



SA Introduction

Take Web Server as Example

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Outline

- Requirements
- Installation
- Maintenance
 - routine
 - error
- Example: Web Server

Requirements

- Passion
- Patience
- Carefulness

Installation

1. Choose which software to use
2. Backup or snapshot
3. Install it with instructions and make sure you know what you are doing
4. Make sure it is running
 - even better, make sure it is running after reboot

Maintenance (routine)

- Make sure the OS and packages are up-to-date
- Make sure the error reporting system works
 - monitoring
 - root mail & log mail
- Make sure the monitoring system and logging system works
 - make sure it reports error when app is down
 - make sure it logs important messages (e.g., level above `info`)
 - you have to know where the log is

Maintenance (error)

When errors occur, log is always your best friend

1. Check the log

- system log (`/var/log/messages`)
- application log
(`/var/log/nginx/error.log`)

2. Try to find out what happened from log

- That is why you have to know what you have done

3. Remember to backup and snapshot before making significant changes

Example: Web Server

Installation

1. We choose Nginx
 - since it is newer
2. Take snapshot
3. `apt install nginx`
4. `systemctl status nginx`
 - `systemctl enable nginx`

Example: Web Server

Maintenance (routine)

- `apt upgrade`
 - manually or by cronjob
- Setup monitoring system (e.g., Grafana) and configure syslog properly
- Check
 - whether the root mail is sent on a regular basis
 - whether monitoring system reports error after shutting down Nginx

Example: Web Server

Maintenance (error)

1. Check

- `/var/log/messages`
- `/var/log/nginx/error.log`

2. Recall what you have done and try to find out what happened

- If you don't have any idea, just try to restart it

3. Fix it, take snapshot before making big changes