

# **Pivotal Cloud Foundry 2.0**

## **(Small footprint)**

### **AWS 설치**

**SDS Workshop**  
**2018-02-01**

## 사전 준비

Terraform cli

<https://www.terraform.io/downloads.html>

AWS CLI 설치

<https://aws.amazon.com/cli/>

GIT CLI 설치

<https://git-scm.com/downloads>

PCF CLI 설치

<https://github.com/cloudfoundry/cli>

Java JDK 1.8+ 설치

Firefox or Chrome (Not IE) 설치

## PCF Ops Manager 설치

Pivotal Cloud Foundry의 다양한 Software Package(Pivotal Application Service, Pivotal Container Service, Pivotal Function Service, 등등)을 설치/관리/구성을 담당하는 도구

### 1. AWS 계정 정보 취합

env_name	"sds1" ~ "sds7" → 2 번 env_name 참조
access_key	본인 AWS 계정 access key
secret_key	본인 AWS 계정 secret key
Region	"ap-northeast-2" → SEOUL
availability_zones	"ap-northeast-2a", "ap-northeast-2c"
ops_manager_ami	"ami-de6fccb0"
dns_suffix	"cfpush.net"
ssl_cert	"sds1.cert" ~ "sds7.cert"
ssl_private_key	"sds1.key" ~ "sds7.key"

### 2. 참석자 별 이름 할당

수강자	DNS Domain	env_name	SSL_cert file
SDS1	'sds1.cfpush.net'	'sds1'	sds1.cert, sds1.key
SDS2	'sds2.cfpush.net'	'sds2'	sds2.cert, sds1.key
SDS3	'sds3.cfpush.net'	'sds3'	sds3.cert, sds1.key
SDS4	'sds4.cfpush.net'	'sds4'	sds4.cert, sds1.key
SDS5	'sds5.cfpush.net'	'sds5'	sds5.cert, sds1.key
SDS6	'sds6.cfpush.net'	'sds6'	sds6.cert, sds1.key
SDS7	'sds7.cfpush.net'	'sds7'	sds7.cert, sds1.key

### 3. PCF AWS Terraform 파일 다운로드 및 작업 폴더에 압축 풀기

GIT Repo: <https://github.com/pivotal-choonghyun-oh/sds-ops.git>

파일명: terraforming-aws-0.5.0.zip

### 4. 압축 해제한 폴더로 이동 및 "terraform.tfvars" 파일 만들기

```
$ touch terraform.tfvars
```

```

env_name      = "sds1"
access_key    = "YOUR-ACCESS-KEY"
secret_key    = "YOUR-SECRET-KEY"
region        = "ap-northeast-2"
availability_zones = ["ap-northeast-2a", " ap-northeast-2c"]
ops_manager_ami  = "ami-de6fccb0 "
dns_suffix     = "cfpush.net"

ssl_cert = <<SSL_CERT
-----BEGIN CERTIFICATE-----
YOUR-CERTIFICATE      ← sds1.cert 파일 내용 복사
-----END CERTIFICATE-----
SSL_CERT

ssl_private_key = <<SSL_KEY
-----BEGIN EXAMPLE RSA PRIVATE KEY-----
YOUR-PRIVATE-KEY      ← sds1.key 파일 내용 복사
-----END EXAMPLE RSA PRIVATE KEY-----
SSL_KEY

```

## 5. nat.tf의 내용 수정

```

variable "nat_ami_map" {
  type = "map"

  default = {
    us-east-1    = "ami-303b1458"
    us-west-1    = "ami-7da94839"
    us-west-2    = "ami-69ae8259"
    eu-west-1    = "ami-6975eb1e"
    eu-central-1 = "ami-46073a5b"
    ap-southeast-1 = "ami-b49dace6"
    ap-northeast-1 = "ami-03cf3903"
    ap-northeast-2 = "ami-61e03a0f"
    ap-southeast-2 = "ami-e7ee9edd"
    sa-east-1    = "ami-fbfa41e6"
  }
}

```

## 6. Terraform init

```

$ terraform init
Initializing modules...

```

- module.ops\_manager  
Getting source "./ops\_manager"

Initializing provider plugins...

- Checking for available provider plugins on <https://releases.hashicorp.com...>
- Downloading plugin for provider "template" (1.0.0)...
- Downloading plugin for provider "random" (1.1.0)...
- Downloading plugin for provider "tls" (1.0.1)...
- Downloading plugin for provider "aws" (1.8.0)...

The following providers do not have any version constraints in configuration, so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking changes, it is recommended to add version = "..." constraints to the corresponding provider blocks in configuration, with the constraint strings suggested below.

```
* provider.aws: version = "~> 1.8"
* provider.random: version = "~> 1.1"
* provider.template: version = "~> 1.0"
* provider.tls: version = "~> 1.0"
```

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see any changes that are required for your infrastructure. All Terraform commands should now work.

If you ever set or change modules or backend configuration for Terraform, rerun this command to reinitialize your working directory. If you forget, other commands will detect it and remind you to do so if necessary.

## 7. terraform plan

> **terraform plan -out=plan**

Refreshing Terraform state in-memory prior to plan...

The refreshed state will be used to calculate this plan, but will not be persisted to local or remote state storage.

## 8. terraform apply plan

적용 시 오류는 terraform.tfvars 의 값의 설정이 잘못된 경우 임, 수정 후 plan, apply 를 반복

> **terraform apply plan**

Refreshing Terraform state in-memory prior to plan...

The refreshed state will be used to calculate this plan, but will not be persisted to local or remote state storage.

## 9. terraform apply 성공 시 Outputs

**Outputs 의 내용은 향후 작업에 필요한 정보를 포함하고 있어 내용을 capture 하여 저장**

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.

### Outputs:

```
apps_domain = apps.sds61.cfpush.net
azs = [
  ap-northeast-2a,
  ap-northeast-2c
]
dns_zone_id = Z3RDV191UAM6NF
env_dns_zone_name_servers = [
  ns-1154.awsdns-16.org,
  ns-1861.awsdns-40.co.uk,
  ns-325.awsdns-40.com,
  ns-967.awsdns-56.net
]
iam_user_access_key = XXXXXX
iam_user_name = sds61_iam_user
iam_user_secret_access_key = xxx
isoseg_elb_name =
isoseg_ssl_cert = <sensitive>
isoseg_ssl_private_key = <sensitive>
management_subnet_availability_zones = [
  ap-northeast-2a,
  ap-northeast-2c
]
management_subnet_cidrs = [
  10.0.16.0/28,
  10.0.16.16/28
]
management_subnet_ids = [
```

subnet-d41c6dbc,

subnet-32cb6c7e

]

ops\_manager\_bucket = sds61-ops-manager-bucket

ops\_manager\_dns = pcf.sds61.cfpush.net

ops\_manager\_private\_ip = 10.0.0.251

ops\_manager\_public\_ip = 13.124.2.199

ops\_manager\_security\_group\_id = sg-625f2509

ops\_manager\_ssh\_private\_key = -----BEGIN RSA PRIVATE KEY-----

MIIJKQIBAACKAgEAr86lKFcTNxfQ2eLqZ1g2kFyE0+VvMA66AErrt308uRXZnBxc  
fiqSMu281cMD7Y/tN97vgMAf2GFtpmVzcr8CMFAzSQg+KsmOtp2d40IPnr4eh4xL  
aKJ6XQFZ1r4Oizu5SEKDtc2WFgrLRJilJE0nSkrPXY7rmw3KhRSIrlDBLa/UgnOS  
uNASXx7OGZXlEaHq9oWrRfaD1HAIZL1R6Hea3N7tOJMP69bs1dtzvJEZI8X6Ihl  
vkYACImuwwBI9QZCRLYfKm8CcatYYEaQP6o4GTidgb+uDyNEFm68OGyoOpzcw4SZ  
mtRQ/tj/y1cdnv2eGNVQR5IozDfOkPGbWwhzYs8AOP90r/AYAOpWv5pQfgDMez2V  
c6Db+5UC/vyfsESTYIW1mNG4RM2td5RKpN7grQfie4BzMBHsdIksxbdjIO86ynr  
FgsZsj40+8Jqe8ABLddzfOPofeFVokUEJw0t+QA1HTvNiP50QmkxRenmBjwqUlel  
F4hqcIzLfzKnP6isoPwhcRzbFZMEEHhnc7YWRVYLtkdMU6+0fcwCiC3XtL686xpo  
bHUvm2Kat3EYsb5++hwPNymXJAujH1NM5jiFXxPfpccp+g0d8/CSeTkxtivaG10rL  
+ZWSJXjvWJTCgtiP5bbiOTLe7fA9EGkK1TvM/AkBgPqBA4MMJBczv9FrokCAwEA  
AQKCAgEAmsrAgidAxOZUPjPcHUf/KtY7IXLGljKxNGbC6lj7aR9C7X/PNEr5VJwc  
Ar5IK/roa6P/joYaw+Lsr3Bt13Ds9Wr37Nq0GepDnKhkht74b9WHfeNZ1fQQ9uik  
mD3ZAmCAf44I977e4eN5G5mnUUPxTylVMVQQQAJBiTEOMyTpIffjV6DFfQl6Nhv  
sPljriD3falVA+yXU5uwJ43LhtmPw1330sjZR813WQ2momqPK1cOPvAxXPm3N806  
MXmDwzFskbsk77C0Hy81bfdTNKsEH7JifaAueieb4IB5eti4unq4qfGLaVZ9RhX8  
CqZWb1FwrP7MvlasIyGdPo1xk5HgId/JflhoCPq7sXf/UUPzmZsexsrE4zHSC2U  
60Xfqmf9dwCDuX4CnLewxNwUs0+avpt/cgGtS8gVoAb86XkX6hy8LNbzDonV9115  
wZDQ2UXv5T1S/MTHENkJeap6BEpQnhj0wR4ZdMcKlabmfh9pB1vIXh6kb/2cDxpF  
qwTLDU20Uk0DGp15rID7GpcuzkyOca+//cjE7owLQ5ecMu/31KaCyazhglZD/+60  
e/fGSrdxTwZzwCxEOmv2MIgr55/arlSppOwWcX3o7nSLCgZOtvVWySLBQxXhx4Qe  
S//cKGAAO/M/G8goZ0S0QZc7uHuwpOoA1JCHMoY/pADpBXbvMI0CggEBANIPA/zx  
1IKISgBKRQ2I3IyNNbgmF7OuX2ndL8miT/kzQp7kxWmBkcHuXbDtJfkgbChKTDhs  
OXPK0KElqk8YZvZbhnGyFVO5Oh3CSd70xONV3X79pfOpydOE7Mam3hrArwRY55DX  
UsHoIdUpMslpXeIQTZ1FLYzLsAAFhcS+Nnw3ubZMsOi4+RdqdgZQ9Qo9kMhuaBw  
wkYV9QJ3RMIPn+N8Y7ILVFizFziqcRgAAGR9qfnDn3vDxJMNSJJ1yDvxtLUg4apA  
bABQLqqUtRz00ws49I22i7ABdyPKW2aki2jrEeH28ji5FkMiiV/jwbzKTW0FW14X  
jDNDgaAIQUxaPC8CggEBAM8b+6FLSPV2W7a4KGGN9n37PD3Z4GR4VjDUyUilNfW5  
z+0kuKQ3cvxX6yjap3QNek8DzSMCOwClTcj0U0/7coOU/fRV2/xPHQmsVzKyLTi  
4V/GbaylhEbXO2hepC6vG3Shra0Ucn2yKIxq+AiXWmcdeXT/m5t2hMnjJcUtGI5e  
IFezFE72xZvKGuJv1EV6ocW00htRPr0BHFwIubhIBxfHBn9YDafJcuzC/QQK/r5G  
THdN5Gv04+dfA8TaeNfPYnLDSMmmKz2id1b5OsU/0+98DMfxSSYCsXBikJmrSt98  
nUPWSQR6WBZ90RRCiV8IR8ULuqKlizjuP1OlbgV+scCggEAbq9tg5gVuxm/sJgj  
xfoRBFikq5BTgETv+nccESLogzDV3SL/XncNq+7ir+yK6KDFzT/SxOZY+RHjJjKO  
Jc1zHEaPR1PiwwtUi7XbdiHOC1FACZ/euFaiI2fQRnrWJGBChP9Xq5HRaEz5dp6O

```
bMKLfEr7jYCF69gP5GLruMN98xVbNXyom1EKJwYl6ogb4WOf05/I8eydN5+VdVUU
o5fbw74m9ZgJtUg7KrS9+BCAIq9TNZGrmRmk9ZXNgjQV8lpxxdRivRolKJ+utVob
Sg11tYCKJ850JgKJCyTWG1jyXVvmfWcQA/7J1RYxTLMwih2t2B8DY9Cwq6fVzZKG
2AIaJwKCAQB4P5QK42qcKhs37JathYJfRRaGBtFtJB1O/szXhuxC3T1SP+bgmb0u
XFGSB9kv3frfL1rYtUGdjidIfkTQqFSE42rHUQmGWjcybSC/cpGzzKL0O76D5hn2
E5NPltuWq16yigjPnDaZWm6GkLjwLAh2JDvXvWz4h4izuym74OIIDwiSQsyAyHCV
cnPHkwxZRslUhBcVe0eE73cqzHogT9mmaY0RNOvAxorugovq5ANiMGjHQDdmouoL
9TO4AOz2yFctsMq7Ibqrb4AAxHXl/pgrzQeSszo4Uon5WnhycGzpc23P7EO60NoC
PQy+yZ7+yUz6UEQNmTZLW0oi8JSjZiQTAoIBAQDWrU9BChvEHuJPgAxfrGn6VBCb
mqjicimJYOHulivdlB6LXEahbBhsk9wn2mLRYmypoeluoebKzR461z2J2ni1FPzLc
R1orkyIHUWPljHshuJwsPLTUfAym+YC+/38DLsX+y1z9wIVDVqbn9UCZaNZxDkFM
pNigXivIYA9cbxbOyh1BDD6NLP5nhvG4aoV/+eS5SF+OxRDzdm+0OW4XjGnYaRs
TAnPnXqv8/ZdBVvtM6NH8FI3oShpK2JicQSYxx4cC3QkZT/WCevTla9H6Ny9beCE
6sRgbbelN1jg7mQB6Bg6uO2oESI9vyEcDUUwq8uEcYycW29vBAuB6CWCn4h
-----END RSA PRIVATE KEY-----
```

```
ops_manager_ssh_public_key_name = sds61-ops-manager-key
```

```
optional_ops_manager_dns =
```

```
pas_buildpacks_bucket = sds61-buildpacks-bucket
```

```
pas_droplets_bucket = sds61-droplets-bucket
```

```
pas_packages_bucket = sds61-packages-bucket
```

```
pas_resources_bucket = sds61-resources-bucket
```

```
pas_subnet_availability_zones = [
```

```
    ap-northeast-2a,
```

```
    ap-northeast-2c
```

```
]
```

```
pas_subnet_cidrs = [
```

```
    10.0.4.0/24,
```

```
    10.0.5.0/24
```

```
]
```

```
pas_subnet_ids = [
```

```
    subnet-a71e6fcf,
```

```
    subnet-13cd6a5f
```

```
]
```

```
public_subnet_availability_zones = [
```

```
    ap-northeast-2a,
```

```
    ap-northeast-2c
```

```
]
```

```
public_subnet_cidrs = [
```

```
    10.0.0.0/24,
```

```
    10.0.1.0/24
```

```
]
```

```
public_subnet_ids = [
```

```
    subnet-af1f6ec7,
```



```
    subnet-33cb6c7f
]
rds_address =
rds_password =
rds_port =
rds_username =
region = ap-northeast-2
services_subnet_availability_zones = [
    ap-northeast-2a,
    ap-northeast-2c
]
services_subnet_cidrs = [
    10.0.8.0/24,
    10.0.9.0/24
]
services_subnet_ids = [
    subnet-401e6f28,
    subnet-29cc6b65
]
ssh_elb_name = sds61-ssh-elb
ssl_cert = <sensitive>
ssl_private_key = <sensitive>
sys_domain = sys.sds61.cfpush.net
tcp_domain = tcp.sds61.cfpush.net
tcp_elb_name = sds61-tcp-elb
vms_security_group_id = sg-025f2569
vpc_id = vpc-432c4b2b
web_elb_name = sds61-web-elb
```

```

aws_route53_record.wildcard_apps_dns: Still creating... (30s elapsed)
aws_route53_record.wildcard_sys_dns: Still creating... (30s elapsed)
aws_route53_record.wildcard_apps_dns: Still creating... (40s elapsed)
aws_route53_record.wildcard_sys_dns: Still creating... (40s elapsed)
aws_route53_record.wildcard_sys_dns: Still creating... (50s elapsed)
aws_route53_record.wildcard_apps_dns: Still creating... (50s elapsed)
aws_route53_record.wildcard_sys_dns: Creation complete after 58s (ID: Z3RDV191UAM6NF_*.sys.sds61.cfpush.net_CNAME)
aws_route53_record.wildcard_apps_dns: Still creating... (1m0s elapsed)
aws_route53_record.wildcard_apps_dns: Creation complete after 1m1s (ID: Z3RDV191UAM6NF_*.apps.sds61.cfpush.net_CNAME)

```

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.

#### Outputs:

```

apps_domain = apps.sds61.cfpush.net
azs = [
    ap-northeast-2a,
    ap-northeast-2c
]
dns_zone_id = Z3RDV191UAM6NF
env_dns_zone_name_servers = [
    ns-1154.awsdns-16.org,
    ns-1861.awsdns-40.co.uk,
    ns-325.awsdns-40.com,
    ns-967.awsdns-56.net
]
iam_user_access_key = AKIAJMBCT20Z4TXFWNIA
iam_user_name = sds61_iam_user
iam_user_secret_access_key = NyLe13tZIGSer5fasEZ5KBeZwRvrmM+IekXlrJ6g
isoseg_elb_name =
isoseg_ssl_cert = <sensitive>
isoseg_ssl_private_key = <sensitive>
management_subnet_availability_zones = [
    ap-northeast-2a,
    ap-northeast-2c
]
management_subnet_cidrs = [
    10.0.16.0/28,
    10.0.16.16/28
]

```


## 10. DNS 등록 요청

Route 53 서비스 등록된 DNS Record 를 감사에게 전달, DNS 에 Record 등록 필요함.

CNAME, A 레코드 항목을 클릭하면 오른쪽에 상세 내역의 name, type, value 를 복사하여 등록 요청(

Name	Type	Value	Evaluate Target Health	Health Check ID	TTL
sds61.cfpush.net.	NS	ns-1861.awsdns-40.co.uk. ns-967.awsdns-56.net. ns-1154.awsdns-16.org. ns-325.awsdns-40.com.	-	-	172
sds61.cfpush.net.	SOA	ns-1861.awsdns-40.co.uk. awsdns-hostmaster.amaz	-	-	900
*.apps.sds61.cfpush.net.	CNAME	sds61-web-elb-1436390162.ap-northeast-2.elb.ama	-	-	300
pcf.sds61.cfpush.net.	A	13.124.2.199	-	-	300
*.sys.sds61.cfpush.net.	CNAME	sds61-web-elb-1436390162.ap-northeast-2.elb.ama	-	-	300
ssh.sys.sds61.cfpush.net.	CNAME	sds61-ssh-elb-1444716473.ap-northeast-2.elb.amaz	-	-	300
tcp.sds61.cfpush.net.	CNAME	sds61-tcp-elb-100421366.ap-northeast-2.elb.amazo	-	-	300

**Edit Record Set**

**Name:** \*.apps.sds61.cfpush.net 

**Type:** CNAME – Canonical name

**Alias:** ☐ Yes ☒ No

**TTL (Seconds):** 300 1m 5m 1h 1d

**Value:** sds61-web-elb-1436390162.ap-northeast-2.elb.amazonaws.com

The domain name that you want to resolve to instead of the value in the Name field.  
Example:  
www.example.com

**Routing Policy:** Simple

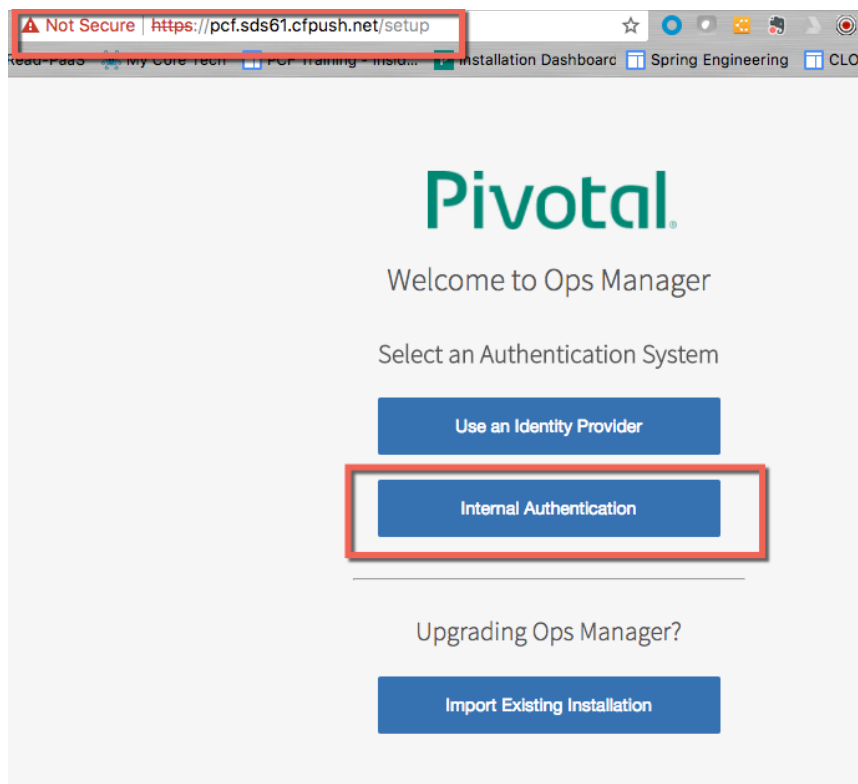
Route 53 responds to queries based only on the values in this record. [Learn More](#)

## 11. Ops Manager 구성

DNS 등록 완료 후 Terraform apply output 에서 ops\_manager\_dns 을 찾아서 Chrome 에서 접속

예시> <https://pcf.sds61.cfpush.net>

아래 화면이 나타나면 "Internal Authentication" 버튼을 클릭하여 구성 시작



Not Secure | <https://pcf.sds61.cfpush.net/setup/fin...>

My Core Tech | PCF Training - Insid... | Installation Dashboard | Spring Engineering | CLOUDFOUNDRY

# Pivotal

## Internal Authentication

☒ I agree to the terms and conditions of the [End User License Agreement](#).

Setup Authentication

admin  
으로 통일

초기화 작업이 끝나고 나면 로그인 화면이 나타남.

Not Secure | <https://pcf.sds61.cfpush.net/uaa/login>

ad-PaaS | My Core Tech | PCF Training - Insid... | Installation Dashboard | Spring Engineering

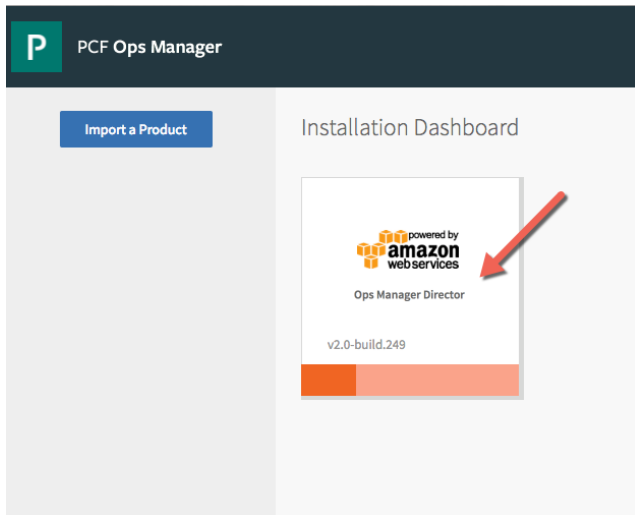
# Pivotal

## Welcome!

SIGN IN

admin  
admin  
으로 로그인

## Configuring Ops Manager Director on AWS



Terraform 결과 Output 에서 각 항목을 찾아서 입력한다.

Installation Dashboard

Ops Manager Director

Settings Status Credentials

AWS Config

Director Config

Create Availability Zones

Create Networks

Assign AZs and Networks

Security

Syslog

Resource Config

AWS Management Console Config

Use AWS Keys

Access Key ID\*

AWS Secret Key\*

Use AWS Instance Profile

AWS IAM Instance Profile\*

VPC ID\*

Security Group ID\*

The ID of the security group that will be assigned to your Ops Manager deploy

Key Pair Name\*

SSH Private Key\*

PCF Ops Manager v2.0-build.249; ©2013-2018 Pivotal Software, Inc; All Rights Reserved. API Docs | End User License Agreement

Access Key ID	본인 AWS 계정 key
AWS Secret Key	본인 AWS 계정 secret key
VPC ID	vpc_id 값을 찾아 입력
Security Group ID	vms_security_group_id 값을 찾아 입력
Key Pair Name	ops_manager_ssh_public_key_name 값을 찾아 입력

SSH Private Key	ops_manager_ssh_private_key 값을 찾아 입력
Region	ap-northeast-2

Access Key ID\*

AKIAJWBCT2OZ4TXFWNIA

AWS Secret Key\*

.....

☐ Use AWS Instance Profile

AWS IAM Instance Profile\*

VPC ID\*

vpc-432c4b2b

Security Group ID\*

sg-025f2569

Key Pair Name\*

sds61-ops-manager-key

The name of the EC2 key pair.

SSH Private Key\*

THdN5Gv04+dfA8TaeNfPYnLDSMmmKz2id1b5OsU/0+98DMfxSSYCsXBikJmrSt98  
nUPWSQR6WBZ90RRCiV8IR8ULuqKlizjuP1OlbgV+scCggEAbq9tg5gVuxm/sJgj  
xfoRBFikq5BTgETv+nccESLogzDV3SL/XncNq+7ir+yK6KDFzT/SxOzy+RHyJjKO  
Jc1zHEaPR1PiwwtUi7XbdlHOC1FACZ/euFail2fQRnrWJGBChP9Xq5HRaEz5dp6O  
bMKLFer7jYCF69gP5GLruMN98xVbNXyom1EkJwYl6ogb4WOfo5/i8eydN5+VdVUU  
o5fbw74m9ZgJtUg7KrS9+BCAlq9TNZGrmRmk9ZXNgjQV8lpxxdRivRoIKJ+utVob

Region\*

ap-northeast-2

☒ Encrypt EBS Volumes

입력 후 저장

## Director Config

[Installation Dashboard](#)  
Ops Manager Director

SettingsStatusCredentials

✓ AWS Config

○ Director Config

○ Create Availability Zones

○ Create Networks

○ Assign AZs and Networks

✓ Security

✓ Syslog

✓ Resource Config

Director Config

NTP Servers (comma delimited)\*  
0.amazon.pool.ntp.org,1.amazon.pool.ntp.org

JMX Provider IP Address  
 JMX Provider IP address of Pivotal JMX Bridge product

Bosh HM Forwarder IP Address

☒ Enable VM Resurrector Plugin

☒ Enable Post Deploy Scripts

☐ Recreate all VMs  
This will force BOSH to recreate all VMs on the next deploy. Persistent disk will be preserved

☐ Enable bosh deploy retries  
This will attempt to re-deploy a failed deployment up to 5 times.

NTP Servers	0.amazon.pool.ntp.org,1.amazon.pool.ntp.org,2.amazon.pool.ntp.org
Enable VM Resurrector Plugin	선택
Enable Post Deploy Scripts	선택
S3 EndPoint	https://s3.ap-northeast-2.amazonaws.com
Bucket Name	ops_manager_bucket 값을 찾아 입력
Access Key	iam_user_access_key 값을 찾아 입력
Secret Key	iam_user_secret_access_key 값을 찾아 입력
V4 Signature	선택
Region	ap-northeast-2

Blobstore Location

☐ Internal

☒ S3 Compatible Blobstore

S3 Endpoint\*

Bucket Name\*

Access Key\*

Secret Key\*

☐ V2 Signature

☒ V4 Signature

Region\*

“Save” 를 클릭하여 저장

## AZ 등록

ap-northeast-2a, ap-northeast-2c 두 개의 존을 추가

☒ AWS Config  
☒ Director Config  
☐ Create Availability Zones  
☐ Create Networks  
☐ Assign AZs and Networks  
☒ Security  
☒ Syslog  
☒ Resource Config

### Create Availability Zones

Availability Zones

▼ ap-northeast-2a

Amazon Availability Zone\*

▼ ap-northeast-2c

Amazon Availability Zone\*

## Network 등록

3 개의 network 를 등록한다.

pcf-management-network, pcf-pas-network, pcf-services-network



**Networks**

One or many IP ranges upon which your products will be deployed

▼ pcf-management-network

Name\*

pcf-management-network

☐ Service Network

Subnets

VPC Subnet ID\*

subnet-d41c6dbc

CIDR\*

10.0.16.0/28

Reserved IP Ranges

10.0.16.0-10.0.16.4

Add Network

Add Subnet

pcf-management-network 등록

VPC Subnet ID	CIDR	Reserved IP Ranges	DNS	Gateway	Availability Zones
The first value of management_subnet_ids from the Terraform output.	10.0.16.0/28	10.0.16.0-10.0.16.4	169.254.169.253	10.0.16.1	The first value of management_subnet_ids from the Terraform output.
The second value of management_subnet_ids from the Terraform output.	10.0.16.16/28	10.0.16.16-10.0.16.20	169.254.169.253	10.0.16.17	The second value of management_subnet_ids from the Terraform output.

pcf-pas-network 등록

VPC Subnet ID	CIDR	Reserved IP Ranges	DNS	Gateway	Availability Zones
The first value of pas_subnet_ids from the Terraform output.	10.0.4.0/24	10.0.4.0-10.0.4.4	169.254.169.253	10.0.4.1	The first value of pas_subnet_availability_zones from the Terraform output.
The second value of pas_subnet_ids from the Terraform output.	10.0.5.0/24	10.0.5.0-10.0.5.4	169.254.169.253	10.0.5.1	The second value of pas_subnet_availability_zones from the Terraform output.

pcf-services-network

\* Service Network 선택

VPC Subnet ID	CIDR	Reserved IP Ranges	DNS	Gateway	Availability Zone
The first value of <code>services_subnet_ids</code> from the Terraform output.	10.0.8.0/24	10.0.8.0-10.0.8.3	169.254.169.253	10.0.8.1	The first value of <code>services_subnet</code> from the Terraform output
The second value of <code>services_subnet_ids</code> from the Terraform output.	10.0.9.0/24	10.0.9.0-10.0.9.3	169.254.169.253	10.0.9.1	The second value of <code>services_subnet</code> from the Terraform output

Network 등록 완료 화면

### Networks

One or many IP ranges upon which your products will be deployed

▶ pcf-management-network

▶ pcf-pas-network

▶ pcf-services-network

Save

Assign AZs and Networks

### Assign AZs and Networks

The Ops Manager Director is a single instance.

Choose the availability zone in which to place that instance. It is highly recommended that you b

Singleton Availability Zone

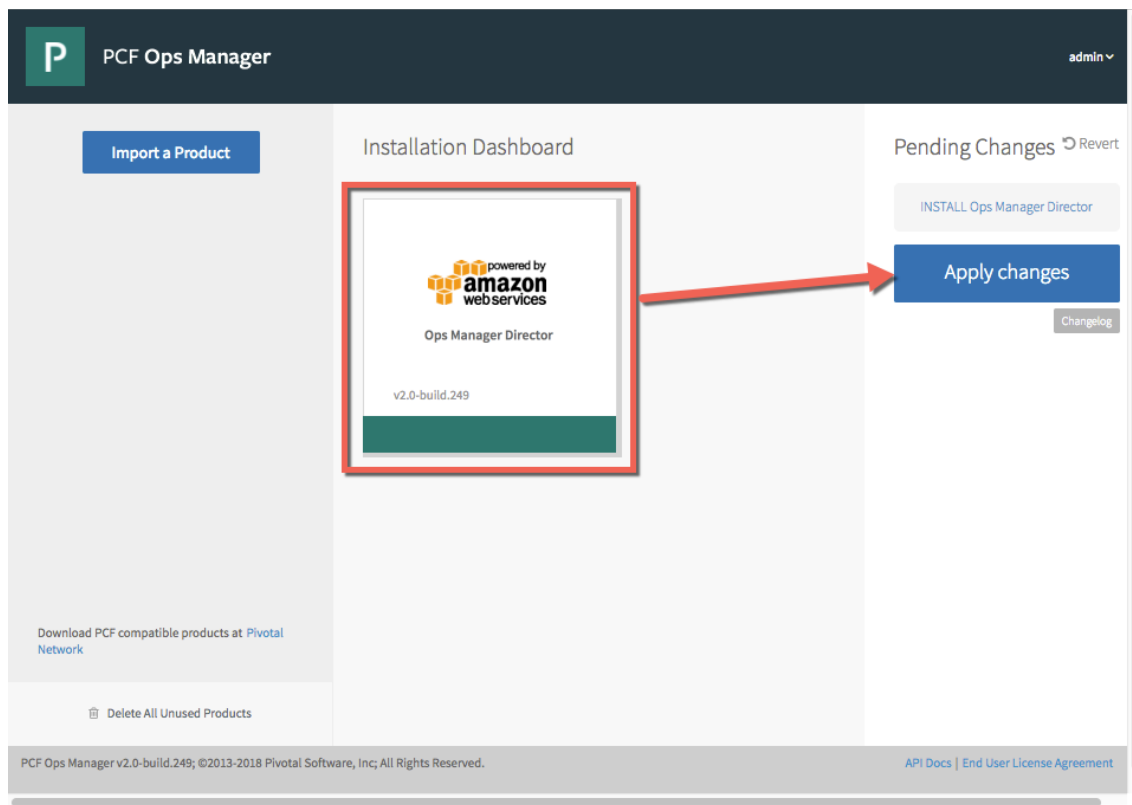
ap-northeast-2a

Network

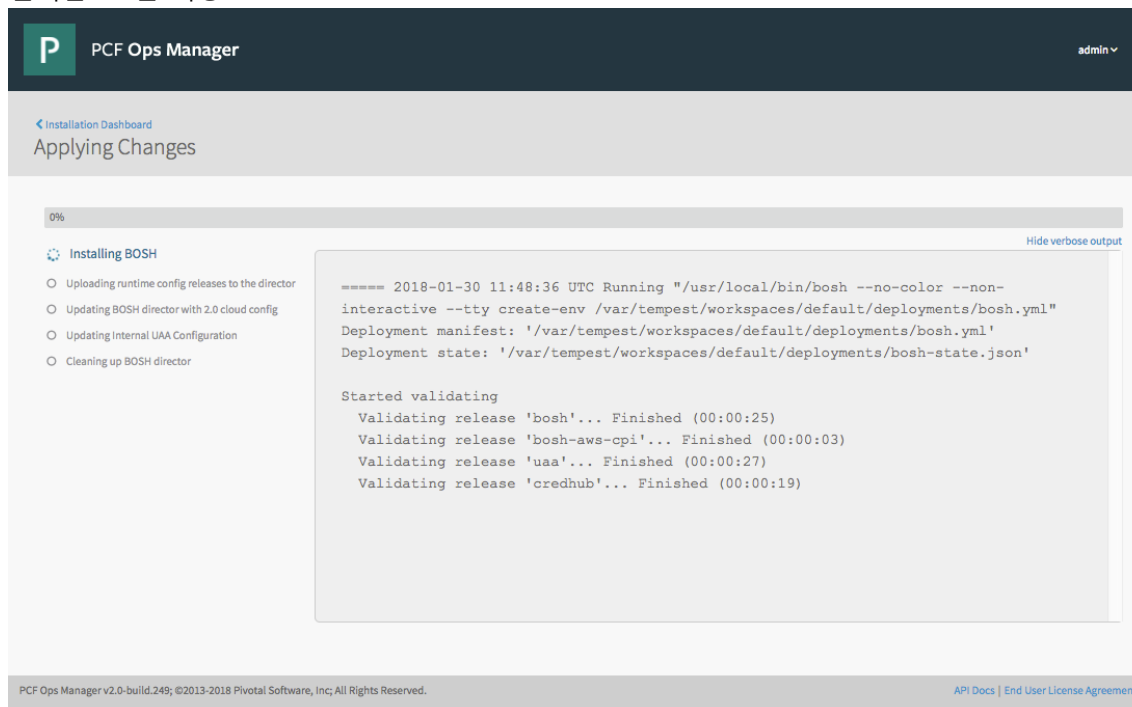
pcf-management-network

Save

## Ops Manager Director 설치 시작



## 설치는 10 분 이상 소요



## Ops Manager SSH 로 연결하기

설치가 진행되는 동안 ops manager ssh 연결을 위한 key 파일 생성 및 접속 테스트.

Terraform output 중에 ops\_manager\_ssh\_private\_key 를 ops.key 로 저장

```
$ chmod 400 ops.key
```

```
$ ssh -i ops.key ubuntu@pcf.sds61.cfpush.net
```

Windows 에서는 putty 를 이용해서 아래 내용을 참조

[https://docs.aws.amazon.com/ko\\_kr/AWSEC2/latest/UserGuide/putty.html](https://docs.aws.amazon.com/ko_kr/AWSEC2/latest/UserGuide/putty.html)

## PAS on AWS

### PAS Download

PC 로 download 및 opsmanger uploads 는 시간이 많이 소요됨으로 아래 ops manager 에 ssh 로 접속하여 진행한다.

```
$ ssh -i ops.key ubuntu@pcf.sds61.cfpush.net
```

```
$ curl -i -H "Accept: application/json" -H "Content-Type: application/json" -H "Authorization: Token bDFRn1EcD3Ly9AmrxdkN" -X POST https://network.pivotal.io/api/v2/products/elastic-runtime/releases/32638/eula_acceptance
```

```
ubuntu@ip-10-0-0-251:~$ curl -i -H "Accept: application/json" -H "Content-Type: application/json" -H "Authorization: Token bDFRn1EcD3Ly9AmrxdkN" -X POST https://network.pivotal.io/api/v2/products/elastic-runtime/releases/32638/eula_acceptance
HTTP/1.1 200 OK
Cache-Control: max-age=0, private, must-revalidate
Content-Type: application/json; charset=utf-8
Date: Tue, 30 Jan 2018 12:26:19 GMT
Etag: W/"acd74853cfaf04a2cbc6869e8130218c"
Strict-Transport-Security: max-age=15552000; includeSubDomains
X-Request-Id: 5259f925-8575-424e-9bbf-ca129d76a6cc
X-Runtime: 0.299236
X-Vcap-Request-Id: 97a8181e-3f1f-4e57-70a1-c260cbee8163
Content-Length: 101
Connection: keep-alive

{"accepted_at": "2018-01-29", "_links": {"eula": {"href": "https://network.pivotal.io/api/v2/eulas/120"}}}ubuntu@ip-10-0-0-251:~$
```

```
$ wget --post-data="" --header="Authorization: Token bDFRn1EcD3Ly9AmrxdkN" https://network.pivotal.io/api/v2/products/elastic-runtime/releases/32638/product_files/63747/download -O "cf-2-small.pivotal"
```

```
ubuntu@ip-10-0-0-251:~$ wget --post-data="" --header="Authorization: Token bDFRn1EcD3Ly9AmrxdkN" https://network.pivotal.io/api/v2/products/elastic-runtime/releases/32638/product_files/63747/download -O "cf-2-small.pivotal"
--2018-01-30 12:32:47-- https://network.pivotal.io/api/v2/products/elastic-runtime/releases/32638/product_files/63747/download
Resolving network.pivotal.io (network.pivotal.io)... 52.1.11.18, 52.7.239.110
Connecting to network.pivotal.io (network.pivotal.io)|52.1.11.18|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://d13k9s5899twdr.cloudfront.net/product-files/elastic-runtime/28367786-1a7f-4da8-b073-f2ea57d4ba42?Expires=1517401967&Signature=AJ0k5XuEqLI2g5-HRHbuANNNMK28EOXECyHxtXWmEMAD0sHXdtjnCfKyIf9-N39S7PCU2Qs1HKCdGfajq2odBUzFPI6%7EJ-IScLLsFH9CwKREh-hncb0MVLH15Nq2Sm7EbLhjtW0-UYHC9IeW4AF5naNSQMXAKTZhs3IBLRCx7EeLQCi54FUhNTVbEo4Y02mEKj7AIFsxKRNrVSgU0jpV62k3nhD064e4I0r7ziA8HZLpQmXkN9t%7Er8VKM8In77XUPh8s8MpZz5Wy%7EdOP2W1U33cLDr07q24ni8Xs8KZoLPktVv5LU3ccIt7F5b1w5QyJEFcsf6LGkA1hBQ7rSC7qg6g__&Key-Pair-Id=APKAIXHUNWNBZWMQSZHA&filename=28367786-1a7f-4da8-b073-f2ea57d4ba42 [following]
--2018-01-30 12:32:48-- https://d13k9s5899twdr.cloudfront.net/product-files/elastic-runtime/28367786-1a7f-4da8-b073-f2ea57d4ba42?Expires=1517401967&Signature=AJ0k5XuEqLI2g5-HRHbuANNNMK28EOXECyHxtXWmEMAD0sHXdtjnCfKyIf9-N39S7PCU2Qs1HKCdGfajq2odBUzFPI6%7EJ-IScLLsFH9CwKREh-hncb0MVLH15Nq2Sm7EbLhjtW0-UYHC9IeW4AF5naNSQMXAKTZhs3IBLRCx7EeLQCi54FUhNTVbEo4Y02mEKj7AIFsxKRNrVSgU0jpV62k3nhD064e4I0r7ziA8HZLpQmXkN9t%7Er8VKM8In77XUPh8s8MpZz5Wy%7EdOP2W1U33cLDr07q24ni8Xs8KZoLPktVv5LU3ccIt7F5b1w5QyJEFcsf6LGkA1hBQ7rSC7qg6g__&Key-Pair-Id=APKAIXHUNWNBZWMQSZHA&filename=28367786-1a7f-4da8-b073-f2ea57d4ba42
Resolving d13k9s5899twdr.cloudfront.net (d13k9s5899twdr.cloudfront.net)... 54.230.253.182, 54.230.253.200, 54.230.253.208, ...
Connecting to d13k9s5899twdr.cloudfront.net (d13k9s5899twdr.cloudfront.net)|54.230.253.182|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 8371579419 (7.8G)
Saving to: 'cf-2.pivotal'

0% [
```

] 251,478 63.4KB/s eta 37h 6m

## PAS Tile 올리기

## opsmanger access token 받기

아래 url 은 본인 ops manager url 로 변경

```
$ curl -s -k -H 'Accept: application/json;charset=utf-8' -d 'grant_type=password' -d 'username=admin' -d 'password=admin' -u 'opsman:' https://pcf.sds61.cfpush.net/uaa/oauth/token
```

[illegible]

Authorization header 의 token 을 이전 요청에서 받은 Access token 으로 교체

```
$ curl -vv -H 'Authorization: bearer
```

eyJhbGciOiJSUzI1NiIsImtpZCI6ImtleS0xIiwidHlwIjoiSldUIn0.eYJqdGkiOiJmJQwZWUXYWkYmQ0OWI5YWVhbnNlZX  
YmRlODkyODk3NCIsInN1YiI6Im2YTtzNGI2LWExNGItNDBlOC1iMzVhLVQ4YyJjNzdKXzJjZSI5InNjb3BlIjpjbIm9wc2  
1hbi5hZG1pb2IsInNjaW0ubWUiLCJjbGllbnRzLmFkbWluIiwidWFhbmFkbWluIl0sImNsaWVudF9pZCI6Im9wc21hbiIs  
ImNpZCI6Im9wc21hbiIsImF6cCI6Im9wc21hbiIsImdyYW50X3R5cGUiOiJwYXNzd29yZCIsInVzZXJfaWQiOiIzMmE5  
MzRiNi1hMTRiLTQwZTgtYjM1YS1kOGIyZzc3ZDcyY2UiLCJvcmlnaW4iOiJ1YWEiLCJlc2VyX25hbWUiOiJhZG1pb2IsI  
mVtYWlsIjoiYWRTaW5AdGVzdC5vcmcilCJhdXRvX3RpbWUiOjE1MTczMza0NmJsInJldl9zaWciOiI3ZTdIYzEzMCIsI  
mlhdCI6MTUxNzZMDQ2MywiZXhwIjojNTE3MzczNjYzLCJpc3MiOiJodHRwOi8vbG9jYXRob3N0OjgwODAwdWF  
hL29hdXRvL3Rva2VuIiwieWVkljpbInNjaW0iLCJvcHNtYW4iLCJjbGllbnRzIiwidWFhIl19.KkPBzKXEQ  
7wqXpjagi7avsEy2yR2ZUJ5JnLqhvtHJ2C1X5Sgo9W9EO3-  
t3PYr9VkeqJGHDSkJNbqN3EuIh2DDPrkljgWE8CokSx2XgSCf01uqpLj3BMTXvyT6OaodJvorsIh\_mJ9gXJ4ySo0xtR6o  
oxoD\_BEYHi-

8StB6V7sA3bu7auy6YNu8TqQBfTBIGEtTz\_Nn0kGXdR\_AwawBqJpvmp9842rfjINtjRTcb\_1m\_FLSVNh\_bNQhA7A-  
yIebXZQv73Oyw2sKu35yp-HutMFoyJeOOQivdPRGVogn7MFPAR-incAR452Qi9-cFxqa7HjRYKS2roKaxtJOOp-  
Rvp3FhSw' -k -X POST https://pcf.sds61.cfpush.net/api/v0/available\_products -F  
'product[file]=@/home/ubuntu/cf-2-small.pivotal'



## PAS 구성 및 설치

### AZ and Network Assignments

Installation Dashboard  
Pivotal Application Service

Settings Status Credentials Logs

Assign AZs and Networks

Domains

Networking

Application Containers

Application Developer Controls

Application Security Groups

Authentication and Enterprise SSO

UAA

CredHub

AZ and Network Assignments

Place singleton jobs in

☒ ap-northeast-2a

☐ ap-northeast-2c

Balance other jobs in

☒ ap-northeast-2a

☒ ap-northeast-2c

Network

pcf-pas-network

Save

### Domains

System Domain	Terraform 의 output 에서 sys_domain sys.sds61.cfpush.net
Apps Domain	Terraform 의 output 에서 apps_domain apps.sds61.cfpush.net

Assign AZs and Networks

Domains

Networking

Application Containers

Application Developer Controls

Application Security Groups

Authentication and Enterprise SSO

UAA

CredHub

Application Service hosts applications to subdomains under its system domain. The two domains are:

System Domain \*

sys.sds61.cfpush.net

Apps Domain \*

apps.sds61.cfpush.net

Save



## Networking

The screenshot shows the 'Networking' configuration page. On the left, a sidebar lists various services: Networking (selected and highlighted with a red box), Application Containers, Application Developer Controls, Application Security Groups, Authentication and Enterprise SSO, UAA, CredHub, Databases, and Internal MySQL. The main content area has several input fields: Router IPs, SSH Proxy IPs, HAProxy IPs, TCP Router IPs, and Certificates and Private Keys for HAProxy and Router. The 'Certificates and Private Keys' section has a dropdown menu and a 'Name' field. A red arrow points from the 'Networking' sidebar item to the 'Add' button in the 'Certificates and Private Keys' section. Another red arrow points from the 'Add' button to the 'Name' field. A third red arrow points from the 'Name' field to the 'human-readable name describing the use of this certificate.' text.

Router IPs

SSH Proxy IPs

HAProxy IPs

TCP Router IPs

Certificates and Private Keys for HAProxy and Router

Name \*

human-readable name describing the use of this certificate.

Add

cert/private key 는 기존에 배포된 sdsxx.cert, sdsxx.key 의 내용을 복사해 넣는다.

### TLS Cipher Suites for Router

ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384

### TLS Cipher Suites for HAProxy

DHE-RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384

#### TLS Cipher Suites for Router \*

ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384

#### TLS Cipher Suites for HAProxy \*

DHE-RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384

An ordered, colon-delimited list of TLS cipher suites in OpenSSL format. The recommended setting is "DHE-RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384". Operators should verify that downstream components that will initiate TLS handshakes with the HAProxy.

HAProxy forwards requests to Router over TLS. When enabled, HAProxy will forward all requests to the Router over TLS. HAProxy will use the CA provided to verify the certificates provided by the Router. \*

- ☐ Enable
- ☒ Disable

Disable SSL certificate verification for this environment

☒ Disable SSL certificate verification for this environment

☐ Disable HTTP on HAProxy and Gorouter

☐ Disable insecure cookies on the Router

☒ Enable Zipkin tracing headers on the router

☒ Enable Router to write access logs locally

☐ Routers reject requests for Isolation Segments

When d  
When e  
applica

Loggregator Port

HAProxy Request Max Buffer Size \*

16384

HAProxy Protected Domains

HAProxy Trusted CIDRs

Loggregator Port

4443

Default is 443. Enter a new value to  
is used for other traffic.

## Application Security Groups

Assign AZs and Networks

Domains

Networking

Application Containers

Application Developer Controls

**Application Security Groups**

Authentication and Enterprise SSO

### Application Security Groups Acknowledgement

Setting appropriate Application Security Groups that control application network policy. Please refer to the Application Security Groups topic in the Pivotal Cloud Foundry documentation when Service deployment completes.

Type "X" to acknowledge that you understand this message \*

x

Save

## UAA

Assign AZs and Networks

Domains

Networking

Application Containers

Application Developer Controls

Application Security Groups

Authentication and Enterprise SSO

**UAA**

CredHub

Databases

Internal MySQL

### Configure the User Account and Authentication Server

Choose the location of your UAA database \*

☒ Internal MySQL (preferred for complete high-availability)

☐ External (preferred if, for example, you use AWS)

JWT Issuer URI

SAML Service Provider Credentials \*

-----BEGIN CERTIFICATE-----  
MIID4jCCAsqAwIBAgIUkD52508vQGmr/cB6bxDry5ORgtQwDQYJKoZIhvcNAQEL  
BQAwHzELMAKGA1UEBhMCVWxEDAOBgNVBAoMB1Bpdm90YWwwHhcNMjg1MTI5MDUz  
MTU1WWhcNMjg1MTI5MDUzMTU1WjBDMQswCQYDVQQGEwJVUzEQMA4GA1UECgwHUG  
VW/8mQKBgQDUjzAWPL1n7qTOSUoHasNvmBztJ9yYP+W85HaTxiKldujdMp8zhd  
FVki0Gt4mNMFCBh61SD4Vnfk+E7INVcJPH2Uy4pcaIR0Z6CLwe530NWL6k3IQTok  
FQ7w1bd7IXFdP+vgZLE8FPYMeGRe7NI/OA5cNfhqJEamkRH50jFQjw==  
-----END RSA PRIVATE KEY-----

Generate RSA Certificate

Cancel

## CredHub

암호화 key 추가 : 최소 20 자

ex> adminadminadminadminadmin

Application Developer Controls

Application Security Groups

Authentication and Enterprise SSO

UAA

**CredHub**

Databases

Internal MySQL

File Storage

### Encryption Keys

▼ sds

Name \*

sds

Key \*

.....

☒ Primary

Secure Service Instance Credentials

Save

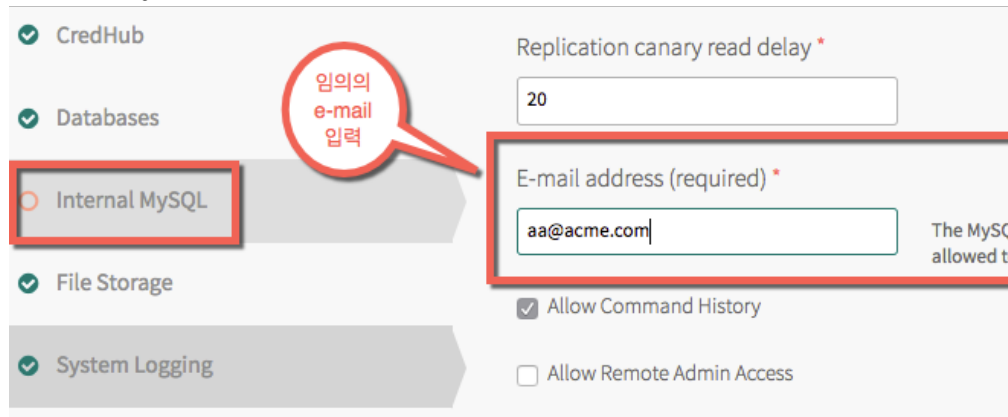
1 Add

2

3

Checking this checkbox marks this key as the primary encryption key. Only 1 key should be marked as primary.

## Internal MySQL



Internal MySQL configuration page. The 'Internal MySQL' option is selected in the left sidebar. A red callout bubble points to the 'E-mail address (required)' field, which contains 'aa@acme.com'. Other fields include 'Replication canary read delay' (20), 'Allow Command History' (checked), and 'Allow Remote Admin Access' (unchecked).

## File Storage

External S3-Compatible File Store 선택

Ops Manager Field	terraform output
URL Endpoint	https://s3.ap-northeast-2.amazonaws.com
Buildpacks Bucket Name	pas_buildpacks_bucket
Droplets Bucket Name	pas_droplets_bucket
Packages Bucket Name	pas_packages_bucket
Resources Bucket Name	pas_resources_bucket
Access Key ID	iam_user_access_key
AWS Secret Key	iam_user_secret_access_key
Region	ap-northeast-2

✓ Networking

✓ Application Containers

✓ Application Developer Controls

✓ Application Security Groups

✓ Authentication and Enterprise SSO

✓ UAA

✓ CredHub

✓ Databases

✓ Internal MySQL

✓ File Storage

✓ System Logging

✓ Custom Branding

✓ Apps Manager

✓ Email Notifications

✓ Cloud Controller

✓ Smoke Tests

## Configure your Cloud Controller's filesystem\*

☐ Internal WebDAV (provided by Application Service)

☒ External S3-Compatible File Store (if you want to use a service like S3)

URL Endpoint \*

Access Key \*

Secret Key \*

[Change](#)

S3 Signature Version\*

Region

☒ Server-side Encryption (available for AWS S3 only)

Buildpacks Bucket Name \*

S3 bucket for storing app buildpacks

Droplets Bucket Name \*

Packages Bucket Name \*

Resource Config

Resource Config

JOB	INSTANCES	PERSISTENT DISK TYPE	VM TYPE	LOAD BALANCERS
Database	Automatic: 1	50 GB	Automatic: r4.large (cpu: 2, ram: 15.3 GB, c	
File Storage	0	Automatic: 100 GB	Automatic: m4.large (cpu: 2, ram: 7.5 GB, c	
Control	Automatic: 1	None	Automatic: r4.xlarge (cpu: 4, ram: 30.5 GB,	sds61-ssh-i
Compute	Automatic: 1	None	Automatic: r4.xlarge (cpu: 4, ram: 30.5 GB,	
Backup Prepare Node	0	Automatic: 200 GB	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	
HAProxy	Automatic: 0	None	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	
Router	Automatic: 1	None	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	sds61-web
MySQL Monitor	Automatic: 1	None	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	
TCP Router	0	Automatic: 1 GB	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	

Save

## ELB 명 입력

Controller	ssh_elb_name 의 값 입력
Router	web_elb_name 의 값 입력

## Resource Config

JOB	INSTANCES	PERSISTENT DISK TYPE	VM TYPE	LOAD BALANCERS
Database	Automatic: 1	50 GB	Automatic: r4.large (cpu: 2, ram: 15.3 GB, c	
File Storage	0	Automatic: 100 GB	Automatic: m4.large (cpu: 2, ram: 7.5 GB, c	
Control	Automatic: 1	None	Automatic: r4.xlarge (cpu: 4, ram: 30.5 GB, d	sds61-ssh-i
Compute	Automatic: 1	None	Automatic: r4.xlarge (cpu: 4, ram: 30.5 GB, d	
Backup Prepare Node	0	Automatic: 200 GB	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	
HAProxy	Automatic: 0	None	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	
Router	Automatic: 1	None	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	sds61-web
MySQL Monitor	Automatic: 1	None	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	
TCP Router	0	Automatic: 1 GB	Automatic: t2.micro (cpu: 1, ram: 1 GB, dis	

Save

## 적용 - 설치

**PCF Ops Manager** admin

Import a Product

Installation Dashboard

powered by  
**amazon**  
web services  
Ops Manager Director  
v2.0-build.249

**Pivotal**  
Application Service  
v2.0.3

Pending Changes [Revert](#)

▶ INSTALL Pivotal Application Service

**Apply changes** [Changelog](#)

26%

Installing BOSH

Uploading runtime config releases to the director

Updating BOSH director with 2.0 cloud config

Updating Internal UAA Configuration

Updating runtime configs for cf

Uploading stemcell for Pivotal Application Service

Uploading releases for Pivotal Application Service

Migrating credentials to director CredHub

Installing Pivotal Application Service

Running errand Smoke Test Errand for Pivotal Application Service

Running errand Usage Service Errand for Pivotal Application Service

Running errand Apps Manager Errand for Pivotal Application Service

Running errand Notifications Errand for Pivotal Application Service

Running errand Notifications UI Errand for Pivotal Application Service

Running errand Pivotal Account Errand for Pivotal Application Service

Running errand Autoscaling Errand for Pivotal Application Service

cf\_network:

as: cf\_network

shared: true

release: cf-networking

name: c2c-diego-database-cf

Succeeded

===== 2018-01-30 14:43:23 UTC Finished "/usr/local/bin/bosh --no-color --non-interactive --tty --environment=10.0.16.5 update-config runtime --name=cf-2fef53564baf1f97c23b-silk-cni /tmp/cf-2fef53564baf1f97c23b-silk-cni.yml20180130-1317-sg6pia"; Duration: 1s; Exit Status: 0

===== 2018-01-30 14:43:23 UTC Running "/usr/local/bin/bosh --no-color --non-interactive --tty --environment=10.0.16.5 upload-stemcell /var/tempest/stemcells/light-bosh-stemcell-3468.21-aws-xen-hvm-ubuntu-trusty-go\_agent.tgz"

Using environment '10.0.16.5' as client 'ops\_manager'

0.00% 100.00% 270.64 KB/s 0s

Task 6

Task 6 | 14:43:24 | Update stemcell: Extracting stemcell archive (00:00:00)

Task 6 | 14:43:24 | Update stemcell: Verifying stemcell manifest (00:00:00)

Task 6 | 14:43:29 | Update stemcell: Checking if this stemcell already exists (00:00:00)

참석자 별 접속 RUL

수강자	Ops Manager	Apps Manager	CF API endpoint
SDS1	<a href="https://pcf.sds1.cfpush.net">https://pcf.sds1.cfpush.net</a>	<a href="https://apps.sys.sds1.cfpush.net">https://apps.sys.sds1.cfpush.net</a>	<a href="https://api.sys.sds1.cfpush.net">https://api.sys.sds1.cfpush.net</a>
SDS2	<a href="https://pcf.sds2.cfpush.net">https://pcf.sds2.cfpush.net</a>	<a href="https://apps.sys.sds2.cfpush.net">https://apps.sys.sds2.cfpush.net</a>	<a href="https://api.sys.sds2.cfpush.net">https://api.sys.sds2.cfpush.net</a>
SDS3	<a href="https://pcf.sds3.cfpush.net">https://pcf.sds3.cfpush.net</a>	<a href="https://apps.sys.sds3.cfpush.net">https://apps.sys.sds3.cfpush.net</a>	<a href="https://api.sys.sds3.cfpush.net">https://api.sys.sds3.cfpush.net</a>
SDS4	<a href="https://pcf.sds4.cfpush.net">https://pcf.sds4.cfpush.net</a>	<a href="https://apps.sys.sds4.cfpush.net">https://apps.sys.sds4.cfpush.net</a>	<a href="https://api.sys.sds4.cfpush.net">https://api.sys.sds4.cfpush.net</a>
SDS5	<a href="https://pcf.sds5.cfpush.net">https://pcf.sds5.cfpush.net</a>	<a href="https://apps.sys.sds5.cfpush.net">https://apps.sys.sds5.cfpush.net</a>	<a href="https://api.sys.sds5.cfpush.net">https://api.sys.sds5.cfpush.net</a>
SDS6	<a href="https://pcf.sds6.cfpush.net">https://pcf.sds6.cfpush.net</a>	<a href="https://apps.sys.sds6.cfpush.net">https://apps.sys.sds6.cfpush.net</a>	<a href="https://api.sys.sds6.cfpush.net">https://api.sys.sds6.cfpush.net</a>
SDS7	<a href="https://pcf.sds7.cfpush.net">https://pcf.sds7.cfpush.net</a>	<a href="https://apps.sys.sds7.cfpush.net">https://apps.sys.sds7.cfpush.net</a>	<a href="https://api.sys.sds7.cfpush.net">https://api.sys.sds7.cfpush.net</a>

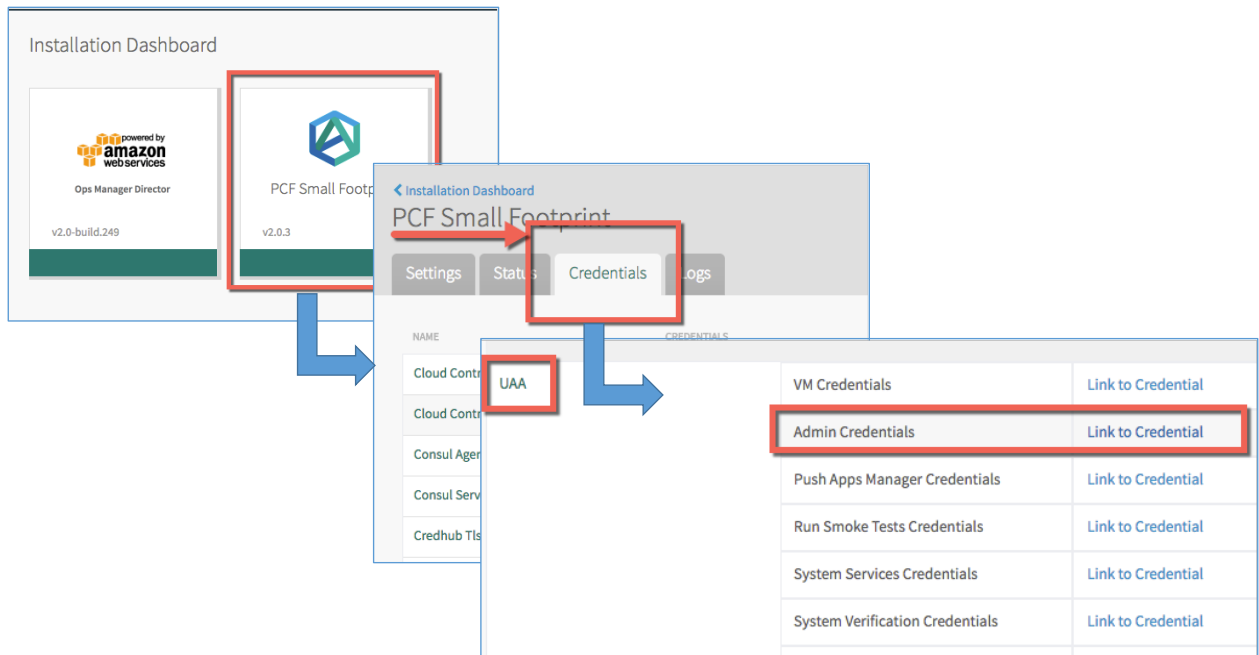


## Apps Manager 접속

### 1. Ops Manager 에 접속하여 admin 암호 확인

- 최초 설치 후 접속할 수 있는 계정은 admin 이고 사용자를 추가하여 사용

admin / admin 으로 로그인 후 "PCF Small Footprint" tile 을 선택하고, "Credentials" 탭을 선택하며, UAA Section 에 Admin Credentials 의 link 를 클릭

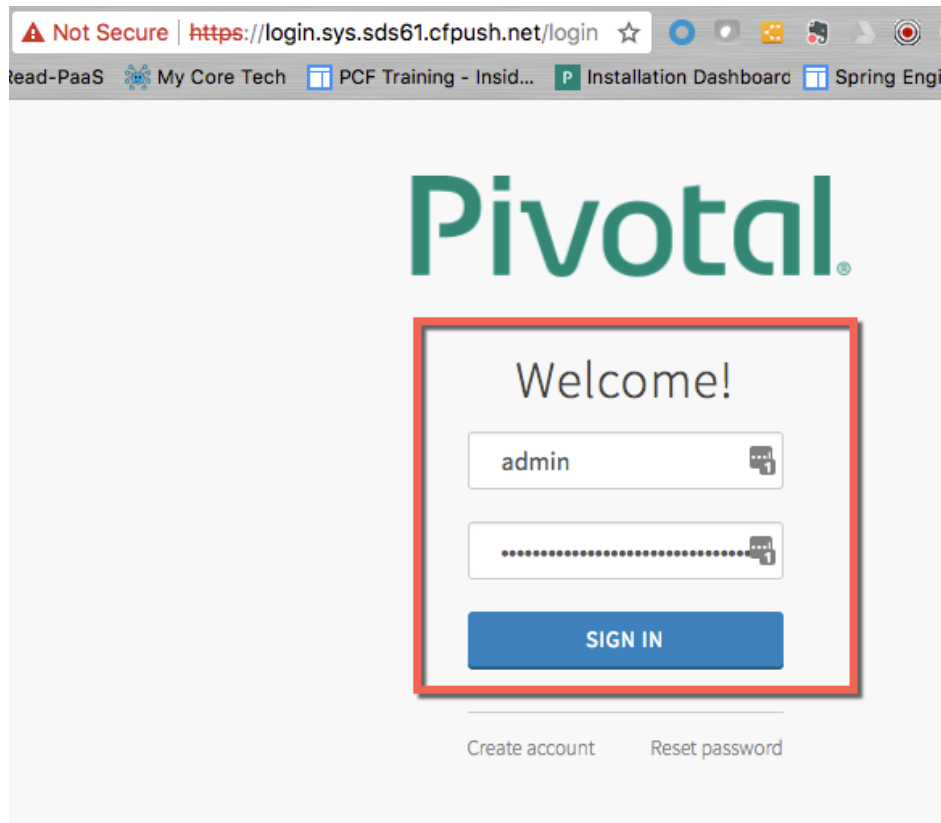


Link 를 클릭하면 아래와 같이 admin 계정과 password 를 확인할 수 있다.

```
{
  - credential: {
    type: "simple_credentials",
    - value: {
      identity: "admin",
      password: "BuVkQ-K9n7wxzZ_XwjCuz_QSTCxunop1"
    }
  }
}
```

## 2. App Manager 접속

참석자 별 접속 URL 에 본인의 apps manager url 로 접근하여 로그인



## Apps Manager 초기 화면

