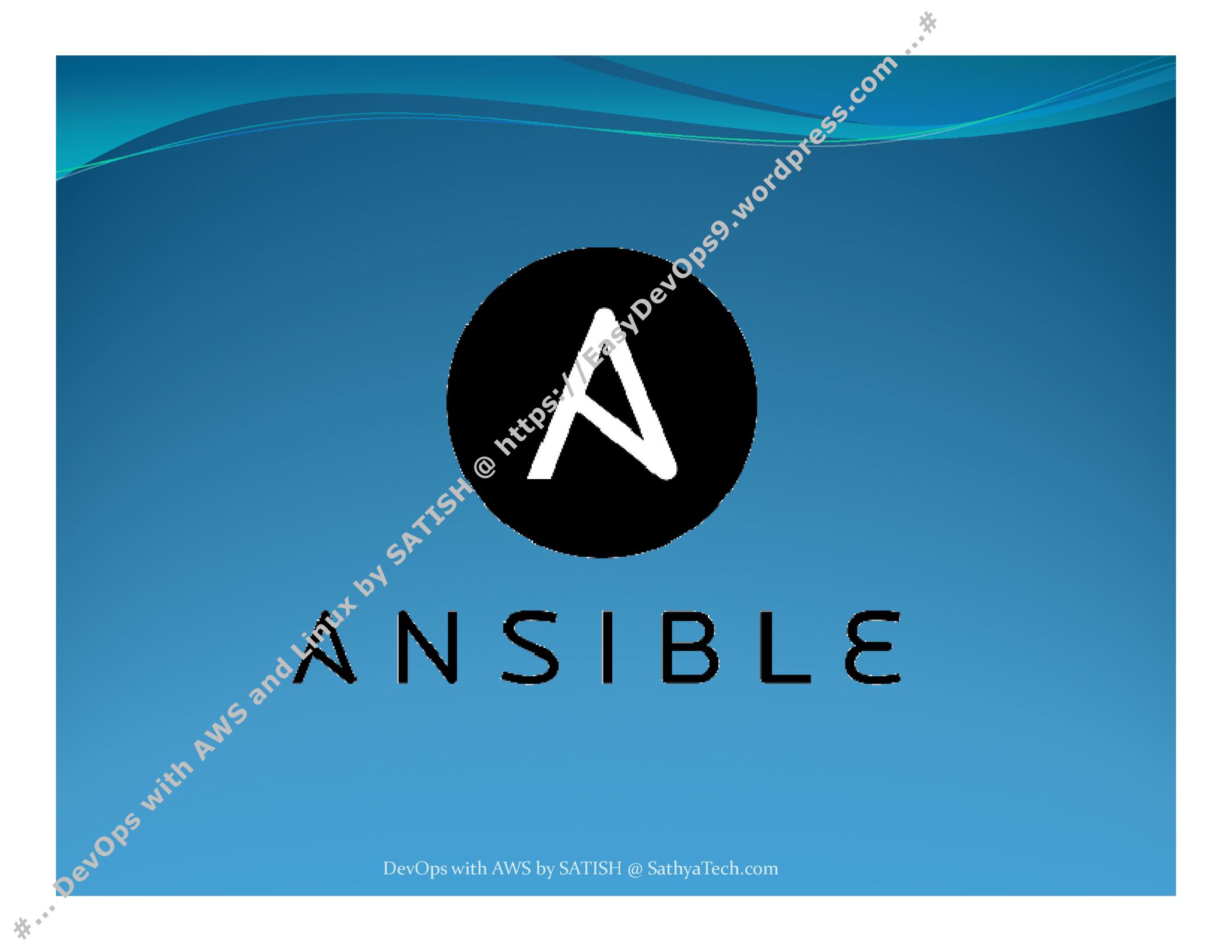




# ANSIBLE

DevOps with AWS by SATISH @ SathyaTech.com



# Ansible Templates

- Templates will copies the source file to the target hosts destination.
- While the template module gets executed it will read the template file and change all the variables to its value and copy the file to the target host.
- Template file ends with .j2 extension which stands for Jinja2 templates.

# Ansible Templates

**Ex-1:**

```
# cd playbooks  
# mkdir templates  
# cd templates  
# vi demo.j2
```

```
<h1> Hello World </h1>  
<h1> Good day {{var2}}</h1>  
<h1> Nice day {{var2}}</h1>
```

# Ansible Templates

```
root@ansible-mstr:~# cat playbooks/pb1.yml
```

```
---
```

```
- hosts: app  
become: true  
gather_facts: yes
```

```
vars:
```

```
- var1: SathyaTech  
- var2: DevOps!
```

```
tasks:
```

```
- name: to install httpd  
ansible.builtin.yum:  
  name: httpd  
  update_cache: yes  
  state: present
```

# Ansible Templates

```
- name: to deploy a file  
  ansible.builtin.template:  
    src: demo.j2  
    dest: /var/www/html/index.html
```

```
- name: to start service  
  ansible.builtin.systemd:  
    name: httpd  
    state: started
```

# Ansible Templates

## Ex-2: To change Tomcat port

```
# apt-get install tomcat9 -y  
# find / -name server.xml  
# cp /etc/tomcat9/server.xml  
    playbooks/templates/server.j2  
  
# vi playbooks/templates/server.j2  
  
<Connector port="{{myport}}" .....
```

# Ansible Templates

```
# cat playbooks/pb1.yml
```

```
---
```

```
- hosts: app
  become: true
  gather_facts: yes
  vars:
    - pack1: java
    - pack2: tomcat
  vars_prompt:
    - name: myport
      prompt: Enter New Tomcat Port
      private: no
```

# Ansible Templates

tasks:

- name: to install {{pack1}}

```
ansible.builtin.yum:
```

```
    name: "{{pack1}}"
```

```
    update_cache: yes
```

```
    state: present
```

- name: to install {{pack2}}

```
ansible.builtin.yum:
```

```
    name: "{{pack2}}"
```

```
    update_cache: yes
```

```
    state: present
```

```
    notify: start tomcat
```

# Ansible Templates

```
- name: to change tomcat port
  ansible.builtin.template:
    src: server.j2
    dest: /etc/tomcat/server.xml
    notify: restart tomcat
```

## handlers:

```
- name: start tomcat
  ansible.builtin.systemd:
    name: tomcat
    state: started

- name: restart tomcat
  ansible.builtin.systemd:
    name: tomcat
    state: restarted
```

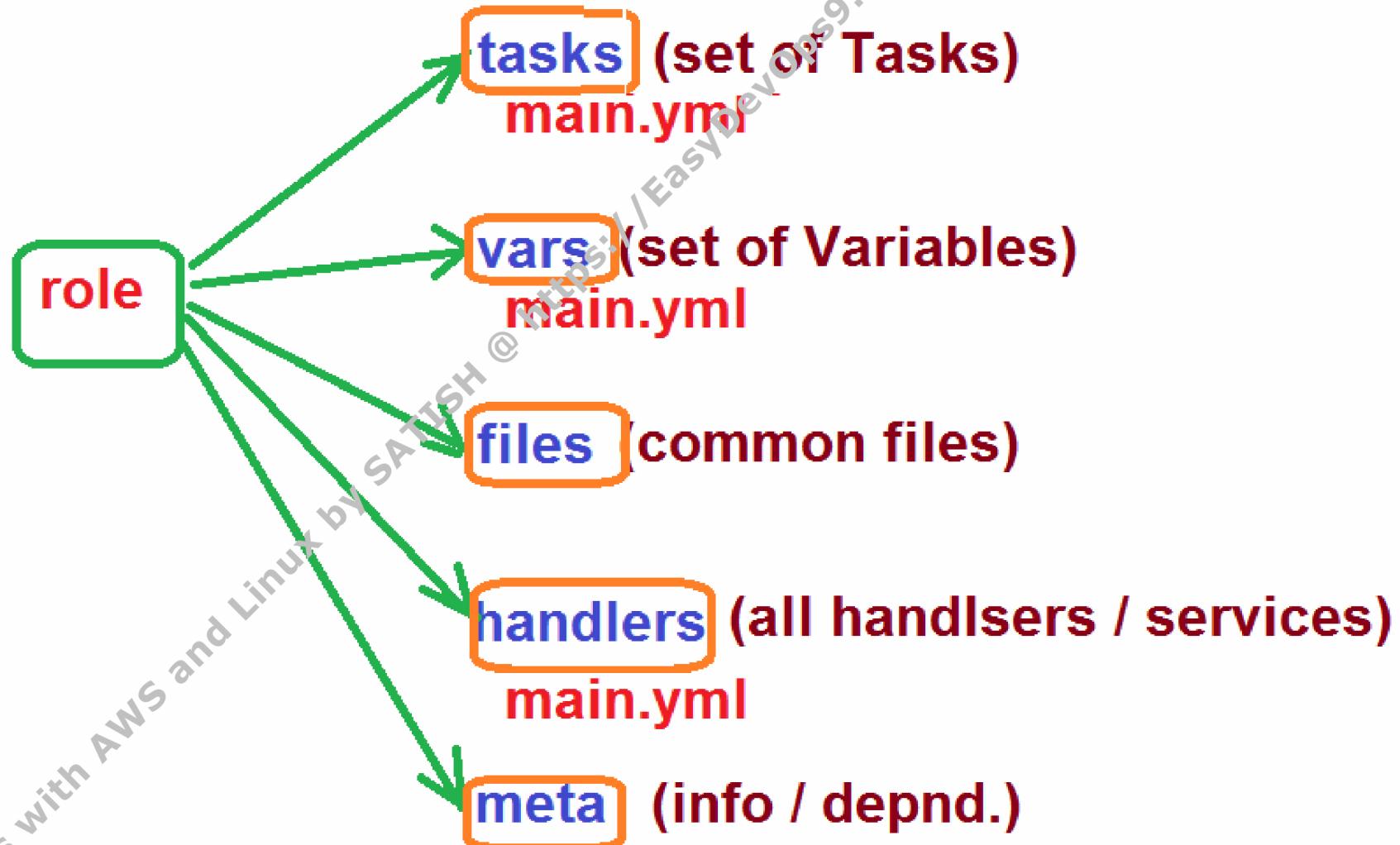
# Ansible role

- The Ansible roles is the organized way to perform the tasks in different playbooks according their functionality in a directory structure way.
- Roles allow you to call a set of variables, tasks, and handlers by simply specifying a defined role.
- In role inside every directory we have the main.yml file

# Ansible Role directory structure

- **tasks** : a series of tasks are defined here
- **handlers**: all handlers are defined here
- **vars** : all the variables are defined here
- **files** : all the files will place inside this dir
- **meta**: It is used to declare role dependences and info. about a role

# common role directory structure



# common role directory structure

```
root@ans-masr:~/playbooks# tree roles/
roles/
└── myrole
    ├── files
    │   ├── index.html
    │   └── sample.war
    ├── handlers
    │   └── main.yml
    ├── meta
    ├── tasks
    │   ├── deploy_app.yml
    │   ├── main.yml
    │   └── pack_install.yml
    └── vars
        └── main.yml
```

```
# cd playbooks
# mkdir roles
# cd roles/
# mkdir -p myrole/{meta,files,tasks,vars,handlers}

# cd files/
# vi index.html
<h1> hello world </h1>
.....
# wget https://tomcat.apache.org/sample.war
```

```
# cd vars/  
# cat main.yml  
pack1: nginx  
pack2: openjdk-11-jdk  
pack3: tomcat9  
pack4: mysql-server
```

```
# cd handlers/
# cat main.yml
- name: start web
  ansible.builtin.service:
    name: nginx
    state: started

- name: start app
  ansible.builtin.service:
    name: tomcat9
    state: started

- name: start db
  ansible.builtin.service:
    name: mysql
    state: started
```

```
# cd tasks/
# cat pack_install.yml
- name: to install web-server
  ansible.builtin.apt:
    name: "{{pack1}}"
    state: present
    notify: start web

- name: to install java
  ansible.builtin.apt:
    name: "{{pack2}}"
    state: present
```

```
- name: to install app-server  
ansible.builtin.apt:  
    name: "{{pack3}}"  
    state: present  
    notify: start app
```

```
- name: to install db-server  
ansible.builtin.apt:  
    name: "{{pack4}}"  
    state: present  
    notify: start db
```

```
# cat file_deploy.yml
- name: to deploy index.html
  ansible.builtin.copy:
    src: index.html
    dest: /var/www/html/index.html

- name: to deploy sample.war
  ansible.builtin.copy:
    src: sample.war
    dest: /var/lib/tomcat9/webapps/sample.war
```

```
# cat main.yml
- include: pack_install.yml
- include: file_deploy.yml
```

```
# cat playbooks/pb1.yml
```

```
---
- hosts: web
  become: true
  gather_facts: yes
  roles:
    - myrole
```

```
# apt-get install tree -y
```

```
# tree roles/
roles/
└── myrole
    ├── files
    │   ├── index.html
    │   └── sample.war
    ├── handlers
    │   └── main.yml
    ├── meta
    ├── tasks
    │   ├── file_deploy.yml
    │   ├── main.yml
    │   └── pack_install.yml
    └── vars
        └── main.yml
```

## To Execute Ansible Role:

```
#ansible-playbook playbooks/myrole.yml  
--syntax-check
```

```
#ansible-playbook playbooks/myrole.yml
```