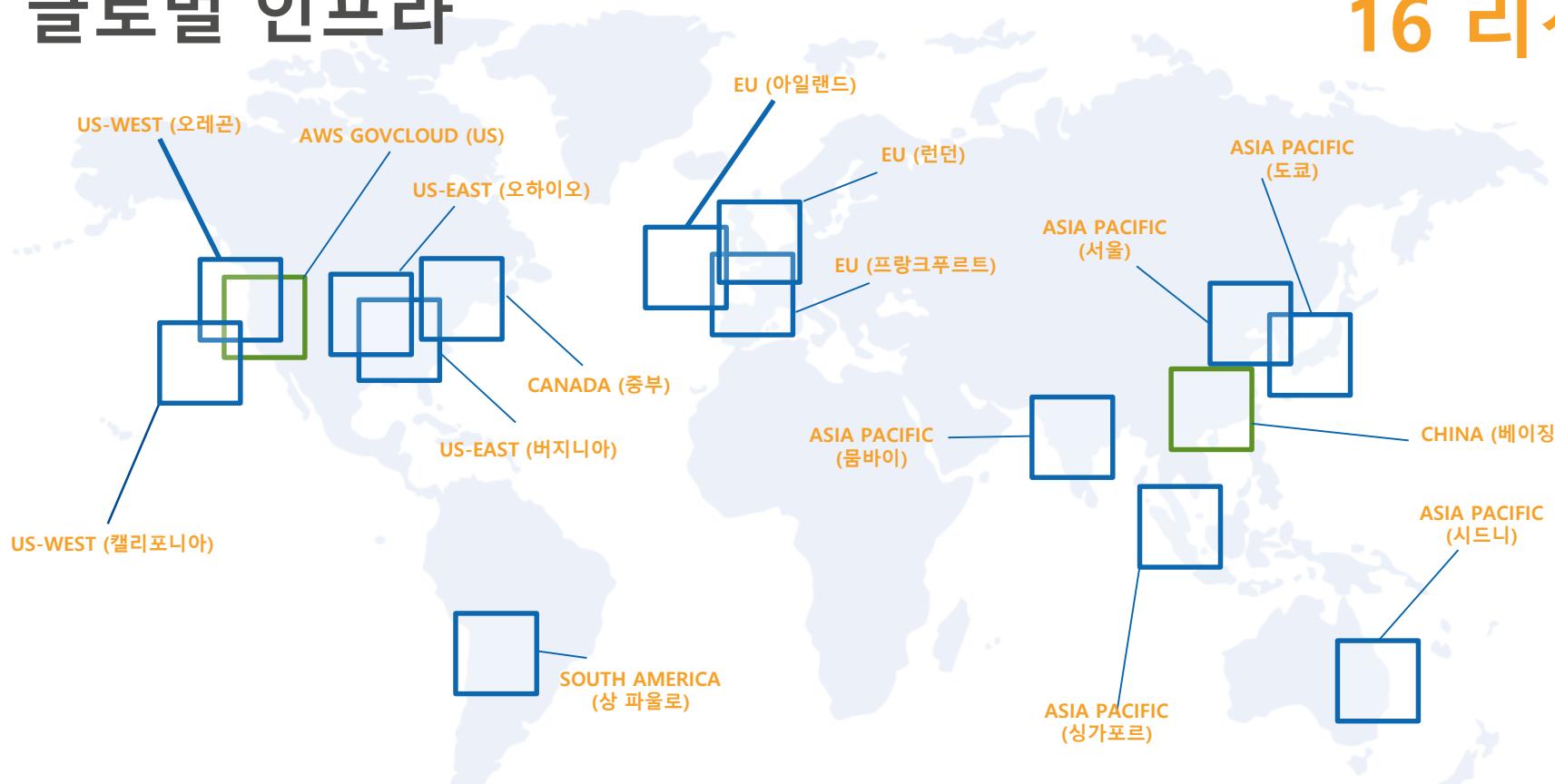


AWS 시작하기 워밍업



글로벌 인프라

16 리전

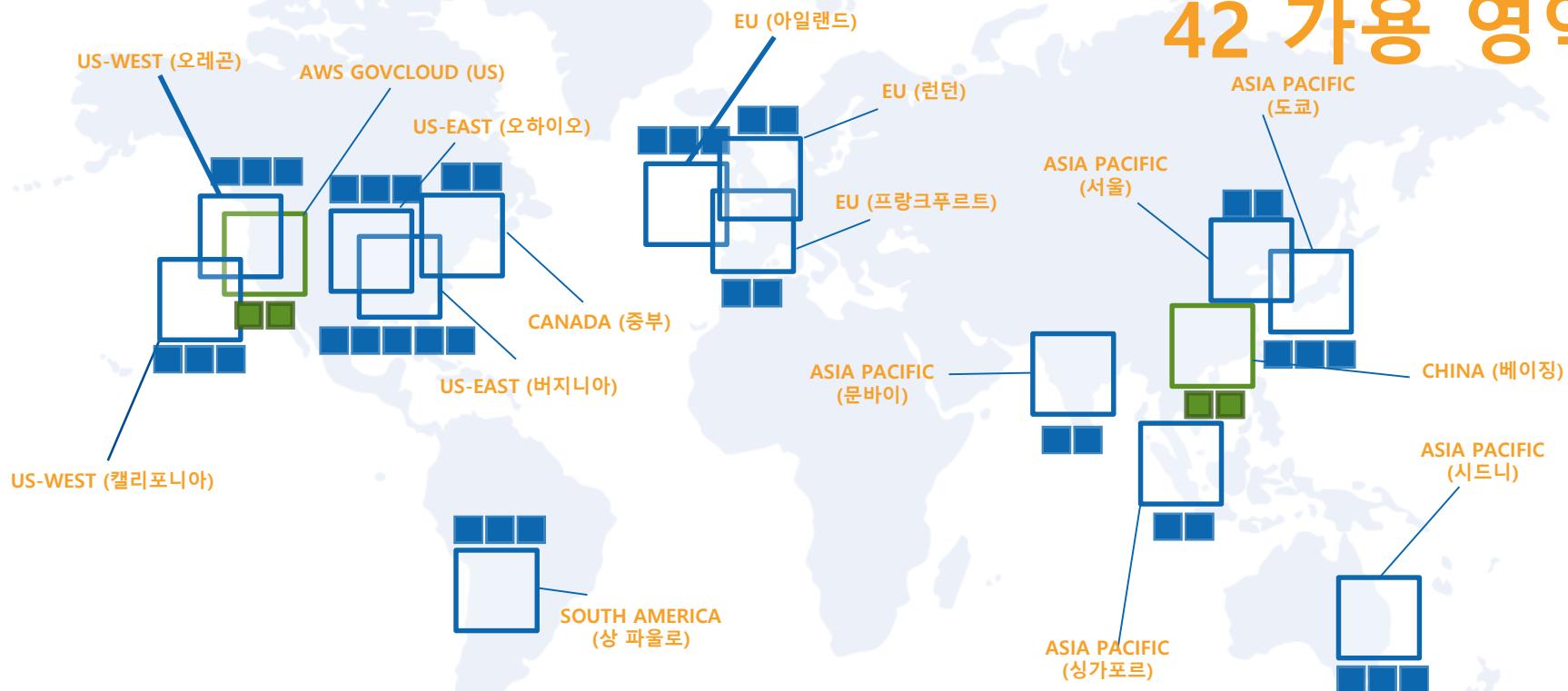


리전은 전 세계에 분산된 물리적 위치로서 각 리전은 완전히 독립 구성되어 있다

글로벌 인프라

16 리전

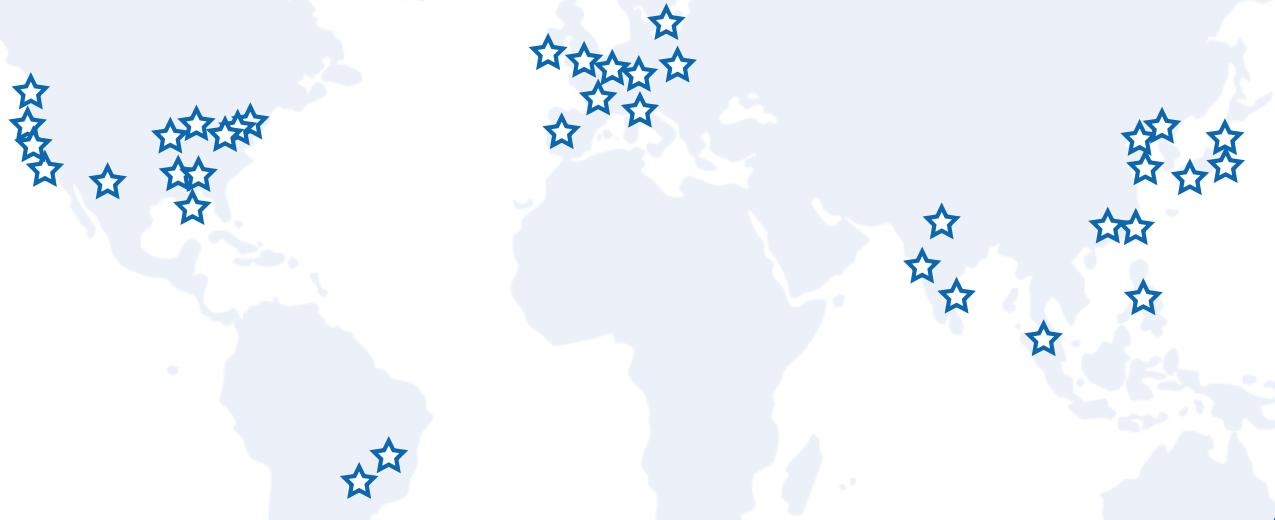
42 가용 영역



가용 영역들은 서로 다른 별개의 위치에 존재하고, 다른 가용 영역에서의 장애와 완전히 분리될 수 있도록 설계되어 있다. 리전 내의 다른 가용 영역에 짧은 대기 시간으로 네트워크 연결을 제공하며, 별도의 가용 영역에서 인스턴스를 시작하면 하나의 가용 영역 전체에 영향을 미치는 실패(그것이 발생할 가능성은 거의 없지만)에서 응용 프로그램을 보호 할 수 있다

글로벌 인프라

16 리전
42 가용 영역
73 엣지 로케이션

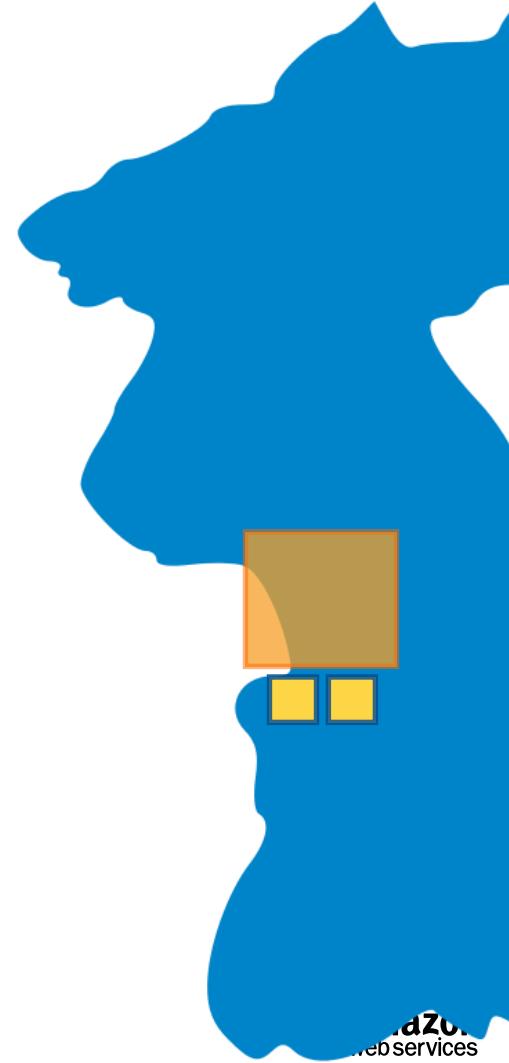


엣지 로케이션은 DNS 서비스인 Amazon Route 53과 CDN 서비스인 Amazon CloudFront 그리고 웹 애플리케이션 방화벽 서비스인 AWS WAF 서비스를 지원한다

언제나 원하는 대로 사용한 만큼

```
$aws ec2-run-instances ami-cf32faa1  
  --instance-count 1000  
  --instance-type m4.10xlarge  
  --region ap-northeast-2
```

```
$aws ec2-stop-instances  
  i-10a64379 i-10a64280 ...
```



AWS 클라우드의 다양하고 폭넓은 서비스



AWS 클라우드의 다양하고 폭넓은 서비스



비지니스 요구 사항에 맞는
90여개 이상의 서비스 조립을 통해 유연한 활용 가능

AWS 활용 = 빌딩 블록 조립



시작하기 리소스 센터

<https://aws.amazon.com/ko/getting-started/>

The screenshot shows the AWS Getting Started Resources Center homepage. At the top, there's a navigation bar with links for 메뉴 (Menu), 모의사 (Mock), 제품 (Products), 솔루션 (Solutions), 요금 (Pricing), 소프트웨어 (Software), 지원 (Support), 더 보기 (More), 한국어 (Korean), 내 계정 (My Account), and AWS 무료 체험하기 (AWS Free Trial). Below the navigation is a large orange header with the text "시작하기 리소스 센터" and a subtext "Amazon Web Services로 구축을 시작하십시오." (Start building with Amazon Web Services). The main content area is titled "10분 자습서로 AWS를 시작하기" (Start with AWS in 10 minutes) and lists eight quick-start guides:

- 10분 자습서 Linux 가상 머신 시작 Amazon EC2 사용
- 10분 자습서 WordPress 웹 사이트 시작 Amazon EC2와 AWS Marketplace 사용
- 10분 자습서 웹 애플리케이션 시작 AWS Elastic Beanstalk 사용
- 10분 자습서 웹 애플리케이션 데이터 AWS Elastic Beanstalk 사용
- 10분 자습서 파일 저장 및 검색 Amazon S3 사용
- 10분 자습서 여러 파일 저장 AWS CLI를 사용해 Amazon S3로
- 10분 자습서 NoSQL 데이타 생성 및 쿼리 Amazon Dynamo DB 사용
- 10분 자습서 도메인 이름 등록 Amazon Route 53 사용

At the bottom, there's a link "모든 자습서 보기 >>" (View all quick-start guides).

첫 번째 프로젝트 구축 및 시작하기

셀프 서비스 단계별 안내서를 사용하여 AWS에서 첫 번째 프로젝트를 구축 및 시작하십시오.

첫 번째 프로젝트 10분내 끝내기

- 10분 자습서로 AWS 빠르게 시작!
- 컴퓨팅, 웹 사이트, 웹 앱, 스토리지, 콘텐츠 전송, 데이터베이스, 개발자 도구, 애플리케이션 서비스 등에 대한 간단한 "Hello, World!" 기술 문서
- 셀프 서비스 단계별 안내서로 첫 번째 프로젝트를 간단히 구축 및 시작



네트워크 구성

- VPC 생성
- 서브넷 생성
- IGW 생성 및 구성
- 라우팅 테이블 생성 및 구성
- 보안 그룹 생성 및 구성

EC2 시작

- 키 페어 생성
- 인스턴스 생성 및 접속
- 사용자 정의 AMI 생성
- 사용자 정의 AMI로 인스턴스 생성

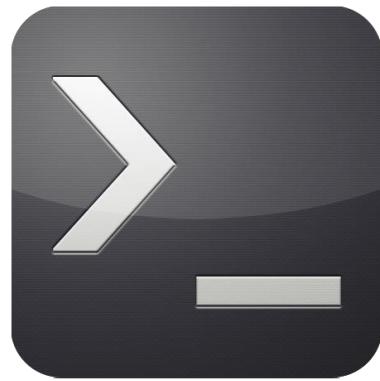
스토리지 관리

- EBS 볼륨 생성
- EBS 볼륨 EC2 연결
- EBS 스냅샷 생성
- EBS 볼륨 복원

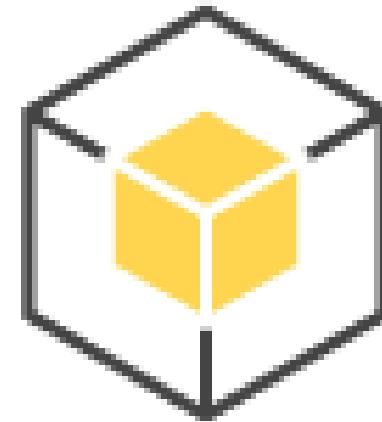




AWS 관리 콘솔



명령어 및 스크립트



AWS API/SDK

AWS 관리 콘솔

리전

▶ Asia Pacific (서울)

컴퓨트

▶ EC2 (EBS 포함)

네트워크 & 콘텐트 배포

▶ VPC

The screenshot shows the AWS Management Console with the 'Services' menu selected. The main content area displays a grid of service categories and their sub-components. Key sections highlighted with orange dashed boxes are:

- Compute** (under All services)
- Networking & Content Delivery** (under Networking & Content Delivery)

The right side of the screen features the AWS re:Invent 2016 announcement banner, which includes the following text and links:

- Check out the latest announcements from AWS re:Invent 2016
- AWS Marketplace: Discover, procure, and deploy popular software products that run on AWS.
- Have feedback? Submit feedback to tell us about your experience with the AWS Management Console.

The banner also lists various AWS regions and their locations:

- US East (N. Virginia)
- US East (Ohio)
- US West (N. California)
- US West (Oregon)
- Canada (Central)
- EU (Ireland)
- EU (Frankfurt)
- Asia Pacific (Tokyo) (highlighted with an orange box)
- Asia Pacific (Seoul) (highlighted with an orange box)
- Asia Pacific (Singapore)
- Asia Pacific (Sydney)
- Asia Pacific (Mumbai)
- South America (São Paulo)

AWS 기본 서비스 시작하기

네트워크 서비스 (VPC)



VPC Dashboard

Filter by VPC:
None

Resources

Start VPC Wizard Launch EC2 Instances

Note: Your Instances will launch in the Asia Pacific (Seoul) region.

You are using the following Amazon VPC resources in the Asia Pacific (Seoul) region:

2 VPCs	2 Internet Gateways
8 Subnets	3 Route Tables
2 Network ACLs	2 Elastic IPs
0 VPC Peering Connections	0 Endpoints
19 Security Groups	3 Running Instances
0 VPN Connections	0 Virtual Private Gateways
0 Customer Gateways	

Virtual Private Cloud

- Your VPCs
- Subnets
- Route Tables
- Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints
- Peering Connections

Security

- Network ACLs
- Security Groups

VPN Connections

Amazon VPC enables you to use your own isolated resources within the AWS cloud, and then connect those resources directly to your own datacenter using industry-standard encrypted IPsec VPN connections.

Create VPN Connection

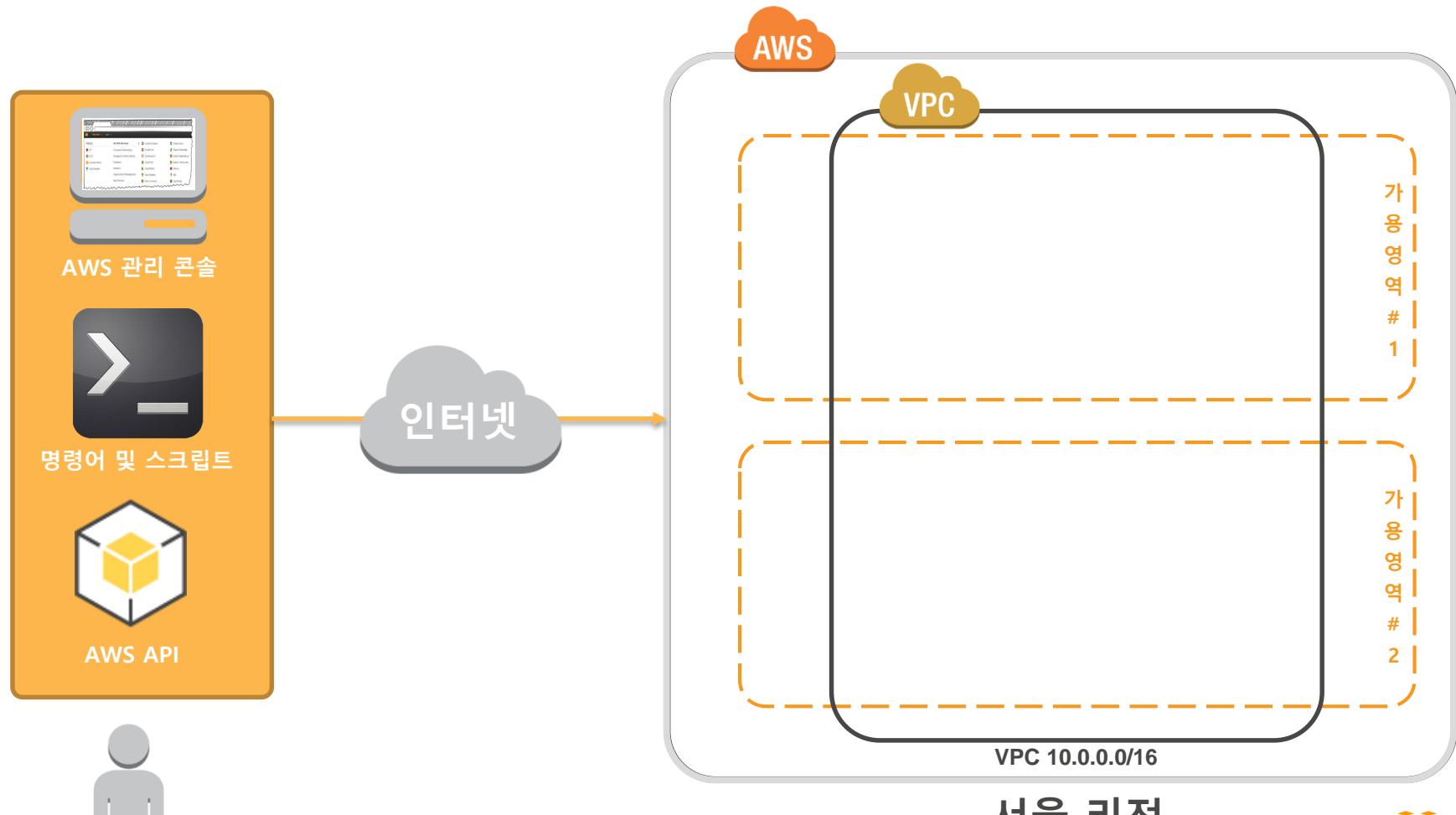
Service Health

Current Status	Details
✓ Amazon VPC - Asia Pacific (Seoul)	Service is operating normally
✓ Amazon EC2 - Asia Pacific (Seoul)	Service is operating normally

[View complete service health details](#)

Additional Information

[VPC Documentation](#)
[All VPC Resources](#)
[Forums](#)
[Report an Issue](#)



네트워크 구성

VPC

서브넷

IGW

라우팅 테이블

보안 그룹

VPC 생성: 명령어 인터페이스

```
$ aws ec2 create-vpc --cidr-block 10.0.0.0/16
```

네트워크 구성

VPC

서브넷

IGW

라우팅 테이블

보안 그룹

VPC 생성: AWS Java SDK

```
CreateVpcRequest newVPC = new CreateVpcRequest();
```

```
String cidrBlock = "10.0.0.0/16";  
newVPC.withInstanceTenancy(Tenancy.Default).withCidrBlock(cidrBlock);
```

```
CreateVpcResult createVpcResult = ec2.createVpc(newVPC);
```

```
String vpclId = createVpcResult.getVpc().getVpcId();  
System.out.println("VPC " + vpclId + "를 만들었습니다");
```



네트워크 구성

VPC

서브넷

IGW

라우팅 테이블

보안 그룹

VPC 생성: ◎ AWS 관리 콘솔 ▶ VPC ▶ Your VPCs ▶ Create VPC

Create VPC

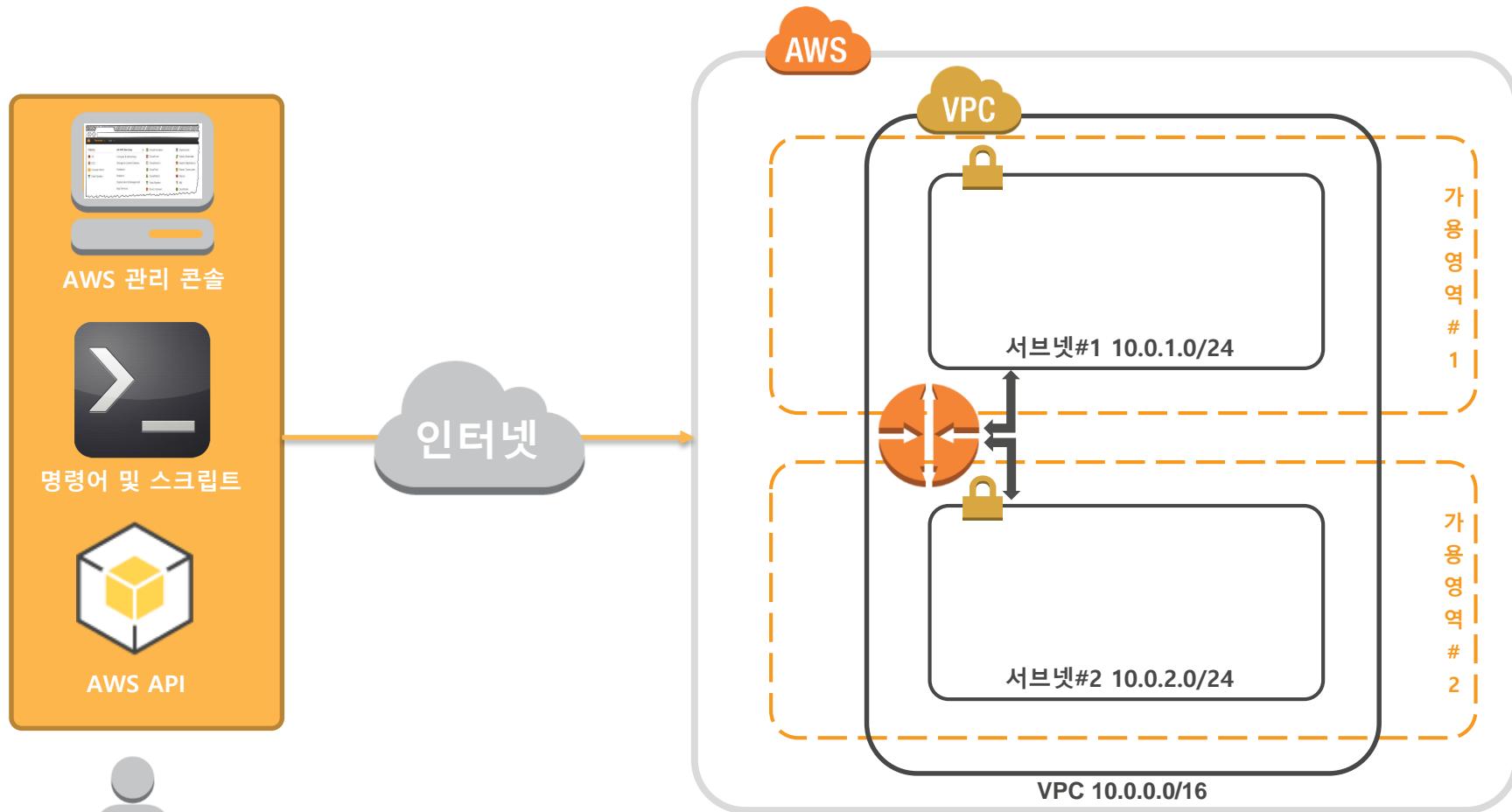
A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. Use the Classless Inter-Domain Routing (CIDR) block format to specify your VPC's contiguous IP address range, for example, 10.0.0.0/16. You cannot create a VPC larger than /16.

Name tag i

CIDR block x i

Tenancy v i





서울 리전

네트워크 구성

VPC

서브넷

IGW

라우팅 테이블

보안 그룹

서브넷 생성: ◎ AWS 관리 콘솔 ► VPC ► Subnets ► Create Subnet

Create Subnet

Use the CIDR format to specify your subnet's IP address block (e.g., 10.0.0.0/24). Note that block sizes must be between a /16 netmask and /28 netmask. Also, note that a subnet can be the same size as your VPC.

Name tag	mydemovpc-public-subnet1
VPC	vpc-e1587284 (10.0.0.0/16) mydemovpc
Availability Zone	ap-northeast-2a
CIDR block	10.0.1.0/24

Cancel Yes, Create

서브넷#1

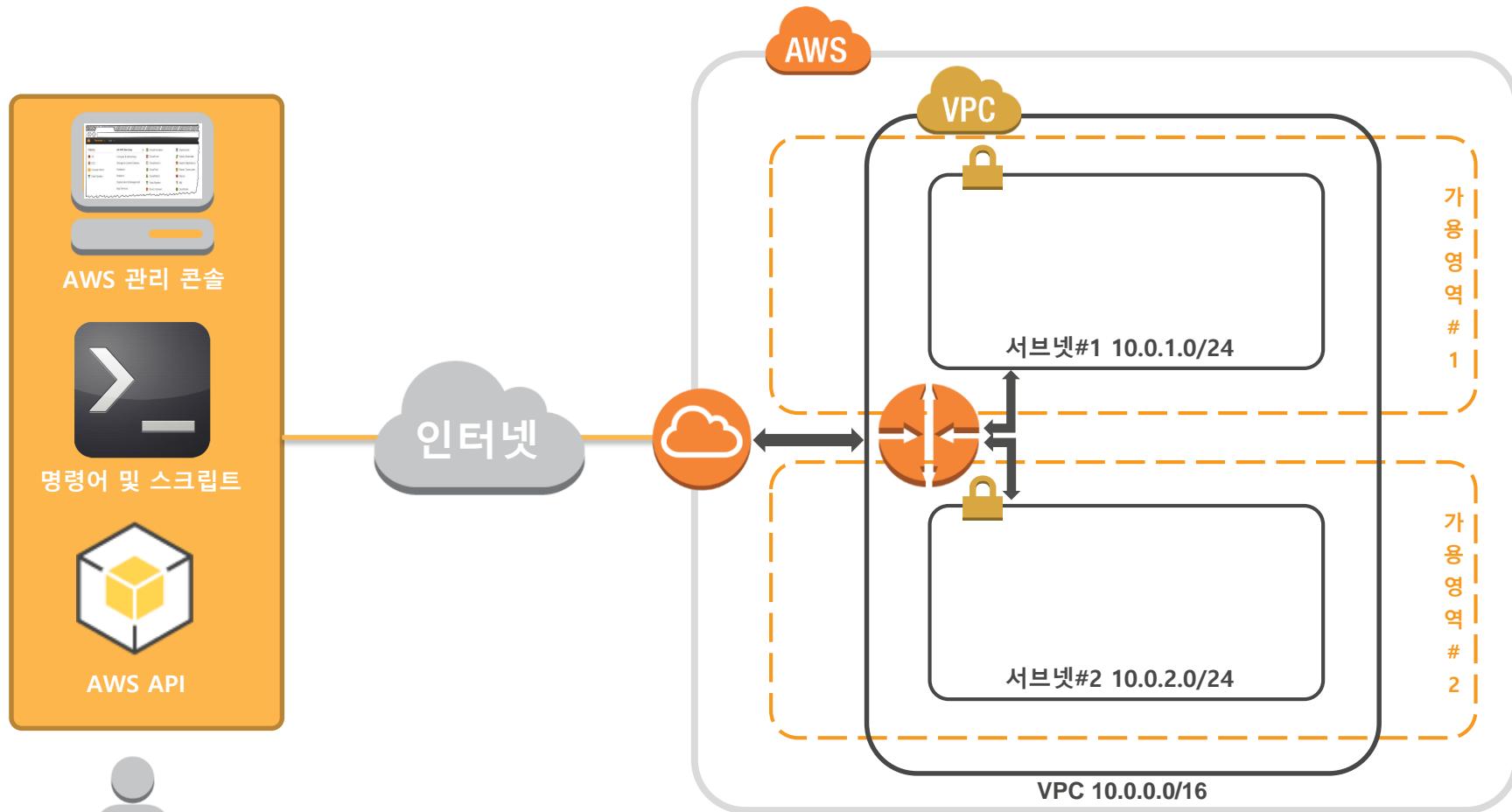
Create Subnet

Use the CIDR format to specify your subnet's IP address block (e.g., 10.0.0.0/24). Note that block sizes must be between a /16 netmask and /28 netmask. Also, note that a subnet can be the same size as your VPC.

Name tag	mydemovpc-public-subnet2
VPC	vpc-e1587284 (10.0.0.0/16) mydemovpc
Availability Zone	ap-northeast-2c
CIDR block	10.0.2.0/24

Cancel Yes, Create

서브넷#2



서울 리전



네트워크 구성

VPC

서브넷

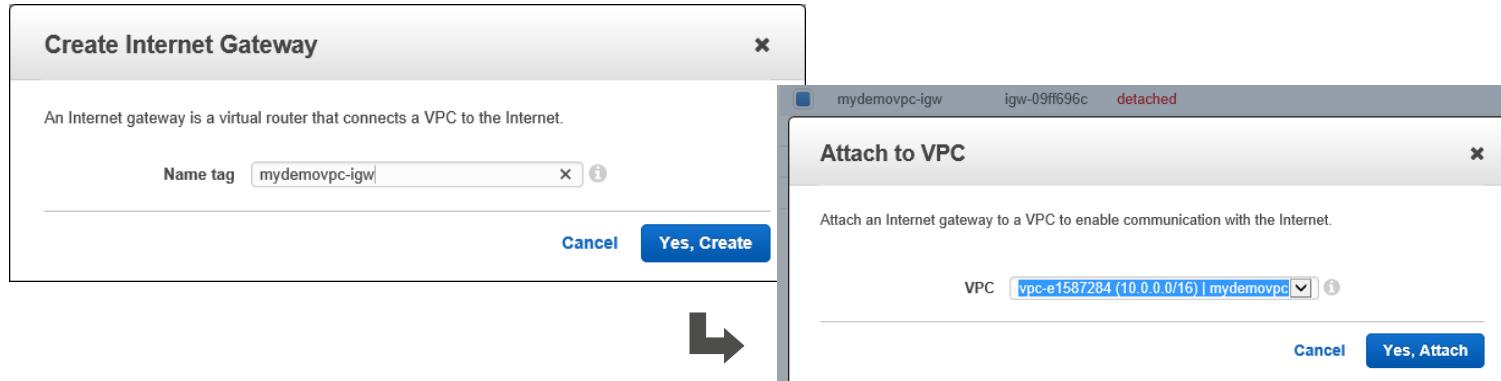
IGW

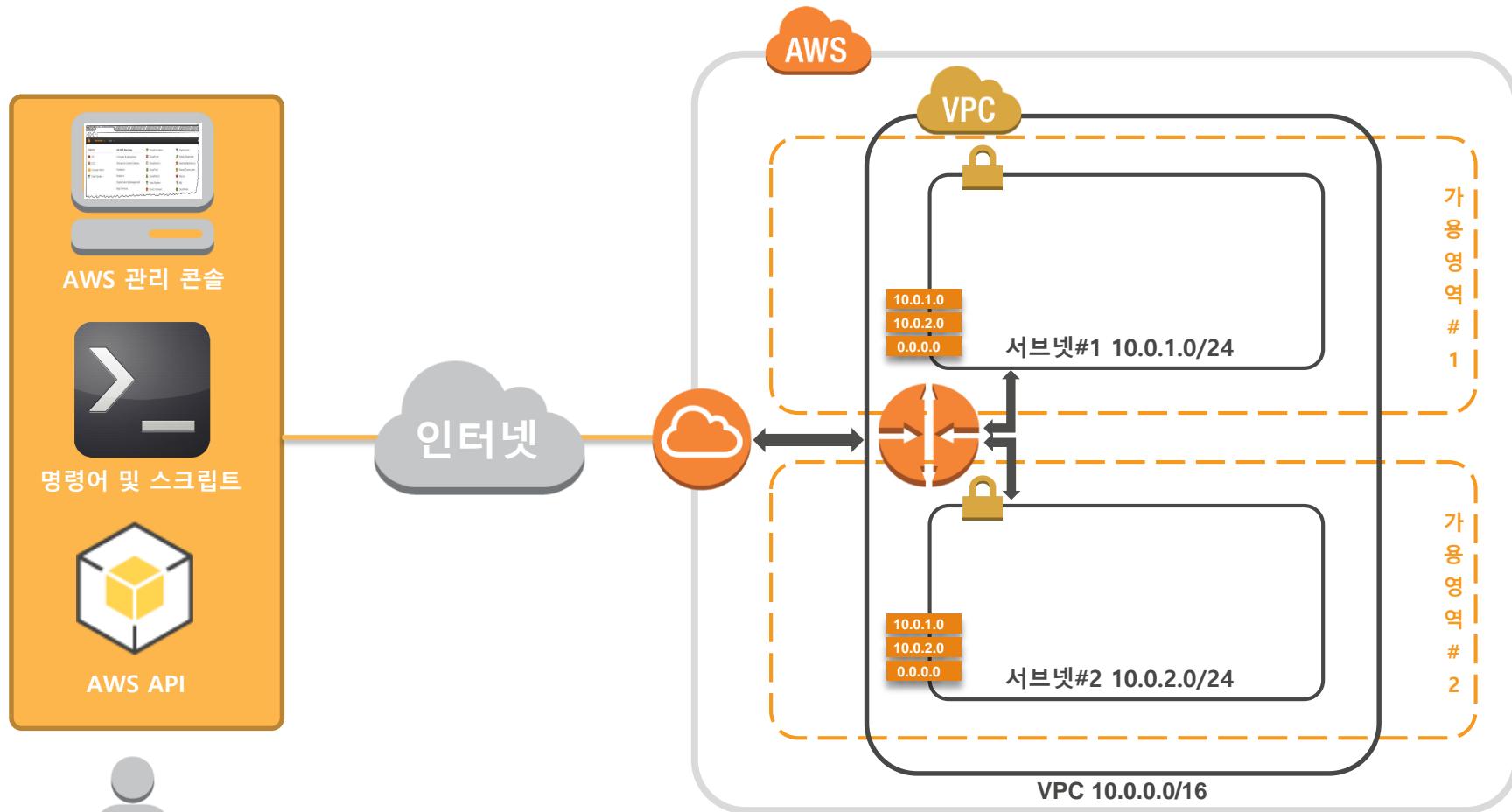
라우팅 테이블

보안 그룹

IGW 생성: ◎ AWS 관리 콘솔 ► VPC ► Internet Gateways ► Create Internet Gateway

► Select 'mydemovpc-igw' ► Attach to VPC





서울 리전

네트워크 구성

VPC

서브넷

IGW

라우팅 테이블

보안 그룹

라우팅 테이블 생성:

◎ AWS 관리 콘솔 ► VPC ► Route Tables ► Create Route Tables

► Select 'mydemovpc-internet-rt' ► Routes

► Subnet Associations

Create Route Table

A route table specifies how packets are forwarded between the subnets within your VPC, the Internet, and your VPN connection.

Name tag: mydemovpc-internet-rt
VPC: vpc-e1587284 (10.0.0.0/16) | mydemovpc

Cancel Yes, Create

rtb-001b0565 | mydemovpc-internet-rt

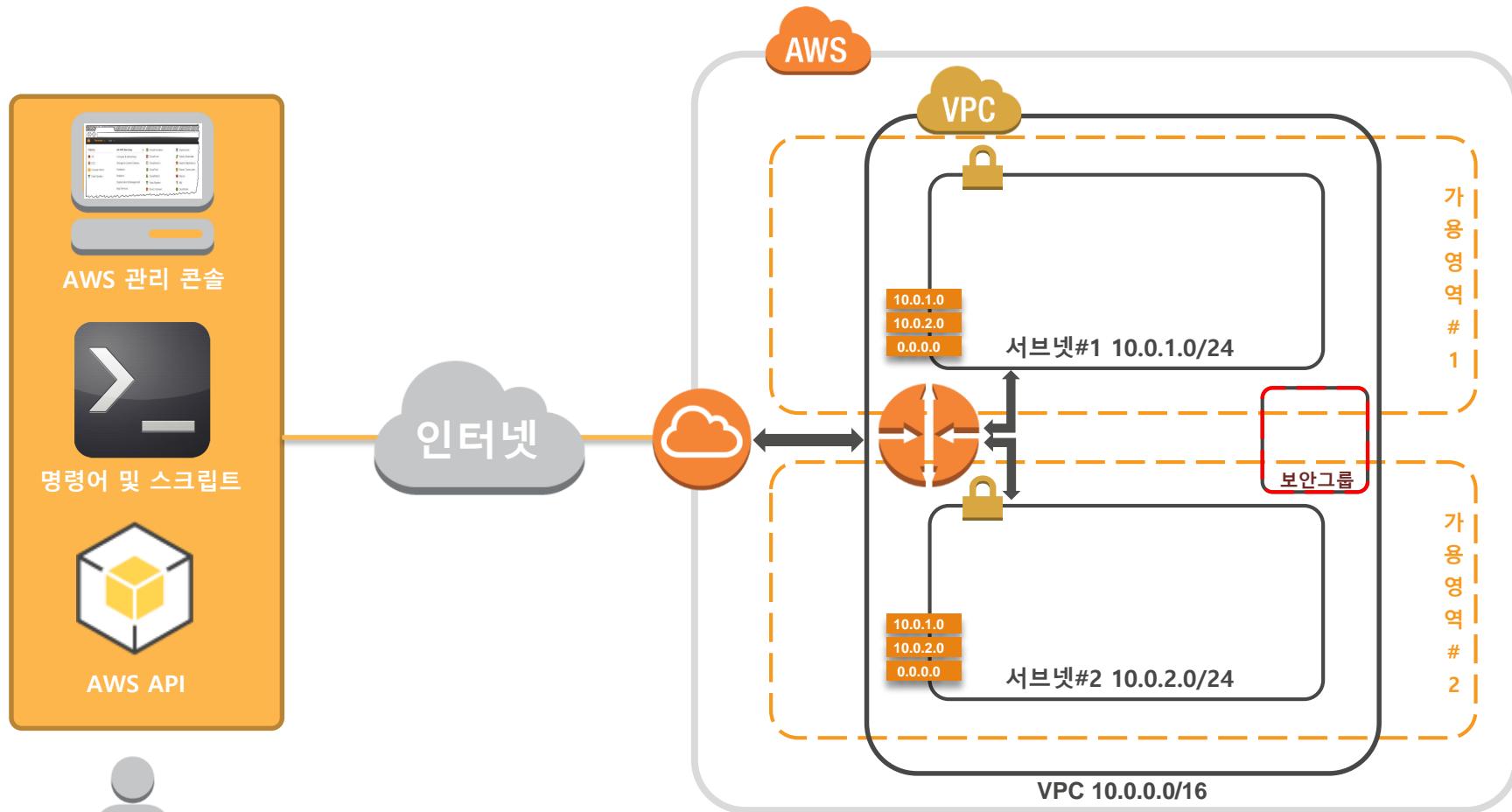
Subnet Associations			
Associate	Subnet	CIDR	Current Route Table
<input checked="" type="checkbox"/>	subnet-aa6178dd (10.0.1.0/24) mydemovpc-public-subnet1	10.0.1.0/24	Main
<input checked="" type="checkbox"/>	subnet-50eade09 (10.0.2.0/24) mydemovpc-public-subnet2	10.0.2.0/24	Main

rtb-001b0565 | mydemovpc-internet-rt

Routes				
Destination	Target	Status	Propagated	Remove
10.0.0.0/16	local	Active	No	
0.0.0.0/0	igw-09ff696c mydemovpc-igw		No	X

Add another route





네트워크 구성



보안 그룹 생성: ◈ AWS 관리 콘솔 ► VPC ► Security Groups ► Create Security Group

► **Select 'mydemovpc-bastion-sg'** ► Inbound Rules ► Edit

Create Security Group

Name tag	mydemovpc-bastion-sg
Group name	mydemovpc-bastion-sg
Description	mydemovpc-bastion-sg
VPC	vpc-e1587284 (10.0.0.0/16) mydemovpc

Inbound Rules

Type	Protocol	Port Range	Source	Remove
SSH (22)	TCP (6)	22	0.0.0.0/0	 
RDP (3389)	TCP (6)	3389	0.0.0.0/0	 
HTTP (80)	TCP (6)	80	0.0.0.0/0	 

Add another rule

Summary **Inbound Rules** **Outbound Rules** **Tags**

Cancel **Save**



AWS 기본 서비스 시작하기

컴퓨팅 서비스 (EC2)





EC2 Dashboard

Events
Tags
Reports
Limits

INSTANCES

Instances
Spot Requests
Reserved Instances
Dedicated Hosts

IMAGES

AMIs
Bundle Tasks

ELASTIC BLOCK STORE

Volumes
Snapshots

NETWORK & SECURITY

Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces

LOAD BALANCING

Load Balancers

AUTO SCALING

Launch Configurations
Auto Scaling Groups

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Seoul) region:

3 Running Instances
0 Dedicated Hosts
3 Volumes
2 Key Pairs
0 Placement Groups

2 Elastic IPs
3 Snapshots
1 Load Balancers
19 Security Groups

Build and run distributed, fault-tolerant applications in the cloud with [Amazon Simple Workflow Service](#).

Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the Asia Pacific (Seoul) region

Service Health

Service Status:

✓ Asia Pacific (Seoul):
This service is operating normally

Availability Zone Status:

✓ ap-northeast-2a:
Availability zone is operating normally
✓ ap-northeast-2c:
Availability zone is operating normally

[Service Health Dashboard](#)

Scheduled Events

Asia Pacific (Seoul):

No events

AWS Marketplace

Find **free software trial** products in the AWS Marketplace from the [EC2 Launch Wizard](#).
Or try these popular AMIs:

[Tableau Server \(10 users\)](#)

Provided by Tableau

Rating ★★★★☆

Pay by the hour for Tableau software and AWS usage

[View all Business Intelligence](#)

[SAP HANA One 244GB](#)

Provided by SAP Inc (CAE)

Rating ★★★★☆

Pay by the hour for SAP HANA One 244GiB software and AWS usage

[View all Business Intelligence](#)

EC2 시작

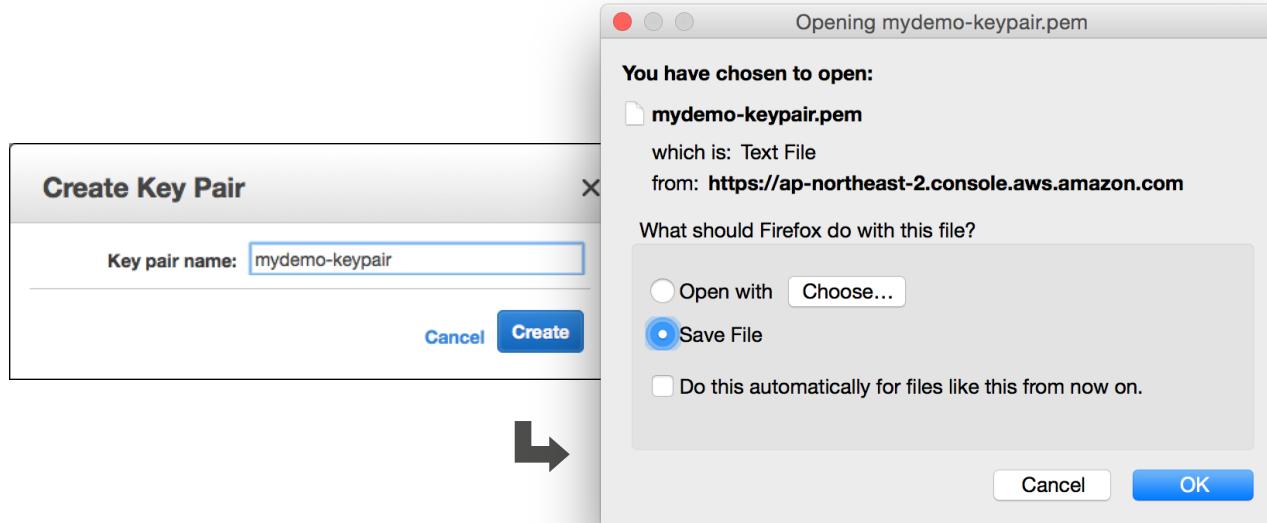
키 페어

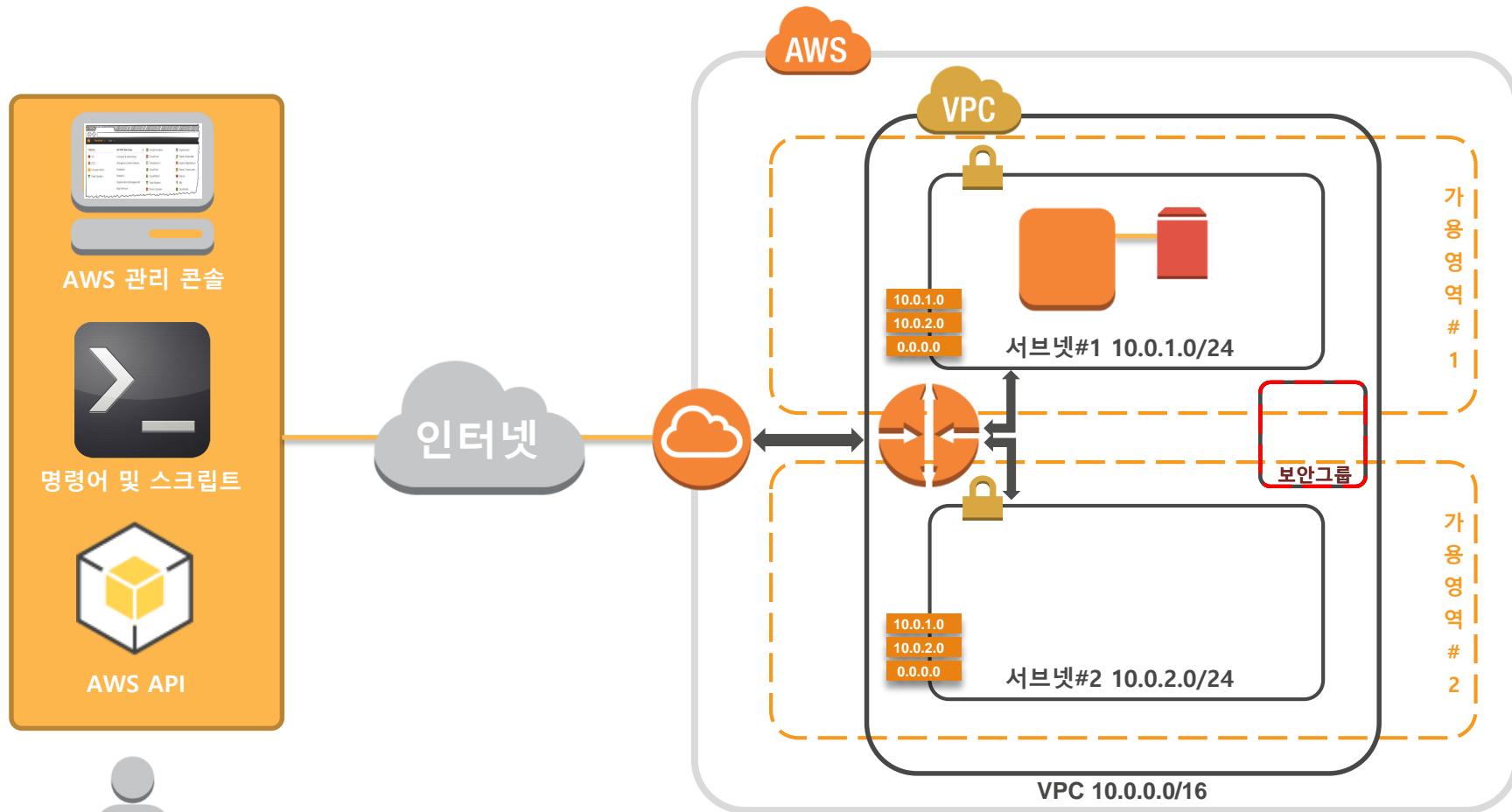
인스턴스

AMI

커스텀 인스턴스

키 페어 생성: ◎ AWS 관리 콘솔 ▶ EC2 ▶ Key Pairs ▶ Create Key Pair





서울 리전

EC2 시작

키 페어

인스턴스

AMI

커스텀 인스턴스

인스턴스 생성: ◎ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Cancel and Exit

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start

My AMIs

AWS Marketplace

Community AMIs

Free tier only (i)



Amazon Linux AMI 2016.03.1 (HVM), SSD Volume Type - ami-29160d47

Amazon Linux
Free tier eligible

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root device type: ebs Virtualization type: hvm

Select

64-bit



Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-0dd8f963

Red Hat
Free tier eligible

Red Hat Enterprise Linux version 7.2 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm

Select

64-bit



SUSE Linux Enterprise Server 12 SP1 (HVM), SSD Volume Type - ami-f8220896

SUSE Linux
Free tier eligible

SUSE Linux Enterprise Server 12 Service Pack 1 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Select

64-bit



EC2 시작

키 페어

인스턴스

AMI

커스텀 인스턴스

인스턴스 생성: ◎ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose an AMI

An AMI is a template provided by AWS.

Quick Start

My AMIs

AWS Marketplace

Community AMIs

Free tier only

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance types 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	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-
<input checked="" type="checkbox"/>	General purpose	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-

[Cancel](#)

[Previous](#)

[Review and Launch](#)

[Next: Configure Instance Details](#)



EC2 시작

키 페어

인스턴스

AMI

커스텀 인스턴스

인스턴스 생성: ◉ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose AMI

An AMI is a template provided by AWS, containing the software and configuration settings for your instances.

Step 2: Choose Instance Type

Amazon EC2 provides combinations of CPU, memory, storage, and networking to fit your needs.

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1 Launch into Auto Scaling Group:

Purchasing option: Request Spot instances

Network: vpc-e1587284 (10.0.0.0/16) | mydemovpc

Subnet: subnet-aa6178dd(10.0.1.0/24) | mydemovpc-public
251 IP Addresses available

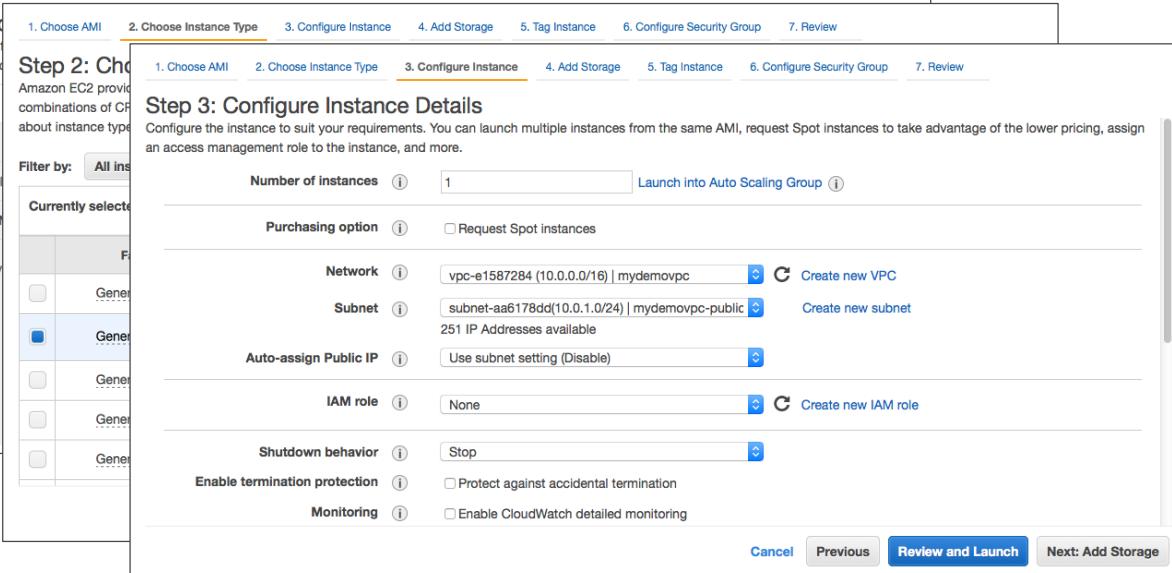
Auto-assign Public IP: Use subnet setting (Disable)

IAM role: None

Shutdown behavior: Stop

Enable termination protection: Protect against accidental termination

Monitoring: Enable CloudWatch detailed monitoring



EC2 시작

키 페어

인스턴스

AMI

커스텀 인스턴스

인스턴스 생성: ◎ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose AMI

An AMI is a template provided by AWS, containing the software and configuration settings for your instance.

Step 2: Choose Instance Type

Amazon EC2 provides combinations of CPU, memory, storage, and network performance. Configure the instance type based on your needs.

Step 3: Configure Instance

Configure the instance type based on your needs.

Step 4: Add Storage

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. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/xvda	snap-451c58aa	8	General Purpose	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Cancel **Previous** **Review and Launch** **Next: Tag Instance**



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인스턴스 생성: ◎ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose AMI

An AMI is a template provided by AWS, containing the software and configuration settings for your instance.

Step 2: Choose Instance Type

Amazon EC2 provides combinations of CPU, memory, storage, and networking to fit your needs.

Step 3: Configure Instance

Configure the instance type and options based on your needs.

Step 4: Add Storage

Your instance will be able to access the storage options in Amazon S3.

Step 5: Tag Instance

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.

Volume Type: General Purpose (SSD) General Purpose (HDD) Provisioned IOPS (SSD) Provisioned IOPS (HDD)

Root /dev/sda1 /dev/sda1 (Amazon EBS)

Add New Volume

Free tier eligible usage restriction

Key: Name (127 characters maximum) Value: (255 characters maximum)

Name:

Create Tag (Up to 10 tags maximum)

Cancel Previous **Review and Launch** Next: Configure Security Group



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인스턴스 생성: ◎ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose AMI

An AMI is a template provided by AWS, containing the software and configuration settings for your instance.

Step 2: Choose Instance Type

Amazon EC2 provides combinations of CPU, memory, storage, and network performance. Choose the instance type that best matches your application's needs.

Step 3: Configure Instance

Configure the instance type and other settings such as instance type, instance family, and instance type options.

Step 4: Add Storage

Your instance will be able to access storage resources. You can add storage volumes to your instance.

Step 5: Tag Instance

A tag consists of a key and a value. You can use tags to categorize your instances and apply filters to them.

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group:

- Create a new security group
- Select an existing security group

Security Group ID	Name	Description	Actions
sg-d5c4a1b1	default	default VPC security group	Copy to new
sg-0583e761	mydemovpc-bastion-sg	mydemovpc-bastion-sg	Copy to new

Inbound rules for sg-0583e761 (Selected security groups: sg-0583e761)

Type	Protocol	Port Range	Source
SSH	TCP	22	0.0.0.0/0
RDP	TCP	3389	0.0.0.0/0

Review and Launch



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인스턴스 생성: ◉ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose AMI

An AMI is a template provided by AWS, containing the software and configuration for your instance.

Step 2: Choose Instance Type

Amazon EC2 provides combinations of CPU, memory, storage, and network performance.

Step 3: Configure Instance

Configure the instance type and other settings.

Step 4: Add Storage

Your instance will be able to access additional storage options.

Step 5: Tag Instance

A tag consists of a key and a value.

Step 6: Configure Security Group

A security group is a set of rules defining which traffic is allowed into or out of your instances.

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

AMI Details

Amazon Linux AMI 2016.03.1 (HVM), SSD Volume Type - ami-29160d47

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Instance Type

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
---------------	------	-------	--------------	-----------------------	-------------------------	---------------------

Buttons: Cancel | Previous | **Launch**

EC2 시작

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▶ 커스텀 인스턴스

인스턴스 생성: ◉ AWS 관리 콘솔 ► EC2 ► Instances ► Launch Instance

- #### **1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review**

Step 1: Choose AMI

An AMI is a template provided by AWS, or you can upload your own.

Step 2: Choose Instance Type

Amazon EC2 provides combinations of CPU, memory, and storage options for different instance types.

Step 3: Configure Instance

Configure the instance type and choose an access manager.

Step 4: Add Storage

Your instance will be able to store data using the storage options in Amazon EBS.

Step 5: Tag Instance

A tag consists of a key and a value that identify resources.

Step 6: Configure Security Group

A security group is a set of rules you want to set up for your instance to control inbound and outbound traffic.

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

AMI Details

- Amazon Linux AMI 2016.03.1 (HVM), SSD Volume**
- Type**: Free tier eligible
- Inbound rules for security groups**
- Root Device Type**: ebs **Virtualization type**: hvm

Instance Type

Instance Type	ECUs	vCPUs	Memory (GiB)
t2.micro	1	1	0.75

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

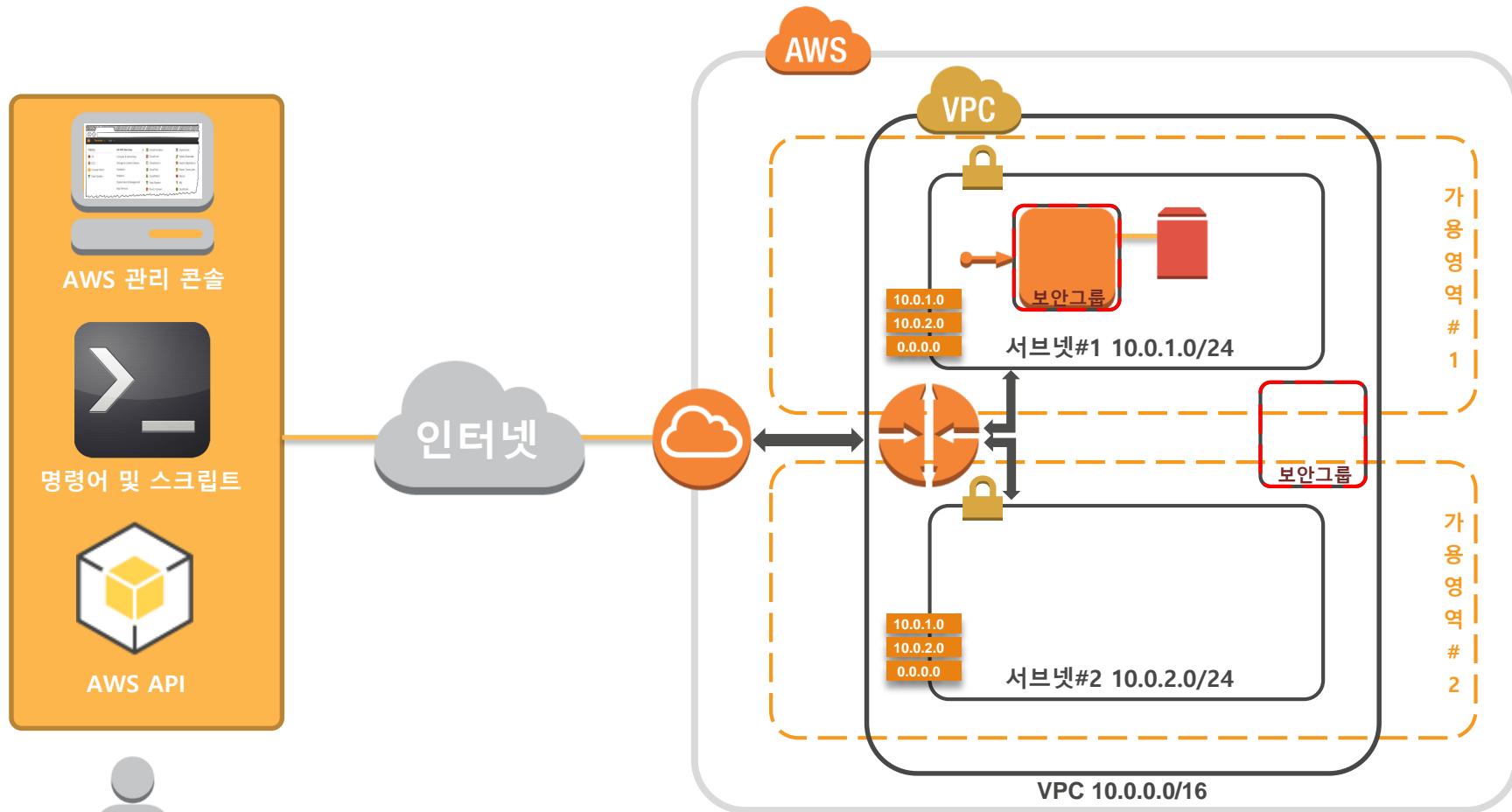
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair: Select a key pair

mydemo-keypair

I acknowledge that I have access to the selected private key file (mydemo-keypair.pem), and that without this file, I won't be able to log into my instance.

Cancel **Launch Instances**



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인스턴스 공인 IP 연결:

- ◎ AWS 관리 콘솔 ► EC2 ► Elastic IPs ► Allocate New Address
- Select the newly allocated IP ► Action ► Associate Address
- Instances ► Select the instance that we launched ► Description

Allocate New Address

Are you sure you want to allocate a new IP address?

Associate Address

Select the instance OR network interface to which you want to associate the new IP address.

Instance: i-dd214042

Network Interface: s-

Private IP Address: 10.0.1.151*

Reassociation

Warning
If you associate an Elastic IP address with your instance, your current public IP address is released. Learn more about [public IP addresses](#).

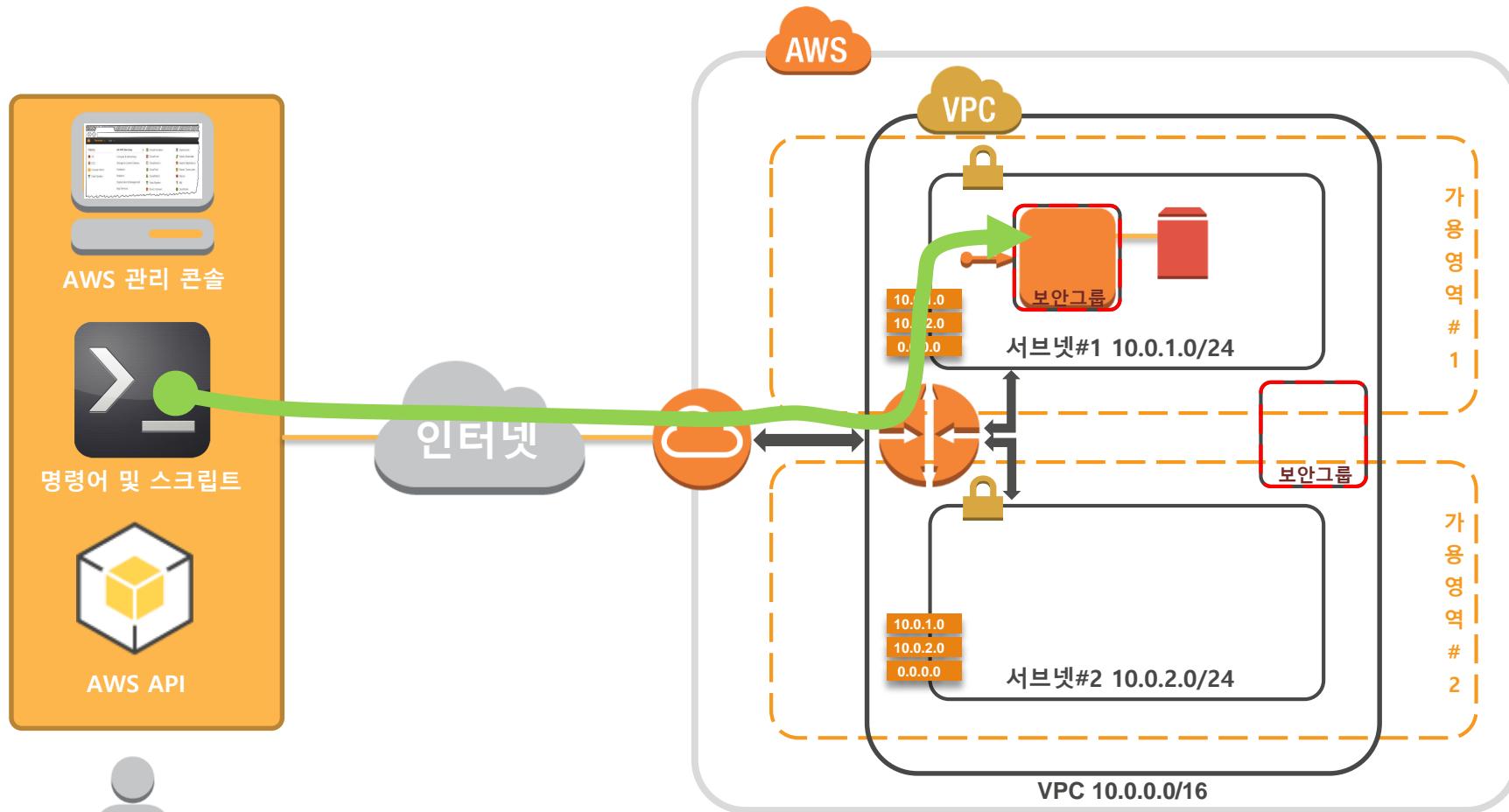
Instance: i-dd214042 t2.micro ap-northeast-2a running 2/2 checks ... None

Elastic IP: 52.196.186.185

Description Status Checks Monitoring Tags

Instance ID	i-dd214042	Public DNS	-
Instance state	running	Public IP	52.196.186.185
Instance type	t2.micro	Elastic IP	52.196.186.185
Private DNS	ip-10-0-1-151.ap-northeast-2.compute.internal	Availability zone	ap-northeast-2a
Private IPs	10.0.1.151	Security groups	mydemovpc-bastion-sg. view rules





서울 리전



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커스텀 인스턴스

인스턴스 접속:

- 작업 워크스테이션 (PC 또는 랩톱) ▶ SSH 터미널

The screenshot shows a terminal window titled "Downloads – ec2-user@ip-10-0-1-151:~ – ssh – 80x24". The window contains the following text:

```
$ ssh -i ./mydemo-keypair.pem ec2-user@52.196.186.185      로컬 SSH(1) 명령어
The authenticity of host '52.196.186.185 (52.196.186.185)' can't be established.
RSA key fingerprint is e3:fe:9d:87:24:35:a1:b4:cf:3e:8e:41:d4:55:89:0e.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '52.196.186.185' (RSA) to the list of known hosts.

[ec2-user@ip-10-0-1-151 ~]$
```

Below the terminal window, the text "원격 인스턴스 프롬프트" is displayed.



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인스턴스 접속: ◦ 작업 워크스테이션 (윈도우) ► PUTTY 터미널

◎ 윈도우 PuTTY 사용자: <http://tinyurl.com/winterm>

사전준비

1. PuTTY 설치
2. 인스턴스의 “퍼블릭 IP” 정보 확인 및 메모
3. 프라이빗 키 파일 (PEM) 저장 위치 확인

프라이빗 키 변환 (PEM ► PPK)

1. PuTTYgen 시작
2. SSH-2 RSA 선택 확인
3. PEM 파일 로드 [Load]
4. PPK로 변환 [Save private key]

PuTTY 세션 시작

1. PuTTY 시작
2. 카테고리 ► 세션 선택
 - 호스트 이름에 “ec2-user@퍼블릭 IP” 입력
3. 카테고리 ► 커넥션 ► SSH ► Auth 선택
 - [Browse]를 클릭하여 PPK 키 파일 선택
4. Open 클릭



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인스턴스 접속: ◎ 작업 워크스테이션 (PC 또는 랩톱) ▶ SSH 터미널 ▶ httpd 구성 명령어 수행

http 서버
구성 예)

```
cheolsoo — ec2-user@ip-10-0-1-151:~ — ssh — 85x40
Command line error: no such option: --quite
[ec2-user@ip-10-0-1-151 ~]$ clear
[ec2-user@ip-10-0-1-151 ~]$ sudo yum install httpd -q
Failed to set locale, defaulting to C

=====
Package          Arch      Version       Repository      Size
=====
Installing:
  httpd           x86_64    2.2.31-1.8.amzn1   amzn-main      1.2 M
Installing for dependencies:
  apr             x86_64    1.5.1-1.12.amzn1  amzn-main      116 k
  apr-util        x86_64    1.4.1-4.17.amzn1  amzn-main      87 k
  apr-util-ldap   x86_64    1.4.1-4.17.amzn1  amzn-main      17 k
  httpd-tools     x86_64    2.2.31-1.8.amzn1  amzn-main      80 k

Transaction Summary
=====
Install 1 Package (+4 Dependent packages)

Is this ok [y/d/N]: y
[ec2-user@ip-10-0-1-151 ~]$ service httpd start
/bin/sh: warning: setlocale: LC_ALL: cannot change locale (ko_kr.UTF-8)
Starting httpd: httpd: apr_sockaddr_info_get() failed for ip-10-0-1-151
httpd: Could not reliably determine the server's fully qualified domain name, using 1
27.0.0.1 for ServerName
[ec2-user@ip-10-0-1-151 ~]$ sudo service httpd start
/bin/sh: warning: setlocale: LC_ALL: cannot change locale (ko_kr.UTF-8)
Starting httpd: httpd: apr_sockaddr_info_get() failed for ip-10-0-1-151
httpd: Could not reliably determine the server's fully qualified domain name, using 1
27.0.0.1 for ServerName
[ec2-user@ip-10-0-1-151 ~]$ sudo chkconfig httpd on
[ec2-user@ip-10-0-1-151 ~]$
```

httpd 설치

httpd 서비스 시작

httpd 서비스 활성화



EC2 시작

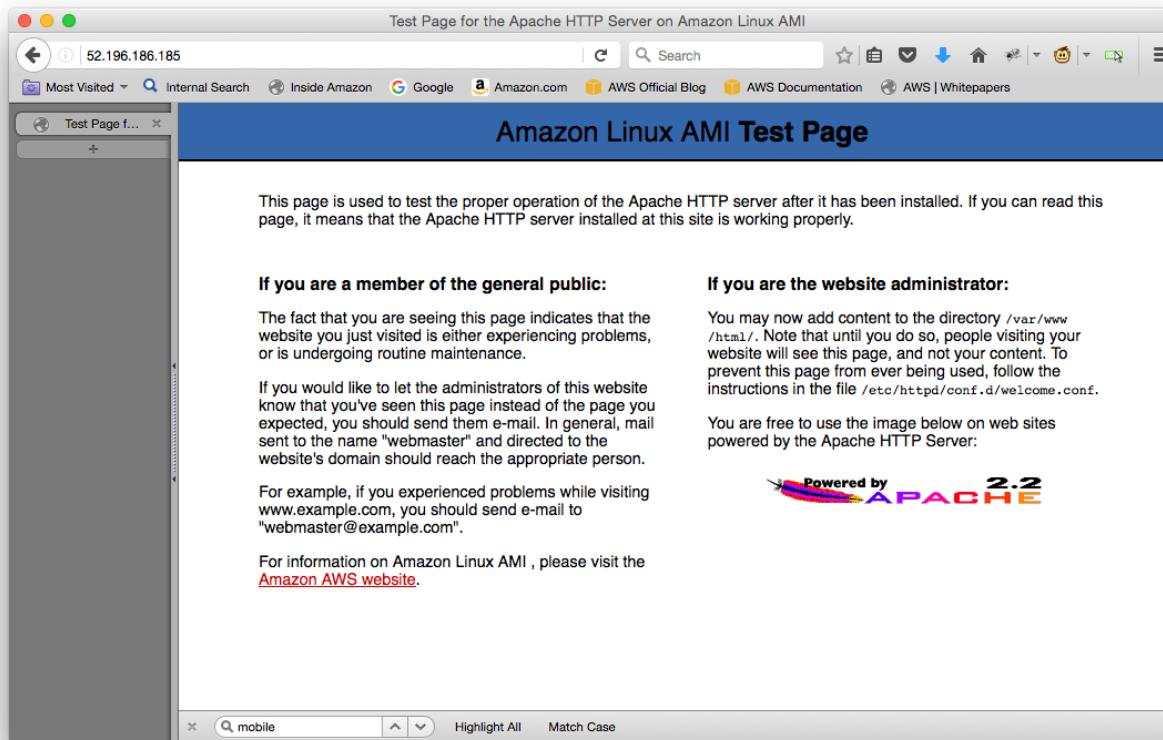
키 페어

인스턴스

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커스텀 인스턴스

인스턴스 접속: ◦ 작업 워크스테이션 (PC 또는 랩톱) ▶ 웹 브라우저 접속



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커스텀 인스턴스

커스텀 AMI 생성:

◎ AWS 관리 콘솔 ► EC2 ► Instance ► **Select the instance that we launched** ► Actions ► Instance State ► Stop
► Image ► Create Image

Stop Instances

Are you sure you want to stop these instances?

i-dd214042

Note that when your instances are stopped:
Any data on the ephemeral storage of your instances will be lost.

Cancel **Yes, Stop**

Create Image

Instance ID: i-dd214042

Image name: mydemovpc-ami

Image description: mydemovpc-ami

No reboot:

Instance Volumes

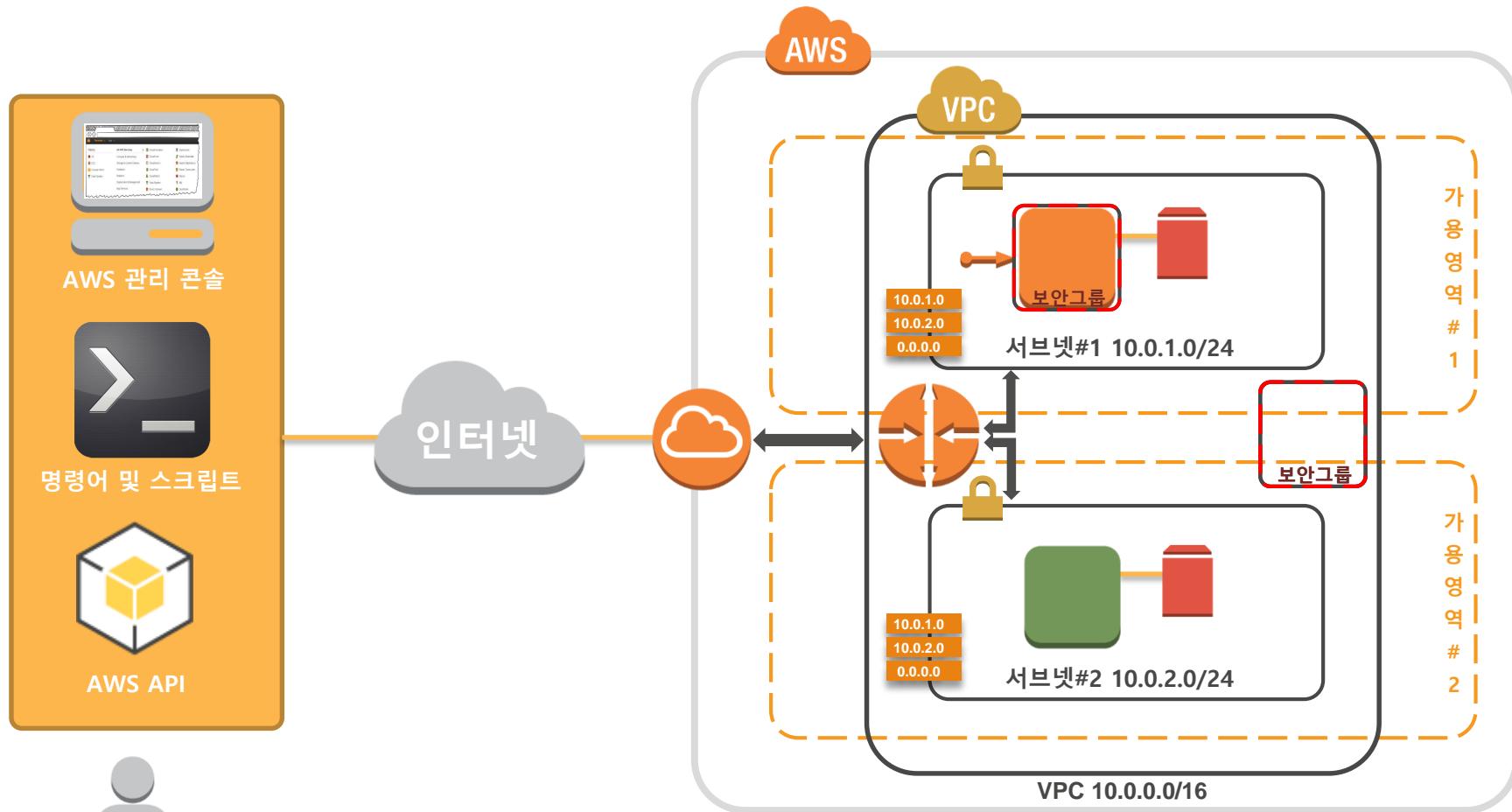
Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/xvda	snap-451c58aa	8	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Total size of EBS Volumes: 8 GiB
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.

Create Image





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커스텀 인스턴스

커스텀 인스턴스 생성: ◉ AWS 관리 콘솔 ▶ EC2 ▶ Instances ▶ Launch Instance

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

My AMIs

AMI Name	Root device type	Virtualization type	Owner
mydemovpc-ami - ami-24e20d45	ebs	hvm	215414963627
testing - delete it - ami-62485d0c	instance-store	paravirtual	215414963627

AWS Marketplace

Community AMIs

Ownership

Owned by me
 Shared with me

Architecture

32-bit
 64-bit

Configure Instance

Inbound rules for

Type: SSH RDP

AMI Details

Amazon Linux AMI 2016.03.1 (HVM), SSD Volume Type

Instance Type

Instance Type	ECUs	vCPUs	Memory (GiB)
---------------	------	-------	--------------

Review

Launch

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

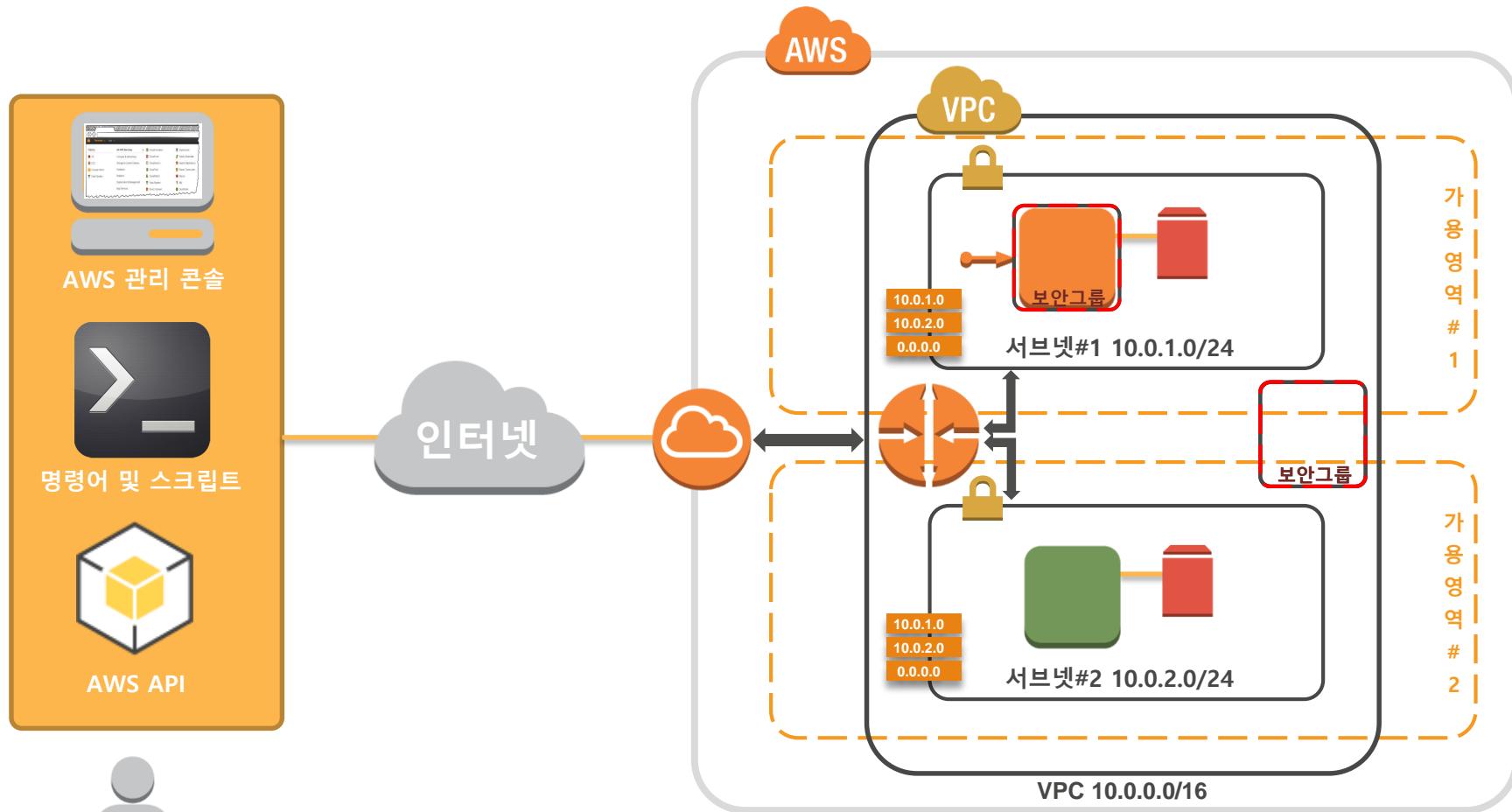
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair: mydemo-keypair

Select a key pair: mydemo-keypair

I acknowledge that I have access to the selected private key file (mydemo-keypair.pem), and that without this file, I won't be able to log into my instance.

Cancel **Launch Instances**



EC2 시작

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인스턴스

AMI

커스텀 인스턴스

인스턴스 공인 IP 변경:

© AWS 관리 콘솔 ► EC2 ► Elastic IPs ► **Select the allocated IP** ► Action ► Disassociate Address
► **Select the allocated IP** ► Action ► Associate Address
► Instances ► **Select the instance that we launched** ► Description

The screenshot illustrates the workflow for changing an EC2 instance's public IP address. It consists of two main windows: a smaller one on the left and a larger one on the right.

Left Window (Disassociate Address):

- Header: Disassociate Address
- Message: Are you sure that you wish to disassociate this Elastic IP Address?
- Details:
 - Public IP: 52.196.186.185
 - Instance ID: i-dd214014
- Buttons:
 - Network interface (disabled)
 - Associate Address (highlighted)
- Text: Select the instance OR network interface to which you wish to associate this address.
- Fields:
 - Instance: i-dd214014
 - Network Interface: Search
 - Private IP Address: 10.0.2.141*
 - Reassociation
- Warning message (boxed):

Warning
If you associate an Elastic IP address with your instance, your current public IP address is released. Learn more about [public IP addresses](#).
- Buttons: Cancel, Associate

Right Window (Instance Details):

- Header: i-dd214014, t2.micro, ap-northeast-2c, running, 2/2 checks ...
- Instance: i-dd214014, Elastic IP: 52.196.186.185
- Tabs: Description (selected), Status Checks, Monitoring, Tags
- Details:

Instance ID	i-dd214014	Public DNS	-
Instance state	running	Public IP	52.196.186.185
Instance type	t2.micro	Elastic IP	52.196.186.185
Private DNS	ip-10-0-2-141.ap-northeast-2.compute.internal	Availability zone	ap-northeast-2c
Private IPs	10.0.2.141	Security groups	mydemovpc-bastion-sg, view rules

Large arrows on the left and right sides of the windows indicate the flow from the disassociation step to the association step.



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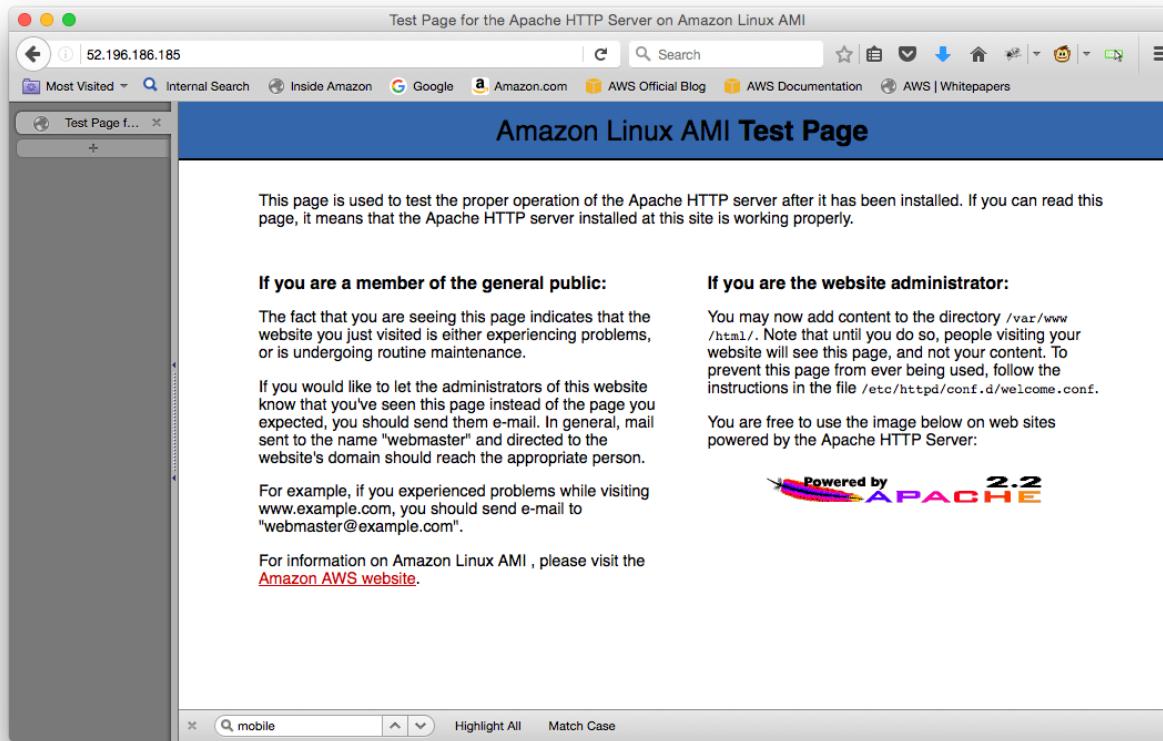
인스턴스

AMI

커스텀 인스턴스

인스턴스 접속: ◦ 작업 워크스테이션 (PC 또는 랩톱) ▶ 웹 브라우저 접속

커스텀
인스턴스 예)



AWS 기본 서비스 시작하기

스토리지 서비스 (EBS)





EC2 Dashboard

- Events
- Tags
- Reports
- Limits

INSTANCES

- Instances
- Spot Requests
- Reserved Instances
- Dedicated Hosts

IMAGES

- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE

- Volumes
- Snapshots

NETWORK & SECURITY

- Security Groups
- Elastic IPs
- Placement Groups
- Key Pairs
- Network Interfaces

LOAD BALANCING

- Load Balancers

AUTO SCALING

- Launch Configurations
- Auto Scaling Groups

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Seoul) region:

3 Running Instances

0 Dedicated Hosts

3 Volumes

2 Key Pairs

0 Placement Groups

2 Elastic IPs

3 Snapshots

1 Load Balancers

19 Security Groups

Build and run distributed, fault-tolerant applications in the cloud with [Amazon Simple Workflow Service](#).

Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the Asia Pacific (Seoul) region

Service Health

Service Status:

✓ Asia Pacific (Seoul):
This service is operating normally

Availability Zone Status:

✓ ap-northeast-2a:
Availability zone is operating normally
✓ ap-northeast-2c:
Availability zone is operating normally

[Service Health Dashboard](#)

Scheduled Events

Asia Pacific (Seoul):

No events

AWS Marketplace

Find **free software trial** products in the AWS Marketplace from the [EC2 Launch Wizard](#). Or try these popular AMIs:

[Tableau Server \(10 users\)](#)

Provided by Tableau

Rating ★★★★☆

Pay by the hour for Tableau software and AWS usage

[View all Business Intelligence](#)

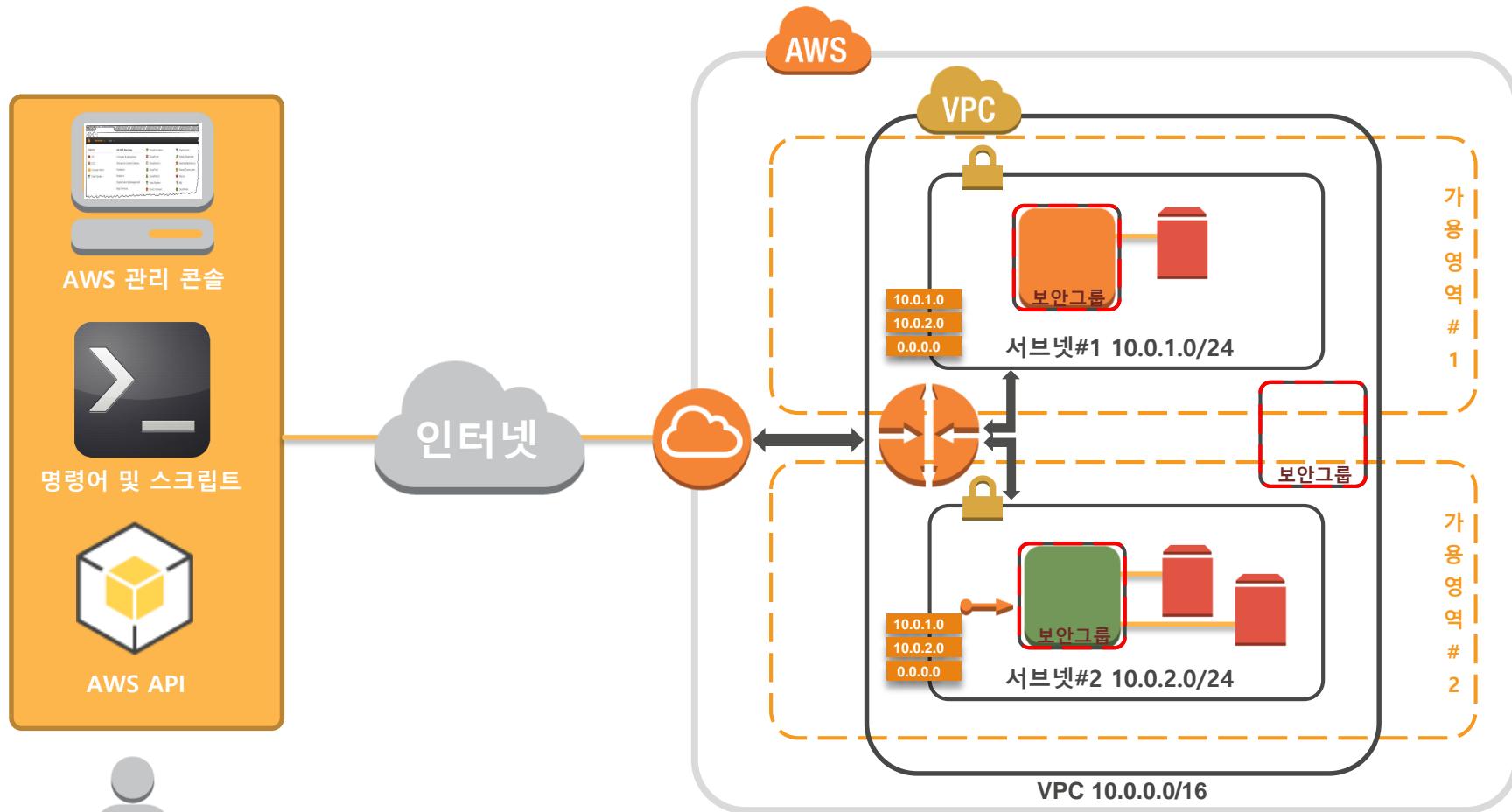
[SAP HANA One 244GB](#)

Provided by SAP Inc (CAE)

Rating ★★★★☆

Pay by the hour for SAP HANA One 244GiB software and AWS usage

[View all Business Intelligence](#)



서울 리전

EBS 볼륨 생성 및 연결:

- ◎ AWS 관리 콘솔 ▶ EC2 ▶ Instances ▶ **Select the instance that we want to stop**
- ◎ AWS 관리 콘솔 ▶ EC2 ▶ Volumes ▶ Create Volume
 - ▶ **Select the volume that we created** ▶ Actions ▶ Attach Volume
 - ▶ Instances ▶ **Select the instance attached the volume just before**
 - ▶ Actions ▶ Instance State ▶ Start

Create Volume

Volume Type	General Purpose SSD (GP2)
Size (GiB)	1 (Min: 1 GiB, Max: 16384 GiB)
IOPS	100 / 3000 (Baseline of 100 IOPS per GiB)
Throughput (MB/s)	Not Applicable
Availability Zone	ap-northeast-2c
Snapshot ID	Search (case-insensitive)
Encryption	<input type="checkbox"/> Encrypt this volume

Create

Attach Volume

Volume	vol-211518de in ap-northeast-2c
Instance	in ap-northeast-2c
Device	/dev/sdf

Linux Devices: /dev/sdf through /dev/sdp

Note: Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.

Cancel **Attach**



스토리지 관리

EBS 볼륨 구성:

◎ 작업 워크스테이션 (PC)

```
[ec2-user@ip-10-0-1-151 ~]$ sudo fdisk /dev/xvdf
Command (m for help): n
Partition type:
  p   primary (0 primary, 0 extended, 4 free)
  e   extended
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-2097151, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-2097151, default 2097151):
Using default value 2097151
Partition 1 of type Linux and of size 1023 MiB is set
Command (m for help): w
The partition table has been altered!
Calling ioctl() to re-read partition table.
Syncing disks.
[ec2-user@ip-10-0-1-151 ~]$ sudo mkfs.ext3 /dev/xvdf1
mke2fs 1.42.12 (29-Aug-2014)
Creating filesystem with 261888 4k blocks and 65536 inodes
Filesystem UUID: ae89ca56-4bc4-459e-948d-9b3d7ede53ec
Superblock backups stored on blocks:
          32768, 98304, 163840, 229376
Allocating group tables: done
Writing inode tables: done -8)
Creating journal (4096 blocks): done
Writing superblocks and filesystem accounting information: done
[ec2-user@ip-10-0-1-151 ~]$ mount -t ext3 /dev/xvdf1 /mnt
mount: only root can use " -t ext3" option
[ec2-user@ip-10-0-1-151 ~]$ sudo mount -t ext3 /dev/xvdf1 /mnt
[ec2-user@ip-10-0-1-151 ~]$ df -k
Filesystem      1K-blocks    Used Available Use% Mounted on
/dev/xvda1        8123812  986920   7036644  13% /
devtmpfs           501092      64   501028   1% /dev
tmpfs              509668      0   509668   0% /dev/shm
/dev/xvdf1        1014680     1304   961000   1% /mnt
[ec2-user@ip-10-0-1-151 ~]$
```

이미지에는 세 가지 명령어가 표시되어 있습니다.

- fdisk 명령어: xvdf 디바이스에 새 파티션을 생성합니다.
- mkfs.ext3 명령어: xvdf1 디바이스에 ext3 파일 시스템을 생성합니다.
- mount 명령어: xvdf1 디바이스를 /mnt 폴더에 마운트합니다.

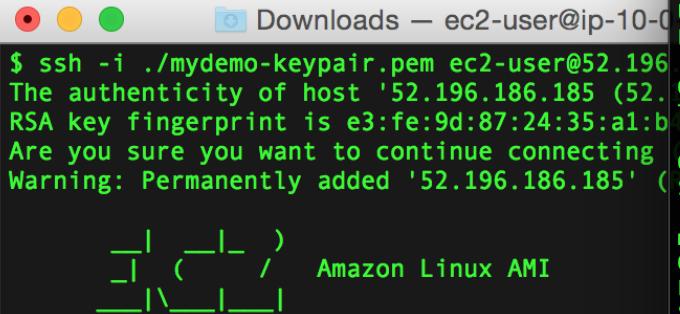
마운트 단계에서 sudo 권한이 필요하다는 오류 메시지가 출력되었습니다.

마우스 커서는 파일 시스템 생성 단계에 위치해 있습니다.

파일시스템 생성

파일시스템 마운트

파일시스템 확인



<https://aws.amazon.com/amazon-linux-ami/2016.03/>

```
-bash: warning: setlocale: LC_ALL: cannot change locale (UTF-8): Not a valid locale name
/bin/sh: warning: setlocale: LC_ALL: cannot change locale (UTF-8): Not a valid locale name
-bash: warning: setlocale: LC_ALL: cannot change locale (UTF-8): Not a valid locale name
[ec2-user@ip-10-0-1-151 ~]$
```



스토리지 관리

EBS 볼륨 생성

EBS 볼륨 구성

EBS 스냅샷 생성

EBS 볼륨 복원

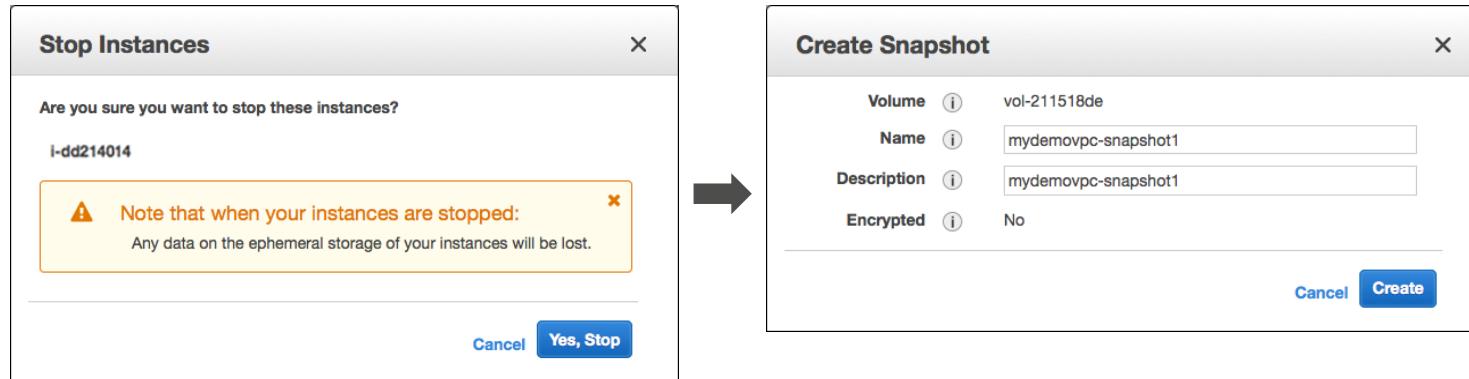
EBS 스냅샷 생성:

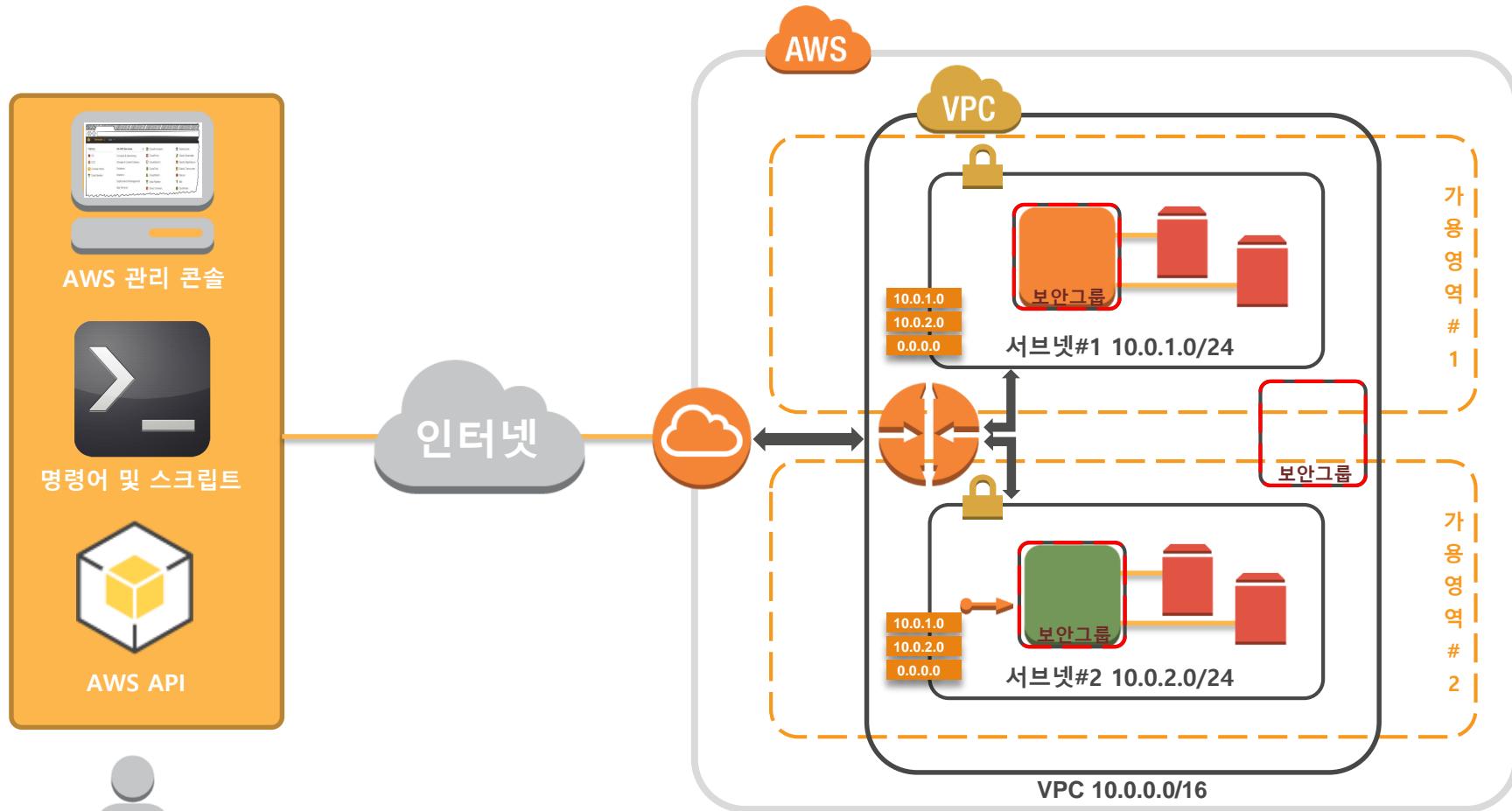
◎ AWS 관리 콘솔 ▶ EC2 ▶ Instances ▶ *Select the instance that we want to stop*

▶ Actions ▶ Instance State ▶ Stop

▶ Volumes ▶ *Select a volume of which we want to take a snapshot *

▶ Actions ▶ Create Snapshot





서울 리전

스토리지 관리

EBS 볼륨 생성

EBS 볼륨 구성

EBS 스냅샷 생성

EBS 볼륨 복원

EBS 스냅샷으로 볼륨 복원:

- ◎ AWS 관리 콘솔 ► EC2 ► Snapshots ► **Select the snapshot that we took** ► Actions \
- Create Volume
- Volumes ► **Select the volume which we created from a snapshot** \
- Actions ► Attach Volume

Create Volume

Snapshot ID	i snap-1e5e2af0 (mydemovpc-snapshot1)
Volume Type	i General Purpose SSD (GP2)
Size (GiB)	i 1 (Min: 1 GiB, Max: 16384 GiB)
IOPS	i 100 / 3000 (Baseline of 100 IOPS per GiB)
Throughput (MB/s)	i Not Applicable
Availability Zone	i ap-northeast-2
Encryption	i Not Encrypted

Create 

Attach Volume

Volume	i vol-03fef8bb in ap-northeast-2a
Instance	i [empty] in ap-northeast-2a
Device	i /dev/sdf

Linux Devices: /dev/sdf through /dev/sdp

Note: Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.

Cancel **Attach**

주: 가용 영역 #1에 있는 EC2 인스턴스는 커스텀 AMI 생성 단계에서 이미 정지했기 때문에 따로 "Stop" 안 함



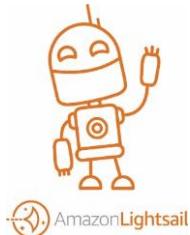


AWS Lightsail 서비스



Amazon Lightsail

간단한 VPS 호스팅: ◎ AWS 관리 콘솔 ► Lightsail ► Create Instance



This screenshot shows the first step of the Lightsail instance creation process. It has a header "Launch an instance" and a sub-header "An instance is a virtual private server." Below this, there's a section titled "Pick your instance image" with two tabs: "Apps + OS" (selected) and "Base OS". Under "Apps + OS", there are icons for WordPress 4.4.2, LAMP Stack 7.0.6.1, GitLab 9.3, and Nginx 1.10.0. Under "Base OS", there are icons for Joomla 3.5.0, Drupal 8.1.1, Node.js 6.2.0, and Redmine 1.10.0. At the bottom, there's a note about WordPress being pre-configured for running on Lightsail.

This screenshot shows the second step of the Lightsail instance creation process. It has a header "Choose your instance plan" and displays five instance plans with their respective prices and details:

Price	Memory	CPUs	Data Transfer
\$5/month	512MB	1 vCPU	20GB SSD
\$10/month	1GB	2 vCPUs	30GB SSD
\$20/month	2GB	4 vCPUs	40GB SSD
\$40/month	4GB	8 vCPUs	80GB SSD
\$80/month	8GB	16 vCPUs	160GB SSD

Below the plans, there's a "Select Availability Zone" section with a dropdown set to "Zone A (us-east-1a)".

This screenshot shows the final step of the Lightsail instance creation process. It has a header "Create" and displays several instance options with their details:

Price	Memory	CPUs	Data Transfer
\$0.007 / Hour	512MB	1 vCPU	20GB SSD
\$0.027 / Hour	1GB	2 vCPUs	30GB SSD
\$0.027 / Hour	2GB	4 vCPUs	40GB SSD
\$0.054 / Hour	4GB	8 vCPUs	80GB SSD
\$0.108 / Hour	8GB	16 vCPUs	160GB SSD

Below the options, there's a "Name your instance" input field containing "reinvent2016" and a "Create" button.

1. 이미지 선택

- 두 종류의 리눅스
- Wordpress, Magneto, Drupal, Joomla 및 기타 인기 있는 툴

2. 크기 선택

최대 8GiB 메모리, 2 vCPUs, 80GiB SSD

3. 이름 선택

'Create'를 클릭하면, 모든 것이 끝!

질의 응답

Clean-Up



리소스 삭제

- EC2 삭제 (terminate)
- 커스텀 AMI 삭제 (deregister)
- 스냅샷 삭제 (delete)
- EBS 볼륨 삭제 (delete)
- Elastic IP (release)
- VPC 삭제 (delete) - 예외 Default VPC 삭제 금지
- Lightsail 인스턴스 삭제 (delete)

감사합니다