[AWS] Route53 + Workmail + SES

1.	
2. route53	가
3. Workmail	
5. Workmail Add Domai	n
6. Domain record 가	
7. Workmail user	
8. Workmail Test	

[] https://my.freenom.com/clientarea.php

"freenom"

,

,

<	>					
1.	가	TLD 가		=> (.tk	, .ml, .ga, .gq, .cf)
2.		C		- 7L	1	
3.		Z		- 1	가	가
freen	nom					
4.		DNS	-	DNS	Freenom	가

1. freenom 가

- 2. domain
 - 1) [Register a new Domain]

2) TLD [Get it now!] Selected

Checkout 3) [Use DNS] - Use Freenom DNS Service IP address ==> Domain IP 4) Total Due Today : \$0.00USD -> -> Complete Order

가

Route53

route 53 –

1. :<freenom > 2. - (.) 3.

WorkMail

Workmail - Create organization

1. Create organization 2. Email domain : Existing Route 53 domain - Route 53 hosted zone : < Freenom > 3. Alias : alias name Workmail url .(https://<alias>.awsapps.com/mail) 4. Advanced settings - User directory : 1) Create Amazon Workmail directory -가 Workmail 2) Use existing directory - AWS Directory Servise AD, AD , workmail가 Simple AD, - Encryption : 1) use Amazon WorkMail managed key - AWS 2) Use existing customer managed key(CMK) - AWS KMS key customer managed key(CMK) 5. Create organization

Workmail Add Domain

WorkMail-Organizations-< organization>-Domains 1. Add domain 2. Domain name - route53 domain 3. - Domain ownership : TXT - WorkMail configuration : Workmail MX, CNAME - Improved security : (DKIM, SPF, DMARC) - Improved email delivery 4. Organization - Domains "Set as default" [my domain] default [my domain]

Domain record 가

Route 53 -

빠른 레코드 생성 정보 마법사로 전환 ▼ 레코드 1 삭제 _{레코드 유형 정보} 2번 1번 레코드 이름 정보 A - IPv4 주소 및 일부 AWS 리소스로 트래픽 라우팅 subdomain . 루트 도메인에 대한 레코드를 생성하려면 비워 A - IPv4 주소 및 일부 AWS 리소스로 트래픽 라우팅 AAAA – IPv6 주소 및 일부 AWS 리소스로 트래픽 라우팅 값 정보 🔿 별칭 CNAME – 다른 도메인 이름과 일부 AWS 리소스로 트래픽 라우팅 192.0.2.235 MX – 메일 서버 지정 3번 TXT – 이메일 발신자와 애플리케이션별 값을 확인할 때 사용 PTR - IP 주소를 도메인 이름에 매핑 별도의 줄에 여러 값을 입력합니다. SRV – 서버를 식별하는 애플리케이션별 값 TTL(초) 정보 SPF – 권장하지 않음 300 NAPTR – DDDS 애플리케이션에서 사용 CAA – 도메인에 대해 SSL/TLS 인증서를 생성할 수 있는 CA 제한 1분 1시간 1일 NS – 호스팅 영역의 이름 서버 권장 값: 60~172.800(2일) 다른 레코드 추가 레코드 생성 취소 1. subdomain (main domain X) (TXT, MX, CNAME..) 2. Type 3. ** "Workmail Add Domain" 가 ** 3

- <

퍼블릭	정보				명역 삭제 레코드 테스트 쿼리 로깅 구성
▶ <u>\$</u> 2	느팅 영역 세부 정보				호스팅 영역 편집
레코드	12) DNSSEC 서명 호스팅 영역 테그(0)				
레코의 Automat	E (12) 정보 k:모드는 최상의 필터 결과에 최직화된 현재 검색 등작입니다.모드를 변경하려	면 설정(settings)으로	이동합니다.		레코드 삭제 영역 파일 가지오기 레코드 생성
Q 4	성 또는 값을 기준으로 레코드 필터링			유함	▼ 324▼ 1 > ●
	레코드 이름	7 유형 ▽	라우팅 ▽	차별 ▽	값/트래픽 라우팅 대상
		MX	단순	-	10 inbound-smtp.us-east-1.amazonaws.com.
		NS	단순		ns-1720.awsdns-23.co.uk. ns-420.awsdns-52.com. ns-890.awsdns-47.net. ns-1473.awsdns-56.org.
		SOA	단순	-	ns-1720.awsdns-23.co.uk. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400
		TXT	단순	-	"v=spf1 include:amazonses.com ~all"
	_amazonses	TXT	단순	-	"B+7wlPb7lyESqb3/je5A/um+8xcWL5/grg12Pfd8zwg="
	_dmarc.	TXT	단순		"v=DMARC1;p=quarantine;pct=100;fo=1"
	5jsok5tip5u5tqwya3x4w5cgb5s37q3ydomainkey	CNAME	단순		5jsok5tip5u5tqwya3x4w5cgb5s37q3y.dkim.amazonses.com
	pn7t6g7j23fregjflrt4hmvv7xwbp7pbdomainkey.	CNAME	단순		pn7t6g7j23fregjflrt4hmvv7xwbp7pb.dkim.amazonses.com
	uqwlt5vz7v72xn4utpedxcqa3kneekk6domainkey	CNAME	단순	-	uqwlt5vz7v72xn4utpedxcqa3kneekk6.dkim.amazonses.com
	autodiscover	CNAME	단순	-	autodiscover.mail.us-east-1.awsapps.com.

Workmail User

Workmail – organization – Users		
User details 1. User name - user name	AWS WorkMail	가
2. Display name -	name	
Email setup 1. Email address - <user name="">@<workmail 2. Password , Repeat password - Email</workmail </user>	>	

Workmail Test

```
< >
```

	amazon	~	🕀 New item 🗸 🗇 View 🗸 🗞 Address Book
	WorkMail		New folder
ጽ	~ My Mail	Ç	New appointment Q ◎ ∇ < 1 of 1 >
	Inbox		New meeting request
	Junk Email		New distribution list
	Outbox		
	Drafts		
	Sent Items		
	Deleted Items		
	RSS Feeds		
	amazon	<< (Dew item V & Address Book
	WorkMail	l	nbox 🖒 🖂 test email 🗙 🕀
ጽ	∼ My Mail	ტ _	🛿 Send 🖹 Save 🗇 Delete 📎 Attach 🗸 🖉 Signature 🗸 🖄 C
	Inbox	(™ 수신받을 메일주소
	Junk Email		
	Outbox		Subject test email
	Drafts 1		Narrow Sans Serif - Normal - B I U - A - 2 - K
	Sent Items		hello, test email
	Deleted Items		
	RSS Feeds		

test email



hello, test email

< >



Test mail

⊕N	🕀 New item 🗸 🗇 Print 🗇 View 🗸 🗞 Address Book					
Inbo	x ℃ ⊕					
Search	globally Q 🕲 🏹 < 1 of 1 >		← Reply ← Reply All → Forv			
	From	Received 🗸				
	RE: test email	Today, 2:50 pm	DE: tect amail			
			RE. LEST ETHAIT			
			To test test			
			Test test			

[Linux] LVM –

1. LVM ?

HDD

1. LVM

)



2. LVM

1) LVM

LVM

2) PV(Physical Volume) :

/dev/sda1, /dev/sdb1, /dev/sdc1

LVM

,

LVM ΡV PE(Physical Extent)) - PE(Physical Extent) :

PV

(PV

4MB

3) VG (Volume Group) :

Physical	Volume	(PE가	?)
PV	PV	VG	
LV			

4) LV (Logical Volume) :

Volume Group	가
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3. LVM

/home LVM

.

/home 가

df -Th

Filesystem Туре Size Used Avail Use% Mounted on /dev/sda2 xfs 30G 1.3G 29G 5% / /dev/sda1 14% /boot xfs 1014M 140M 875M /dev/sda3 ext4 68G 55M 65G 1% /home

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1) LVM

rpm -qa |grep lvm
yum install lvm2
systemctl enable lvm2-monitor
2)
LVM .(fdisk -l /dev/sda)

LVM

LVM

fdisk -l /dev/sda

Device Boo	t Start	End	Blocks Id	System
/dev/sda1 *	2048	2099199	1048576	83 Linux
/dev/sda2	2099200	65013759	31457280	83 Linux
/dev/sda3	65013760	209715199	72350720	8e Linux

/dev/sda3 (/home)

fdisk /dev/sda Command (m for help): **p** Disk /dev/sda: 107.4 GB, 107374182400 bytes, 209715200 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 4096 bytes I/O size (minimum/optimal): 4096 bytes / 4096 bytes Disk label type: dos Disk identifier: 0x000c8e42

Device Boot Start End Blocks Id System /dev/sda1 * 2048 2099199 1048576 83 Linux /dev/sda2 2099200 65013759 31457280 83 Linux /dev/sda3 65013760 209715199 72350720 83 Linux

Command (m for help): **t** Partition number (1-3, default 3): **3** Hex code (type L to list all codes): **8e** Changed type of partition 'Linux' to 'Linux LVM'

Command (m for help): **p**

Disk /dev/sda: 107.4 GB, 107374182400 bytes, 209715200 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 4096 bytes I/O size (minimum/optimal): 4096 bytes / 4096 bytes Disk label type: dos Disk identifier: 0x000c8e42

Device Boot Start End Blocks Id System /dev/sdal * 2048 2099199 1048576 83 Linux /dev/sda2 2099200 65013759 31457280 83 Linux /dev/sda3 65013760 209715199 72350720 8e Linux LVM

Command (m for help): **w**

3) **(PV)**

LVM

LVM2

PE(Physical Extent) : PV 4MB

3-1) PV (pvcreate)

pvcreate /dev/sda3
WARNING: ext4 signature detected on /dev/sda3 at offset 1080.
Wipe it? [y/n]: y Wiping ext4 signature on /dev/sda3. Physical
volume "/dev/sda3" successfully created.

pvcreate /dev/sda3
WARNING: ext4
signature detected on /dev/sda3 at offset 1080.
Wipe it? [y/n]: y
Wiping ext4 signature on /dev/sda3.
Physical volume "/dev/sda3" successfully created.

pvcreate /dev/sda3
WARNING: ext4 signature detected on /dev/sda3 at offset 1080.
Wipe it? [y/n]: y
Wiping ext4 signature on /dev/sda3.
Physical volume "/dev/sda3" successfully created.

3-2) PV

pvs
PV VG Fmt Attr PSize PFree

/dev/sda3 lvm2 --- <69.00g <69.00g # pvscan PV /dev/sda3 lvm2 [<69.00 GiB]Total: 1 [<69.00 GiB] / in use: 0 [0] / in no VG: 1 [<69.00 GiB] # pvdisplay VG NamePV Size <69.00 GiB Allocatable NO PE Size 0 Total PE 0 Free PE 0 Allocated PE 0 dFUFjg-ETp6-aCkV-UHpw-HpP7-e40T-7L00p3 PV UUID (VG) 3-3)(VG) /dev/VG NAME # - VG # vgcreate []][vgcreate vg-home /dev/sda3Volume group "vg-home" successfully created VG -# vgs #PV #LV #SN Attr VSize VFreevg-home 1 0 0 wz--n-VG <69.00g <69.00g # vgscan Reading volume groups from cache.Found volume group "vg-home" using metadata type lvm2 # vgdisplay --- Volume group ---VG Name vg-home System IDFormat lvm2

Metadata Areas 1 Metadata Sequence No 1 read/write VG Access VG Status resizable MAX LV 0 Cur LV 00 pen LV 0 Max PV 0 Cur PV 1 Act PV 1 VG Size <69.00 GiB PE Size 4.00 MiB Total PE 17663 Alloc PE / Size 0 / 0 Free PE / Size 17663 / <69.00 GiB VG UUID MESw3F-j0gs-yz0o-bwR9-34nn-u0dP-gH0HEC 4) (Logical Volumes) # - LV # lvcreate -n datalv L 70GB testvg --> testvg 70G datalv # lvcreate -n lv-home -l +100%FREE vg-home --> lvhome # lvcreate lvcreate -n lv-home -l +100%FREE vg-homeLogical volume "lvhome" created. (lvs, lvdisplay, lvscan) LV -# lvs Attr LSize Pool Origin Data% Meta% Move Log LV VG Cpy%Sync Convert lv-home vg-home -wi-ao---- <69.00g # lvscan '/dev/vg-home/lv-home' [<69.00 GiB] inherit</pre> ACTIVE # lvdisplay --- Logical volume ---

LV Path /dev/vg-home/lv-home LV Name lv-home VG Name vg-home LV UUID AY0b7g-L0pN-DrTm-Lhgb-vqU5-T2W1-0cFe4W LV Write Access read/write LV Creation host, time localhost.localdomain, 2022-05-11 16:20:59 + 0900LV Status available # open 0 LV Size <69.00 GiB Current LE 17663 Segments 1 inheritRead ahead sectors auto Allocation - currently set to 8192 Block device 253:0 5) 5-1) LV # lvdisplay LV Path ext4 /home ** # mkfs.ext4 /dev/vg-home/lv-home **mke2fs 1.42.9 (28-Dec-2013)Discarding device blocks: done Filesystem label=0S type: LinuxBlock size=4096 (log=2)Fragment size=4096 (log=2)Stride=0 blocks, Stripe width=0 blocks4521984 inodes, 18086912 blocks904345 blocks (5.00%) reserved for the super userFirst data filesystem blocks=2166358016552 block=0Maximum block groups32768 blocks per group, 32768 fragments per group8192 inodes per groupSuperblock backups stored on blocks: 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 4096000, 7962624, 11239424 Allocating group 2654208, tables: done Writing inode tables: done Creating journal (32768 blocks): doneWriting superblocks and filesystem accounting information: done

mount -t ext4 /dev/vg-home/lv-home /home

**# df -Th **Filesystem Size Used Avail Use% Mounted on/dev/sda2 Type 29G xfs 30G 1.3G 5% /devtmpfs devtmpfs 484M 0 484M 0% /devtmpfs tmpfs 493M 0 493M 0% /dev/shmtmpfs 493M 13M 480M tmpfs 3% tmpfs /runtmpfs 493M 0 493M 0% /sys/fs/cgroup/dev/sda1 xfs 1014M 140M 875M 14% /boottmpfs tmpfs 99M 99M 0% /run/user/0* 0 68G /dev/mapper/vg--home-lv--home ext4 53M 65G 1% /home* /etc/fstab 5-2)

/etc/fstab
/dev/vg-home/lv-home /home ext4 defaults 1 2

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PXE

PXE

Preboot execution environment OS 가

PXE

Virtualbox , Host-only Adapter

Virtualbox - File - Host Network Manager

IPv4 Address: 10.0.0.254/24 DHCP Server: None

CentOS 07 VM PXE: NIC 2EA (/) CentOS 07 VM Client: NIC 1EA () PXE # Public cat << EOF | sudo tee /etc/sysconfig/network-scripts/ifcfg-</pre> enp0s3 TYPE=Ethernet B00TPR0T0=dhcp **DEFROUTE=yes** NAME=enp0s3 DEVICE=enp0s3 ONB00T=yes EOF # Private cat << EOF | sudo tee /etc/sysconfig/network-scripts/ifcfg-</pre> enp0s8 **TYPE=Ethernet** B00TPR0T0=none DEFROUTE=no NAME=enp0s8 DEVICE=enp0s8 ONB00T=yes IPADDR=10.0.0.11 PREFIX=24 EOF sudo systemctl restart network sudo systemctl status network PXE DHCP sudo yum install -y dhcp sudo mkdir /etc/dhcp/dhcpd.d/ cat << EOF | sudo tee /etc/dhcp/dhcpd.conf</pre> 10.0.0.11: option domain-name-servers

```
## 10.0.0.11 -> PXE
                             TΡ
default-lease-time 600;
max-lease-time 7200;
authoritative;
## DHCPNAK send enable
filename
                "pxelinux.0";
next-server
                10.0.0.11;
## tftp
        IP
subnet 10.0.0.0 netmask 255.255.255.0 {
    range dynamic-bootp 10.0.0.200 10.0.0.253;
    option broadcast-address 10.0.0.255;
    # option routers 10.0.0.11;
    ## Client 가
                            Gateway IP
  ##
}
E0F
sudo systemctl enable -- now dhcpd
sudo systemctl status dhcpd
PXE
        TFTP
                                  tftp
sudo yum install -y syslinux tftp tftp-server
sudo cp /usr/share/syslinux/pxelinux.0 /var/lib/tftpboot/
sudo systemctl enable --now tftp
sudo systemctl status tftp
tftp
(to) 10.0.0.11
tftp> verbose
tftp> trace
tftp> get pxelinux.0
```

PXE ISO

```
wget
http://mirror.navercorp.com/centos/7/isos/x86 64/Cent0S-7-x86
64-Minimal-2009.iso
sudo mkdir /var/lib/tftpboot/centos7
sudo mount CentOS-7-x86 64-Minimal-2009.iso /mnt
   sudo mount -t iso9660 -o loop CentOS-7-x86 64-
##
Minimal-2009.iso /mnt
sudo cp /mnt/images/pxeboot/vmlinuz /var/lib/tftpboot/centos7/
                        /mnt/images/pxeboot/initrd.img
sudo
             ср
/var/lib/tftpboot/centos7/
sudo cp /usr/share/syslinux/menu.c32 /var/lib/tftpboot/
sudo mkdir /var/lib/tftpboot/pxelinux.cfg/
cat << EOF | sudo tee /var/lib/tftpboot/pxelinux.cfg/default</pre>
timeout 100
default menu.c32
label 1
  menu label ^1) Install CentOS 7
  kernel centos7/vmlinuz
                         initrd=centos7/initrd.img
                 append
method=http://10.0.0.11/iso devfs=nomount
label 2
  menu label ^2) Boot from local drive
  localboot
EOF
sudo yum install -y httpd
cat << EOF | sudo tee /etc/httpd/conf.d/pxeboot.conf</pre>
Alias /iso /mnt
<Directory /mnt>
   Require ip 127.0.0.1 10.0.0.0/24
```

EOF	rectory>							
sudo sudo	systemc systemc	tl enab tl disal	leno olen	w htt ow fi	od rewalld			
PXE	IS0							
Virt	ualbox -	VM - Se	ettings					
(NIC NIC	dhcpd			NIC	.)		
VM S	itart -	F12	- Boot	t Mana	iger - l) LAN (L)
Cent	:0S							
PXE								
PXE		PC initrd(, <u> </u>)	Cent	OS 가 CentOS		
(kickstart)	가 가 가	nfs	, 가	PXE			

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