Jenkins를 이용한 CI/CD Pipeline 구축

Jenkins

Microservices

Spring Cloud

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프로필

Dowon Lee

지식공유자 인증

5452 ☆ 4.8(420)

멘토링 활성

- **홈**
- 강의
- 로드맵
- 수강후기
- 블로그

강의 (3)

최신순

Spring Cloud로 개발하는 마이크로서비스 애플리케이션(MSA)

Dowon Lee

★★★★★(72)

학습중

+1400명 독점

Spring Boot를 이용한 RESTful Web Services 개발

Dowon Lee

★★★★★(183)

학습중

+1600명 독점

웹 애플리케이션 개발을 위한 IntelliJ IDEA 설정

Dowon Lee

★★★★★(165)

학습중

+2400명

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- Section 1: DevOps와 CI/CD
- Section 2: Jenkins를 이용한 CI/CD 사용
- Section 3: Jenkins + Infrastructure as Code
- Section 4: Jenkins + Ansible + Kubernetes 연동
- Section 5: Advanced Jenkins 사용
- **Section 6: Public Cloud에 배포**
- Appendix

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Section 7.

Public Cloud에 배포

- AWS Cloud 실습 환경 구성도
- AWS EC2에 서비스 생성
- Tomcat 서버에 배포
- Docker 서버에 배포
- Ansible 서버에 배포

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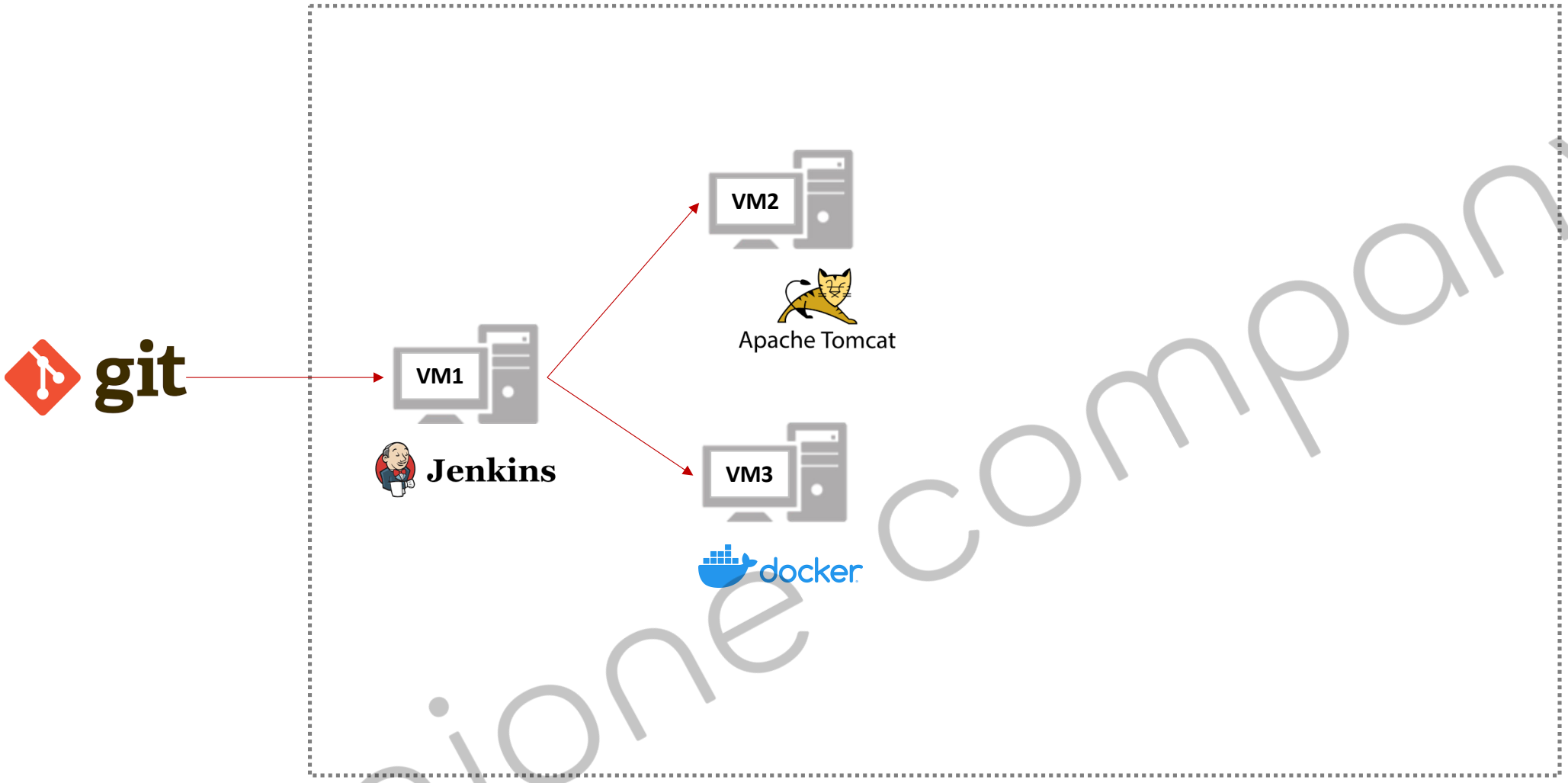
AWS Cloud 실습 환경 구성도



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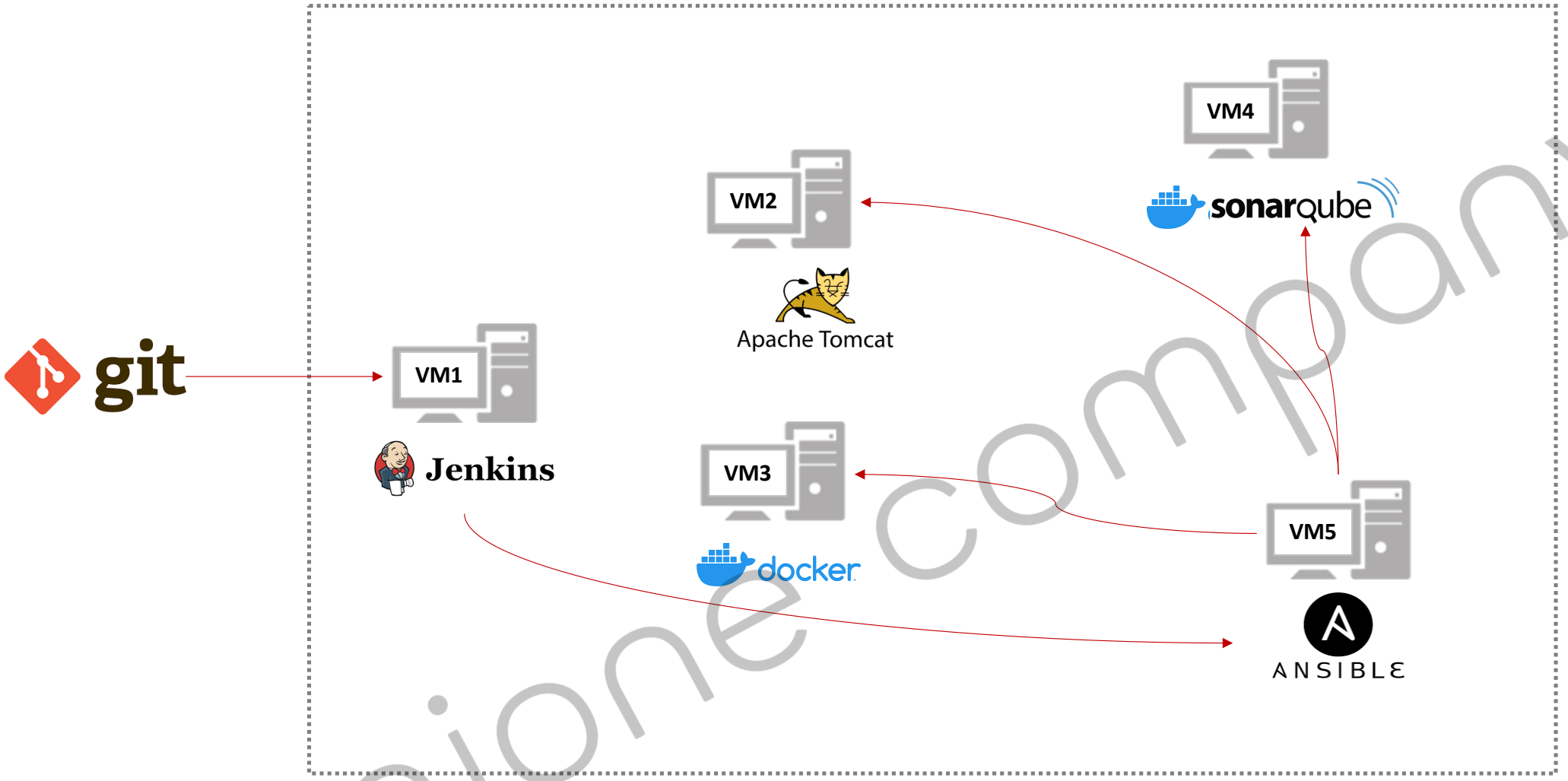
AWS Cloud 실습 환경 구성도



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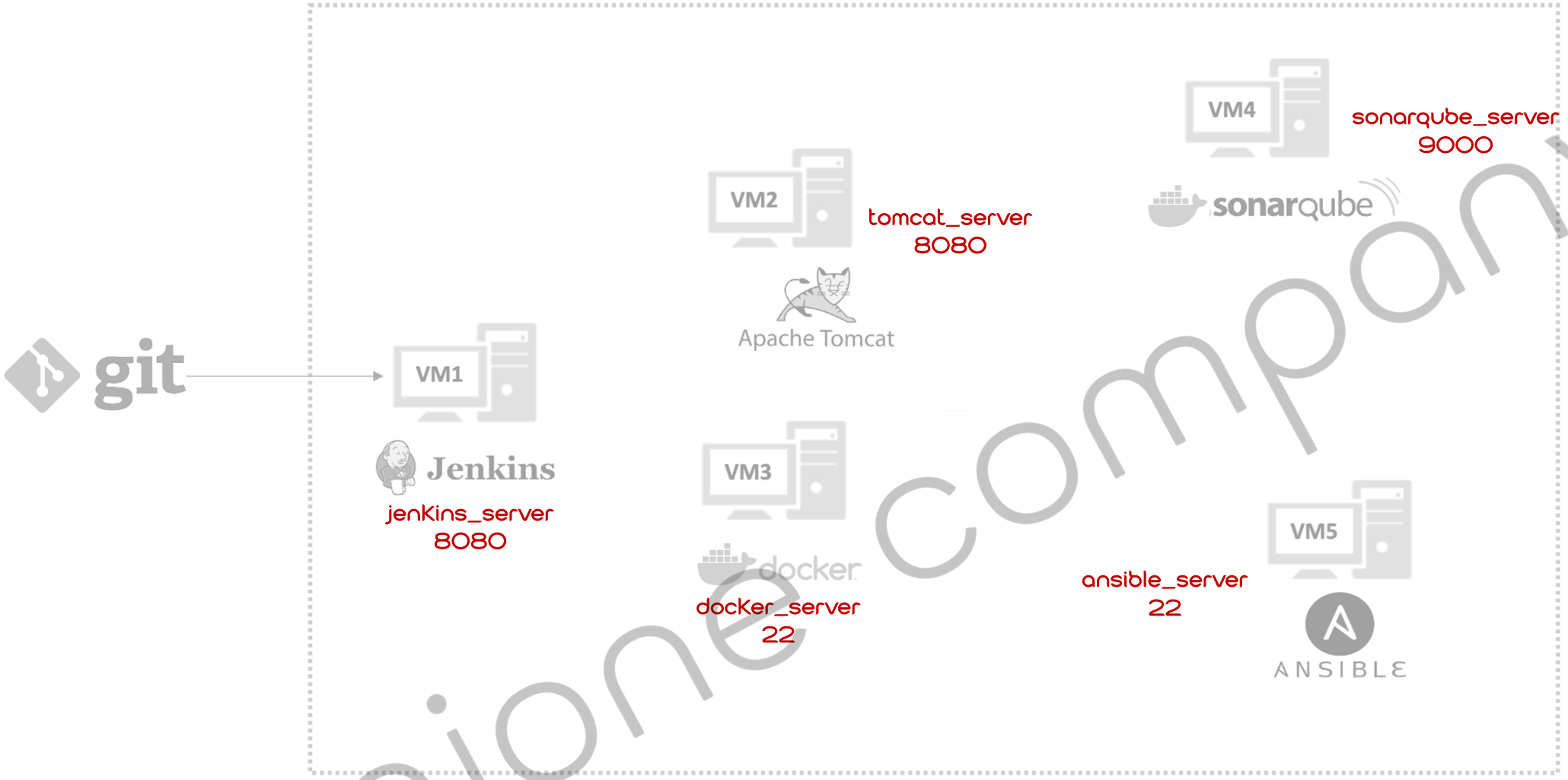
AWS Cloud 실습 환경 구성도



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Install Jenkins on EC2

- Maven 설치
  - http://maven.apache.org/download.cgi → apache-maven-3.8.6-bin.tar.gz

```
$ sudo amazon-linux-extras install epel -y
$ cd /opt
$ ls -ltr
$ wget https://mirror.navercorp.com/apache/maven/maven-3/3.8.6/binaries/apache-maven-3.8.6-bin.tar.gz
$ tar –xvzf apache-maven-3.8.6-bin.tar.gz
$ mv apache-maven-3.8.6-bin.tar.gz maven
$ cd maven/
$ vi ~/.bash_profile
```

```
M2_HOME=/opt/maven
M2=/opt/maven/bin
PATH=$PATH:$M2:$M2_HOME
```

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Install Jenkins on EC2

- Jenkins 설치
  - https://pkg.jenkins.io/redhat-stable/

    $ sudo amazon-linux-extras install epel -y

    $ sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo

    $ sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key

    $ sudo yum install jenkins

- Jenkins Test
  - http://[public ip address]:8080/

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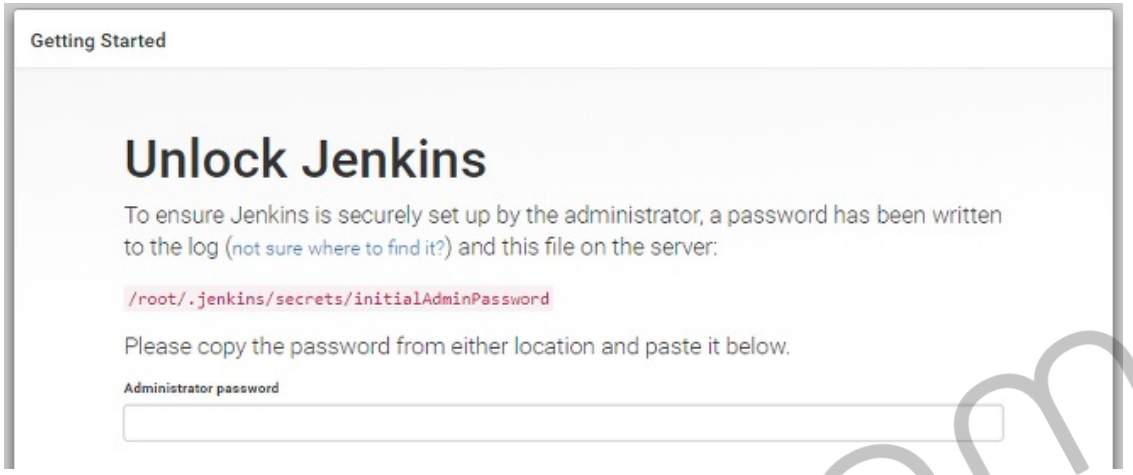
Install Jenkins on EC2

- Jenkins 설치



- $ ***cat /var/lib/jenkins/secrets/initialAdminPassword***
  - 비밀번호 입력 후 로그인 → 설치 계속
  - Jenkins > admin > Configure > Change password

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Install Docker Server on EC2

- AWS의 EC2에 Docker Server 설치

  $ sudo amazon-linux-extras install epel -y

  $ sudo yum intall –y docker

- Docker Test

  $ docker –version

- Start Docker

  $ sudo usermod –aG docker ec2-user (인스턴스 재 접속)

  $ sudo service docker start

  $ docker run hello-world

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Install Tomcat Server on EC2

- AWS의 EC2에 Tomcat Server 설치
  - https://tomcat.apache.org/download-90.cgi → apache-tomcat-9.0.65.tar.gz

    $ sudo amazon-linux-extras install epel -y

    $ cd /opt

    $ wget https://mirror.navercorp.com/apache/tomcat/tomcat-9/v9.0.65/bin/apache-tomcat-9.0.65.tar.gz

    $ tar –xvzf apache-tomcat-9.0.65.tar.gz

    $ chmod +x /opt/apache-tomcat-9.0.65.tar.gz

    $ ln –s /opt/apache-tomcat-9.0.65/bin/startup.sh /usr/local/bin/tomcat_startup

    $ ln –s /opt/apache-tomcat-9.0.65/bin/shutdown.sh /usr/local/bin/tomcat_shutdown

- Tomcat Test
  - http://[public ip address]:8080/

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Install Ansible Server on EC2

- AWS의 EC2에 Ansible Server 설치

  $ sudo amazon-linux-extras install epel -y

  $ sudo yum install –y ansible

  $ ssh-keygen

  $ ssh-copy-id ec2-user@[ec2_ip_address] → Tomcat Server, Docker Server

- Ansible Test

  $ ssh ec2-user@[ec2_ip_address]

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Install SonarQube on EC2

- SonarQube 설치

  $ sudo amazon-linux-extras install epel -y

  $ sudo mkdir /opt/sonarqube

  $ cd /opt/sonarqube

  $ sudo wget https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-7.6.zip

  $ sudo unzip sonarqube-7.6.zip

  $ sudo chown -R ec2-user:ec2-user /opt/sonarqube/

- SonarQube 실행

  $ ./bin/[사용하는 OS]/sonar.sh start

- SonarQube 테스트

  - http://[public ip address]:9000/

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Install Kubernetes on AWS

- https://github.com/joneconsulting/k8s/blob/master/install/kubernetes_install.md

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Kubernetes - Install on AWS

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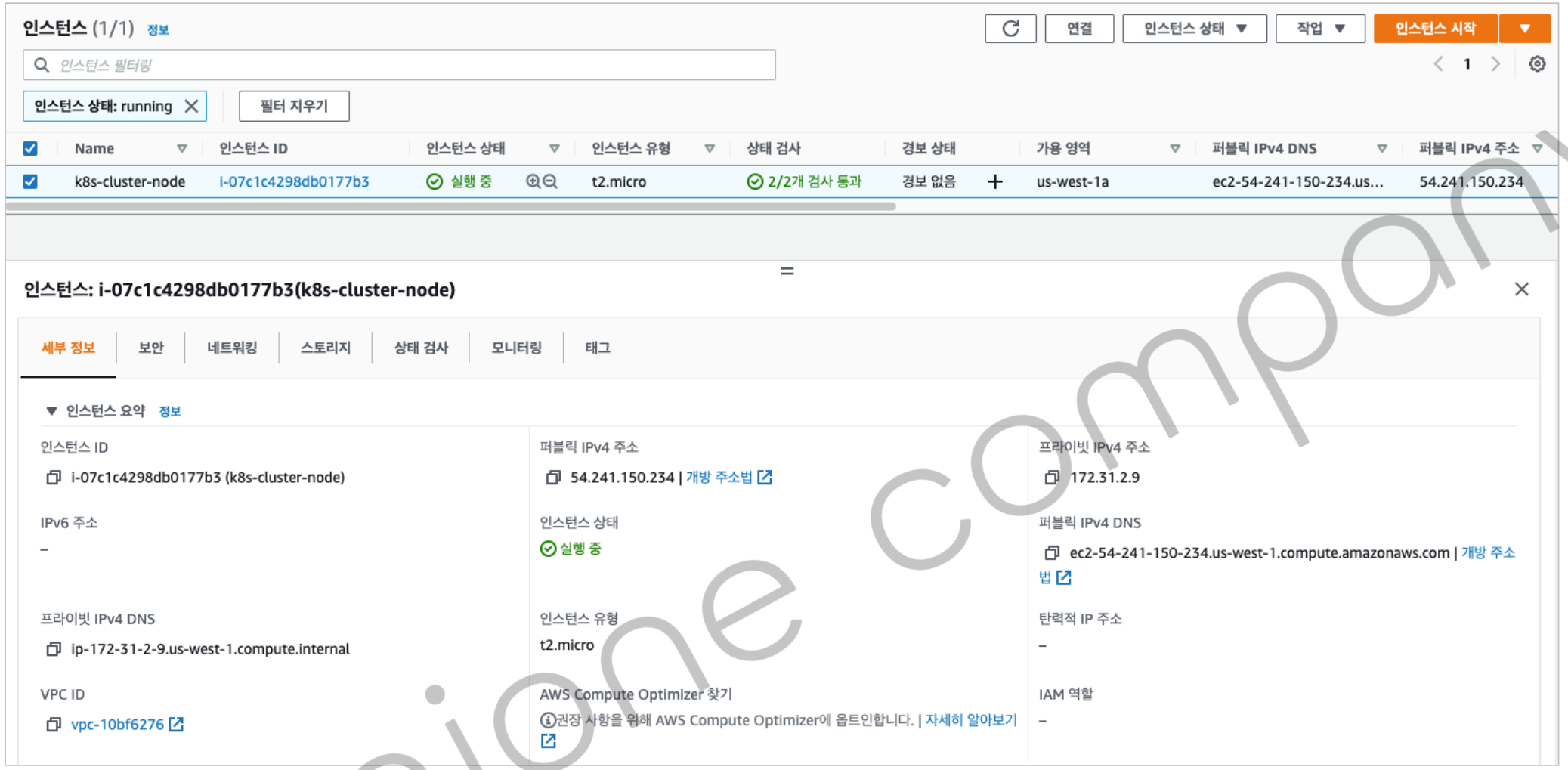
Kubernetes - Install on AWS

Kubernetes - Install on AWS



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Kubernetes – Install on AWS

- Change the permission of the key file

```
ssh -i k8s-cluster-keypair.pem ec2-user@54.241.150.234
The authenticity of host '54.241.150.234 (54.241.150.234)' can't be established.
ECDSA key fingerprint is SHA256:9srB8fhQtjeWs6dWaOo6MNiWCtXhnfC4FjoMpcdGdfA.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '54.241.150.234' (ECDSA) to the list of known hosts.
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@         WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0644 for 'k8s-cluster-keypair.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "k8s-cluster-keypair.pem": bad permissions
ec2-user@54.241.150.234: Permission denied (publickey
(base)  ✘ dowonlee  ~/Downloads
```

```
chmod 600 k8s-cluster-keypair.pem
(base)  dowonlee  ~/Downloads
ssh -i k8s-cluster-keypair.pem ec2-user@54.241.150.234

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-2-9 ~]$
```

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