Linux basic commands 2

오늘 다룰 주제

- Package management
- System & Service management
- Log processing on bash

Package manager

RPM, YUM, DNF, DPKG, APT...

소프트웨어를 배포하고 싶은데...

소스 코드에서 빌드 OR 미리 빌드된 결과물

RPM
- Red hat Package Manager
- .rpm 확장자 패키지 (debian - .deb)

YUM, DNF(Dandified YUM)
- RPM 기반 패키지 매니저
- 패키지간의 의존성, 온라인 저장소

RPM Package

interactive, rpm based, package manager

- 패키지 정보 검색
- 패키지 설치
- 패키지 업데이트
- 패키지 삭제
- 사용 가능한 저장소 목록
- 저장소 추가/삭제
- 저장소 활성화/비활성화

Yum

interactive, rpm based, package manager

- 패키지 정보 검색
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Yum - check-update

yum check-update
- 업데이트 가능한 패키지 목록

```
[root@ip-172-16-1-77 ~]# yum check-update
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd

amazon-ssm-agent.x86_64          2.3.228.0-1.amzn2          amzn2-core
irqbalance.x86_64                2:1.5.0-2.amzn2.0.1        amzn2-core
kernel.x86_64                    4.14.77-80.57.amzn2        amzn2-core
kernel-headers.x86_64            4.14.77-80.57.amzn2        amzn2-core
kernel-tools.x86_64              4.14.77-80.57.amzn2        amzn2-core
kmod.x86_64                      25-3.amzn2.0.2             amzn2-core
kmod-libs.x86_64                 25-3.amzn2.0.2             amzn2-core
lz4.x86_64                       1.7.5-2.amzn2.0.1          amzn2-core
nss.x86_64                       3.36.0-7.amzn2             amzn2-core
nss-sysinit.x86_64               3.36.0-7.amzn2             amzn2-core
nss-tools.x86_64                 3.36.0-7.amzn2             amzn2-core
openssl.x86_64                   1:1.0.2k-16.amzn2.0.1      amzn2-core
openssl-libs.x86_64              1:1.0.2k-16.amzn2.0.1      amzn2-core
```

Yum - update

yum update <package-name>...
- 지정 패키지들 혹은 전체 패키지 업데이트

```
================================================================================
 Package         Arch      Version                      Repository     Size
================================================================================
Updating:
 openssl         x86_64    1:1.0.2k-16.amzn2.0.1        amzn2-core    496 k
Updating for dependencies:
 openssl-libs    x86_64    1:1.0.2k-16.amzn2.0.1        amzn2-core    1.2 M

Transaction Summary
================================================================================
Upgrade  1 Package (+1 Dependent package)

Total download size: 1.7 M
Is this ok [y/d/N]:
```

Yum – search

yum search <search-string>...
- 검색 단어를 패키지의 이름과 설명에서 검색

```
[root@ip-172-16-1-77 ~]# yum search htop vim
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
============================ N/S matched: htop ============================
htop.x86_64 : Interactive process viewer

============================ N/S matched: vim =============================
protobuf-vim.x86_64 : Vim syntax highlighting for Google Protocol
                    : Buffers descriptions
vim-X11.x86_64 : The VIM version of the vi editor for the X Window
               : System
vim-common.x86_64 : The common files needed by any version of the VIM
                  : editor
vim-enhanced.x86_64 : A version of the VIM editor which includes recent
                    : enhancements
vim-filesystem.x86_64 : VIM filesystem layout
vim-minimal.x86_64 : A minimal version of the VIM editor
```

Yum - list

yum list <glob-expression>...
- 표현식에 맞는 패키지 목록

yum list installed <glob-expression>
- 표현식에 맞는 설치된 패키지 목록

```
[root@ip-172-16-1-77 ~]# yum list vim
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Error: No matching Packages to list
[root@ip-172-16-1-77 ~]# yum list vim-*
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Installed Packages
vim-common.x86_64              2:7.4.160-4.amzn2.0.16          installed
vim-enhanced.x86_64            2:7.4.160-4.amzn2.0.16          installed
vim-filesystem.x86_64          2:7.4.160-4.amzn2.0.16          installed
vim-minimal.x86_64             2:7.4.160-4.amzn2.0.16          installed
Available Packages
vim-X11.x86_64                 2:7.4.160-4.amzn2.0.16          amzn2-core
```

Yum – repolist

yum repolist [enabled|disabled|all]
- 활성/비활성/전체 저장소 목록

```
[root@ip-172-16-1-77 ~]# yum repolist all
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
repo id                                repo name                status
amzn2-core/2/x86_64                    Amazon Linux 2 cor enabled: 15,262
amzn2-core-debuginfo/2/x86_64          Amazon Linux 2 cor disabled
amzn2-core-source/2                    Amazon Linux 2 cor disabled
amzn2extra-docker/2/x86_64             Amazon Extras repo enabled:      7
amzn2extra-docker-debuginfo/2/x86_64 Amazon Extras debu disabled
amzn2extra-docker-source/2             Amazon Extras sour disabled
amzn2extra-epel/2/x86_64               Amazon Extras repo disabled
amzn2extra-epel-debuginfo/2/x86_64     Amazon Extras debu disabled
amzn2extra-epel-source/2               Amazon Extras sour disabled
repolist: 15,269
```

Yum – info

yum info <package-name>
- 패키지 정보

```
[root@ip-172-16-1-77 ~]# yum info docker
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Available Packages
Name        : docker
Arch        : x86_64
Version     : 18.06.1ce
Release     : 4.amzn2
Size        : 37 M
Repo        : amzn2extra-docker/2/x86_64
Summary     : Automates deployment of containerized applications
URL         : http://www.docker.com
License     : ASL 2.0 and MIT and BSD and MPLv2.0 and WTFPL
Description : Docker is an open-source engine that automates the
            : deployment of any application as a lightweight, portable,
            : self-sufficient container that will run virtually
            : anywhere.
```

Yum – install

yum install <glob-exp>...
- 패키지 설치

```
Resolving Dependencies
--> Running transaction check
---> Package htop.x86_64 0:2.0.2-1.amzn2.0.2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package   Arch        Version                    Repository       Size
================================================================================
Installing:
 htop      x86_64      2.0.2-1.amzn2.0.2          amzn2-core       98 k

Transaction Summary
================================================================================
Install  1 Package
```

Yum - remove

yum remove <glob-exp>...
- 패키지 삭제

```
Resolving Dependencies
--> Running transaction check
---> Package htop.x86_64 0:2.0.2-1.amzn2.0.2 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package    Arch         Version                    Repository         Size
================================================================================
Removing:
 htop       x86_64       2.0.2-1.amzn2.0.2          @amzn2-core       207 k

Transaction Summary
================================================================================
Remove  1 Package
```

System – date and time

date

timedatectl

timedatectl set-timezone Asia/Seoul

```
        RTC time: Mon 2018-11-12 11:49:54
[root@ip-172-16-1-77 ~]# timedatectl
      Local time: Mon 2018-11-12 20:51:52 KST
  Universal time: Mon 2018-11-12 11:51:52 UTC
        RTC time: Mon 2018-11-12 11:51:52
       Time zone: Asia/Seoul (KST, +0900)
     NTP enabled: yes
NTP synchronized: no
 RTC in local TZ: no
      DST active: n/a
[root@ip-172-16-1-77 ~]# date
Mon Nov 12 20:52:02 KST 2018
```

System – locale

locale

localectl

localectl set-locale LANG=ko_KR.utf8

```
[root@ip-172-16-1-77 ~]# date
Mon Nov 12 21:45:31 KST 2018
[root@ip-172-16-1-77 ~]# LC_TIME=ko_KR.utf8 date
2018. 11. 12. (월) 21:45:39 KST
```

systemd

SysV init 을 대체하는 새로운 PID 1

systemd 는…
- 필요한 최소 서비스 시작
- 병렬적으로 시작

systemd 는…
- 시스템 부팅 프로세스
- 서비스/시스템 관리
- 소켓/타이머/마운트/장치…

systemd – start/stop service

systemctl start <service>
systemctl stop <service>
- 서비스 시작/종료

```
[root@ip-172-16-1-77 ~]# systemctl stop nginx
[root@ip-172-16-1-77 ~]# systemctl status nginx
● nginx.service - The nginx HTTP and reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; disabled;
   Active: inactive (dead)
  Process: 4207 ExecStartPre=/usr/sbin/nginx -t (code=exited,
  Process: 4206 ExecStartPre=/usr/bin/rm -f /run/nginx.pid (c
 Main PID: 4213 (nginx)
   CGroup: /system.slice/nginx.service
           ├─4213 nginx: master process /usr/sbin/nginx
           └─4214 nginx: worker process
```

systemd – restart/reload service

systemctl restart <service>
systemctl reload <service>
- 서비스 재시작/리로드

ExecStartPre=/usr/sbin/nginx -t
ExecStart=/usr/sbin/nginx
ExecReload=/bin/kill -s HUP $MAINPID
KillSignal=SIGQUIT

```
[root@ip-172-16-1-77 ~]# systemctl reload nginx
[root@ip-172-16-1-77 ~]# systemctl status nginx | grep Active
   Active: active (running) since Tue 2018-11-13 01:33:30 KST; 1min 7s ago
```

systemd - enable/disable

systemctl enable <service>
systemctl disable <service>
systemctl is-enabled <service>
- 서비스 활성/비활성화 (Install 섹션 명시)

```
[root@ip-172-16-1-77 ~]# systemctl is-enabled nginx
disabled
[root@ip-172-16-1-77 ~]# systemctl enable nginx
Created symlink from /etc/systemd/system/multi-user.target.wants
```

```
[root@ip-172-16-1-77 ~]# systemctl is-enabled nginx
enabled
[root@ip-172-16-1-77 ~]# systemctl disable nginx
Removed symlink /etc/systemd/system/multi-user.target.wants/nginx.service.
```

systemd – status,daemon-reload

systemctl status <service>
- 서비스 상태 확인

systemctl daemon-reload
- systemd 가 관리하는 unit 설정 리로드