west-2.az2
⊕	eu-west-2b	subnet-1acf0457	10.132.112.0/21	data.eu-west-2.az2

Selected subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
⊖	eu-west-2a	subnet-348f3d4f	10.132.32.0/20	private.eu-west-2.az1
⊖	eu-west-2b	subnet-f2ce05bf	10.132.96.0/20	private.eu-west-2.az2

Step 2: Assign Security Groups

You have selected the option of having your Elastic Load Balancer inside of a VPC, which allows you to assign security groups to your load balancer. Please select the s

Assign a security group: ○ Create a **new** security group

◉ Select an **existing** security group

	Security	Name	Description
☐	sg-4250052b	allow_udp_dns_and_ssh	Allow UDP DNS traffic
☐	sg-0f142166	awseb-e-nsehmtmpt3-stack-AWSEBLoadBalancerSecurityGroup-EMD2E6OF8YST	Load Balancer Security Group
☐	sg-5a2a1f33	awseb-e-nsehmtmpt3-stack-AWSEBSecurityGroup-1C05C6WV1V8K8S	VPC Security Group
☐	sg-fd165594	default	default VPC security group
☑	sg-391e2b50	HTTP	Ports Need To be open to access the web service

Step 4: Configure Health Check

Your load balancer will automatically perform health checks on your EC2 instance:

Ping Protocol	HTTP
Ping Port	80
Ping Path	/api/status

Advanced Details

Response Timeout	5	seconds
Interval	10	seconds
Unhealthy threshold	2	
Healthy threshold	3	

Step 5: Add EC2 Instances

The table below lists all your running EC2 Instances. Check the boxes in the Select column to add those instances to this load balancer.

VPC vpc-4f5fd326 (10.132.0.0/16) | vpc.eu-west-2

Instance	Name	State	Security groups
i-0458231...	RancherOS	stopped	rancher-security-group
i-035ac3ab...	KarlWorkshopTest-env	running	awseb-e-nsehmtmpt3-sta
i-0081a6d...	sri-test-pvt	running	ms_deploy, rdp_inbound
i-09345f65...	tableau-wdc-host	running	launch-wizard-7
i-0c3f9daf8...	dns-recursor.eu-west-2.az1	running	allow_udp_dns_and_ssh
i-019d0ece...	dns-recursor.eu-west-2.az2	running	allow_udp_dns_and_ssh
i-0c77a6ad...	Test-Server	running	launch-wizard-8

Availability Zone Distribution

1 instance in eu-west-2a

Enable Cross-Zone Load Balancing

Enable Connection Draining 300 seconds

Step 6: Add Tags

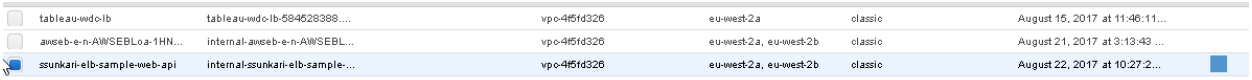
Apply tags to your resources to help organize and identify them.

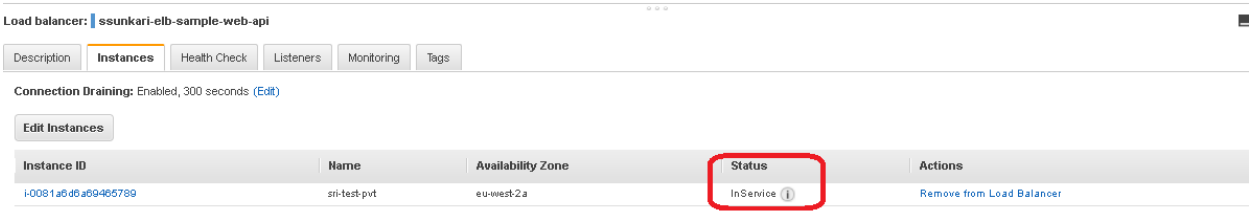
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. Learn more about tagging your Amazon EC2 resources.

Key	Value
Name	ssunkari-elb-sample-web-api
Owner	ssunkari

Create Tag

Verify



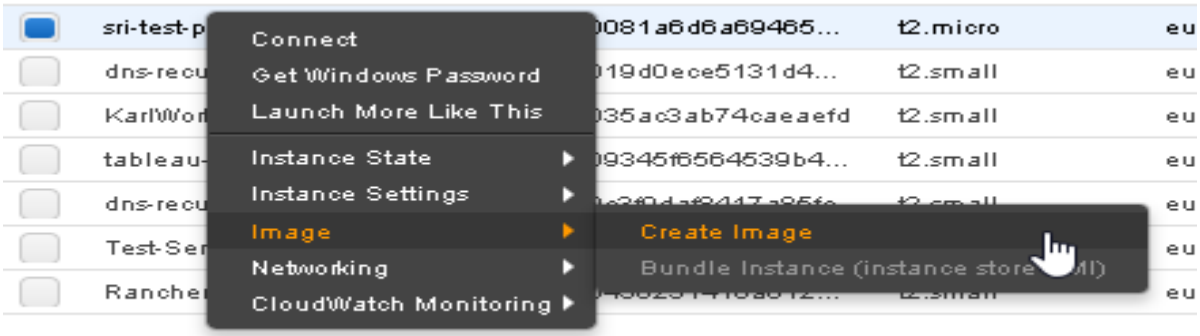


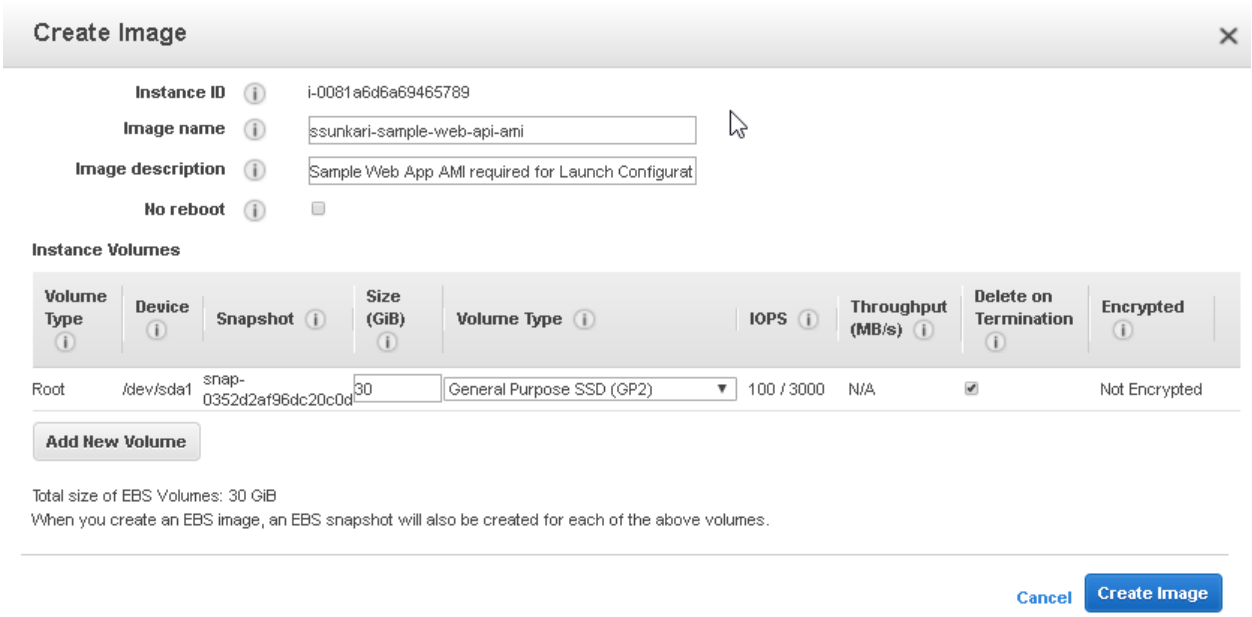
Hit the ELB DNS Address

{"Status":"OK"}

AMI

Create AMI


Connect
Get Windows Password
Launch More Like This
Instance State
Instance Settings
Image
Networking
CloudWatch Monitoring
Create Image
Bundle Instance (instance store AMI)
t2.micro
t2.small
t2.small
t2.small
t2.small
eu


Create Image
Instance ID
i-0081a6d6a69465789
Image name
ssunkari-sample-web-api-ami
Image description
Sample Web App AMI required for Launch Configurat
No reboot
Instance Volumes
Volume Type
Device
Snapshot
Size (GiB)
Volume Type
IOPS
Throughput (MB/s)
Delete on Termination
Encrypted
Root
/dev/sda1
snap-0352d2af96dc20c0d
30
General Purpose SSD (GP2)
100 / 3000
N/A
Not Encrypted
Add New Volume
Total size of EBS Volumes: 30 GiB
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.
Cancel
Create Image

ASG

Create Auto Scaling Group

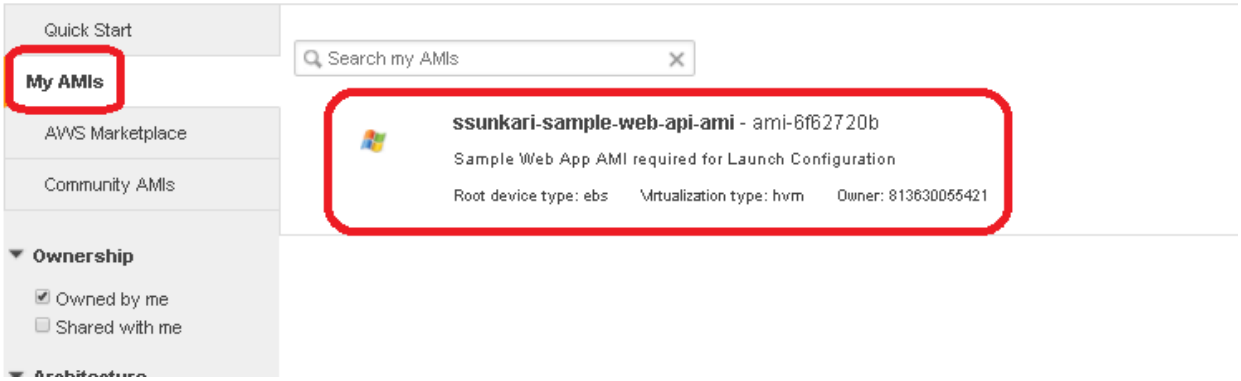
To create an Auto Scaling group, you will first need to choose a template that your Auto S
a launch configuration or create a new one, and then apply it to your group.

Later, if you want to use a different template, you can create another launch configuratior
you can update the software that your group uses when it launches new instances.

- (•) **Create a new launch configuration**
- ( ) **Create an Auto Scaling group from an existing launch configuration**

Create Launch Configuration

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Yo



Create Launch Configuration

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtua
of resources for your applications. Learn more about instance types and how they can meet your computing nee

Filter by: All instance types | Current generation | Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs
☐	General purpose	t2.nano	1
☑	General purpose	t2.micro Free tier eligible	1

Create Launch Configuration

Name ssunkari-sample-web-api-lc

Purchasing option ☐ Request Spot Instances

IAM role ec2InstanceRole

Monitoring ☐ Enable CloudWatch detailed monitoring
Learn more

▼ Advanced Details

Kernel ID Use default

RAM Disk ID Use default

User data ◉ As text ○ As file ☐ Input is already base64 encoded

(Optional)

IP Address Type
○ Only assign a public IP address to instances launched in the default VPC and subnet. (default)
○ Assign a public IP address to every instance.
◉ Do not assign a public IP address to any instances.
Note: this option only affects instances launched into an Amazon VPC

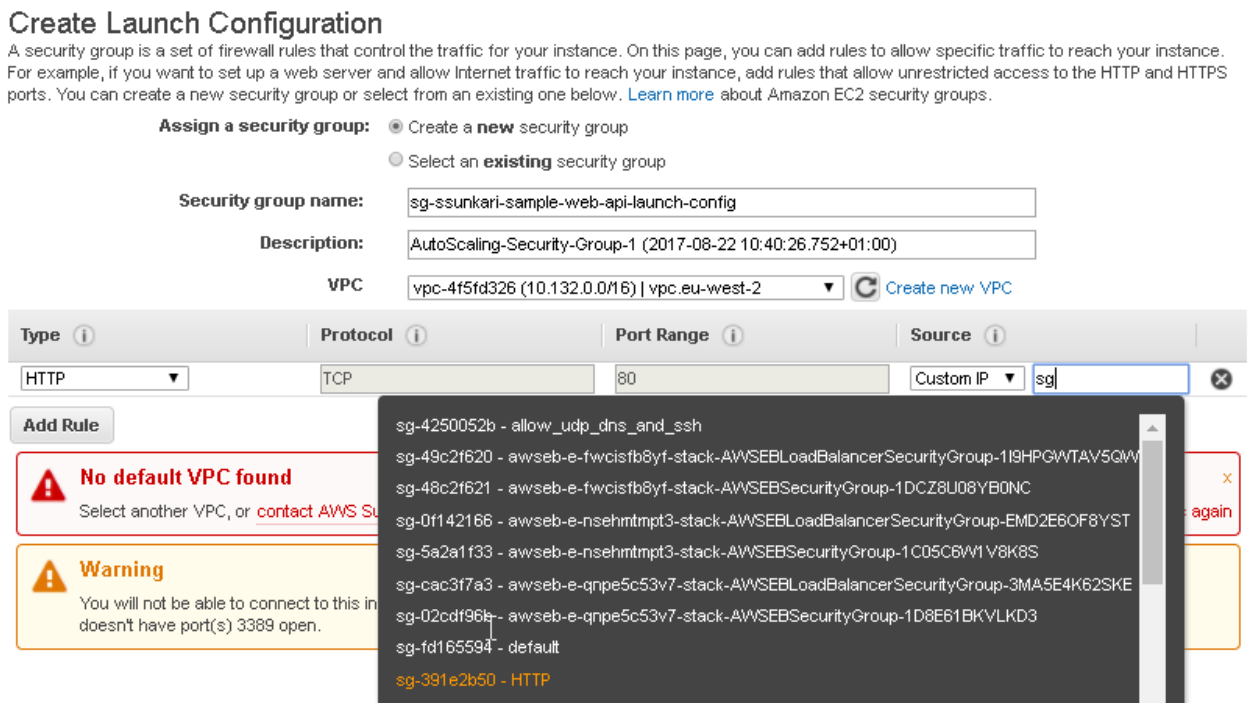
Create Launch Configuration

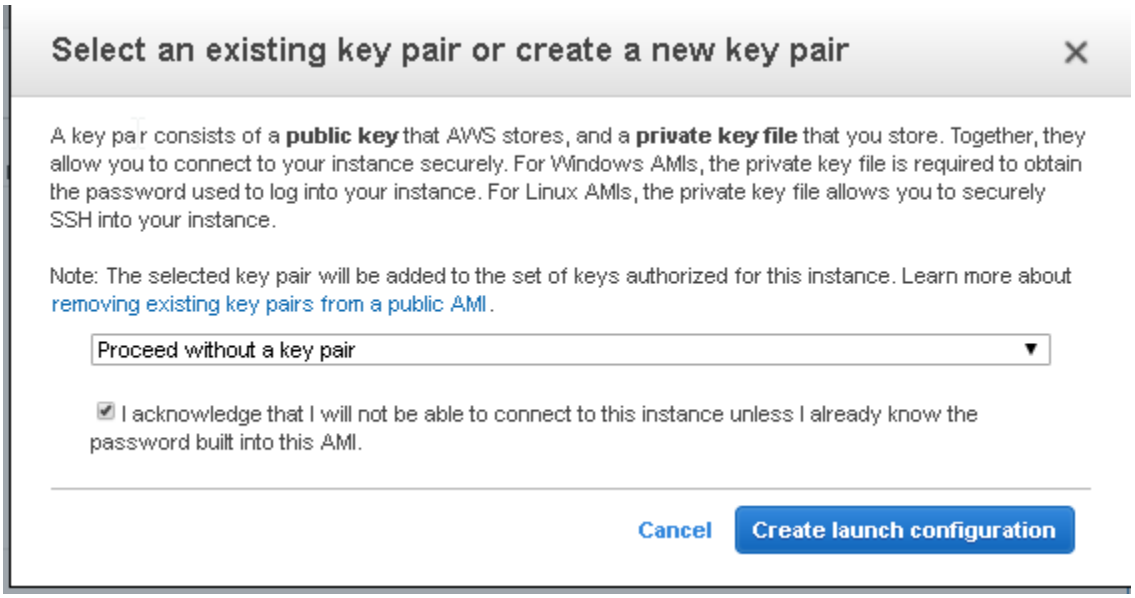
Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes.
https://docs.aws.amazon.com/console/ec2/launchinstance/storage about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput	Delete on Termination	Encrypted
Root	/dev/sda1		30	General Purpose (SSD)	100 / 3000	N/A	☑	☐

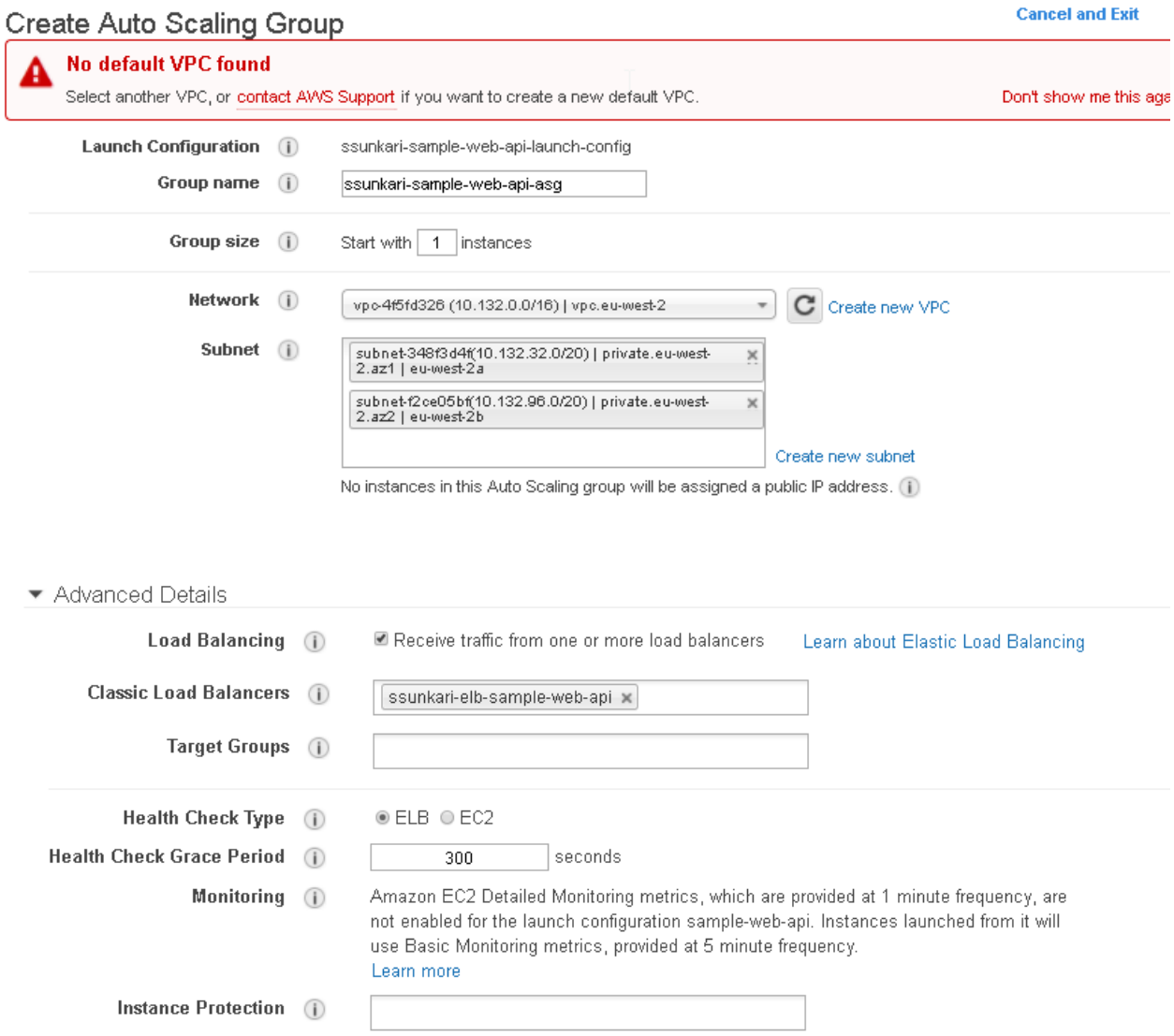
Add New Volume

Add HTTP,rdp_inbound,ms_deploy Security Groups

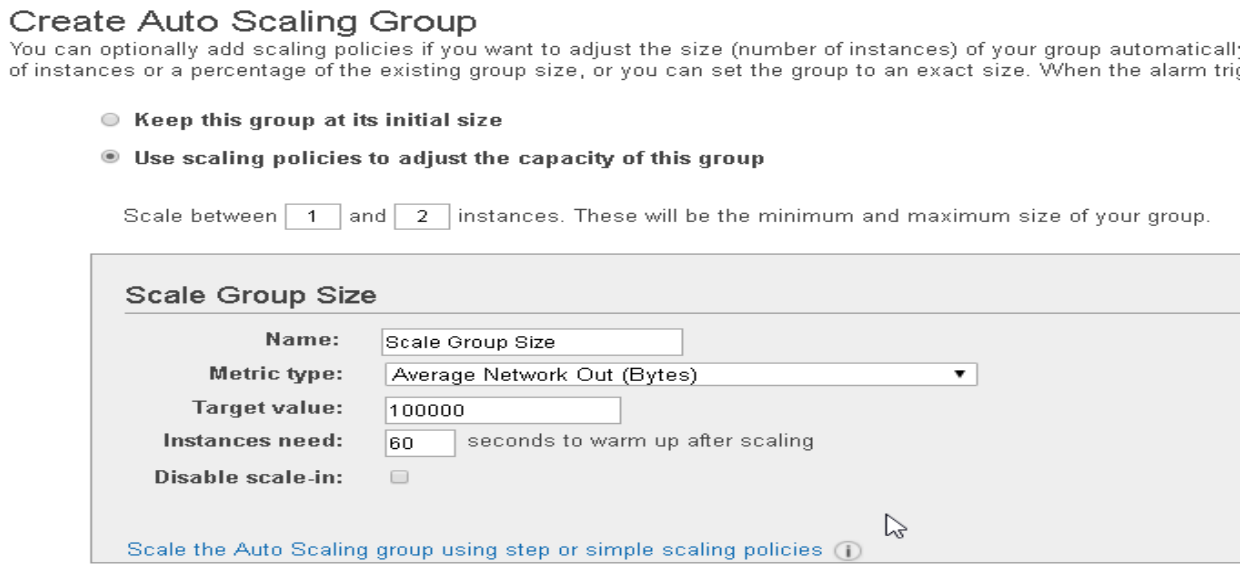




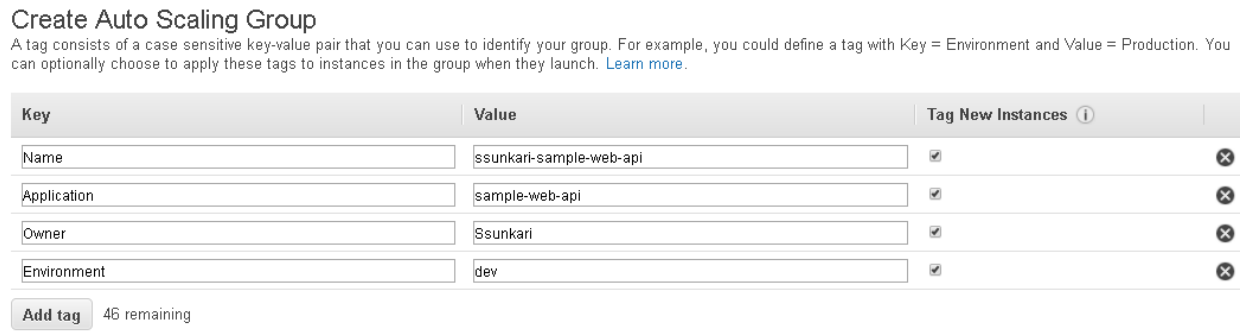
Ignore the VPC Warnings



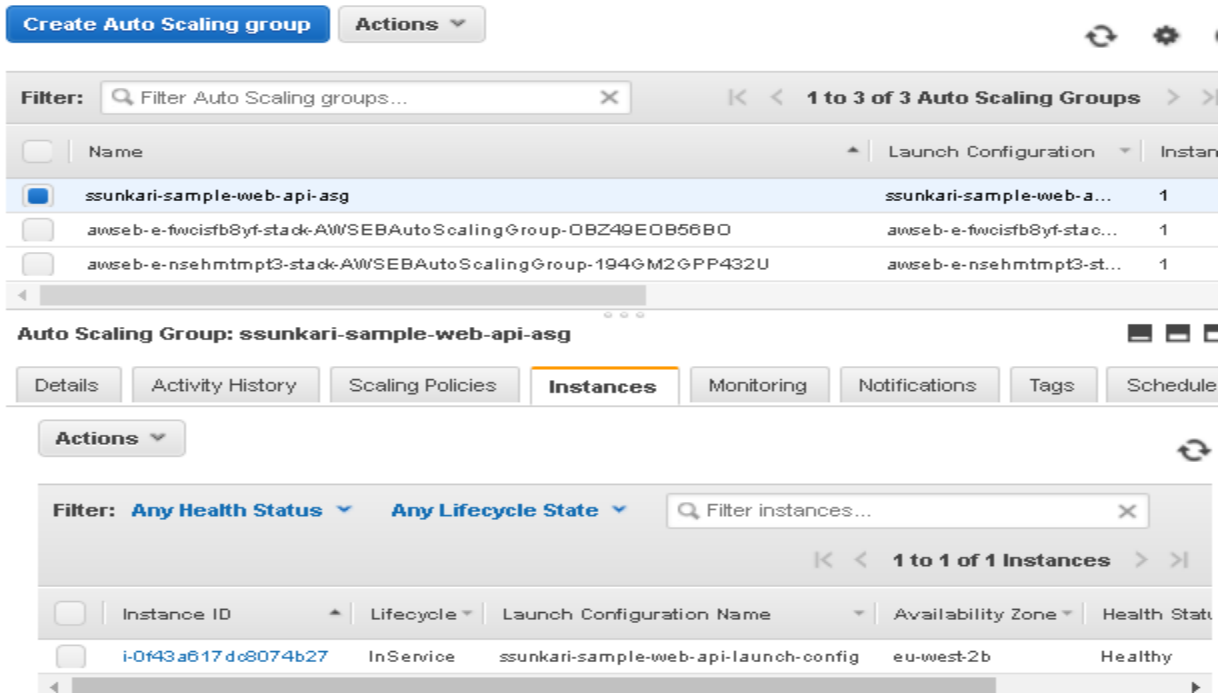
Add Scaling Policy



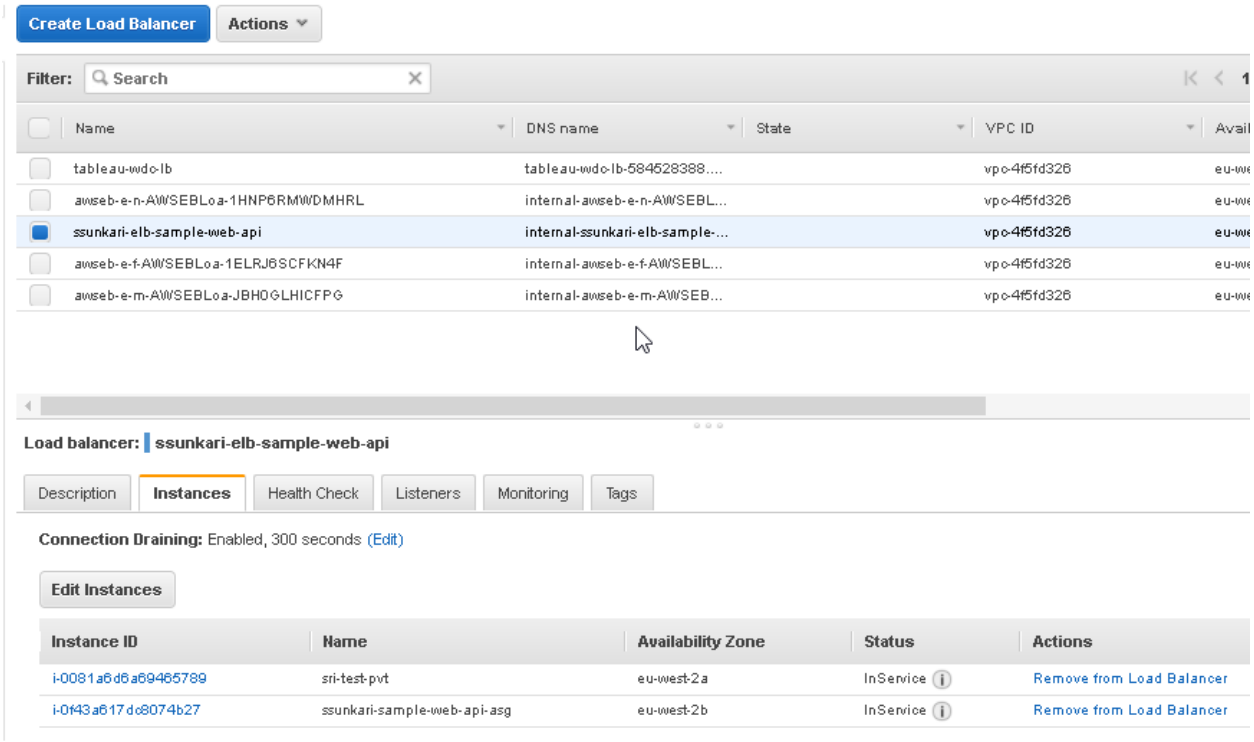
Tag New Instances



Verify ASG



Verify ELB Should have



Load Testing

- **Extract siege-windows-3.0.5.zip to C:\siege-windows**
- **cd siege-windows**
- **siege -c50 -t300s http://elb-dns /api/text`**