

Ansible

Ansible Environment

To use Ansible, generally you create a “playbooks” directory in your /home/user/, then get the following filesystem inside :

```

playbooks:-> <role_name>.yaml (Playbooks to run, often matches the name of a
single role you want to run, or
|
|         another when you run several roles)
|-> inventory.ini (List of all servers to run playbooks on, with
host specific variables)
|-> isc_compute.ini (Chacha Disco and Tango for example)
|-> labs.ini (Calypso lab nodes)
|-> test.ini (Custom list for testing)
|-> users.yaml (The main source for users IDs and assignation
of groups, since we don't have access
|
|         to the HES LDAP to manage groups ourselves
there. Contains UID/GID, shell and pass
|
|         only for the default/rescue user)
|-> ansible.cfg (Ansible local configuration for your user :
python interpreter version for example)
|
L-> roles:-> <rolename>:
|
|         L-> files: (Contains all files needed
for your playbook, ansible checks this
|         |         directory first when you
reference a file)
|         L-> authorized_keys/remi.key
|         L-> remi_home.tar.gz
|
|         L-> handlers: (Small repetitive tasks to
be called in a playbook, like restart a
|         |         systemd service)
|         L->
restart_mysql_then_apache.yaml
|
|         L-> tasks: (Main dir for all tasks to
run)
|         L-> main.yaml (The first task
called when the role is run)
|         L-> isc3.yaml (Supplementary
tasks you can call in your main task)
|
|         L-> vars:
|         L-> Specific variable file for the
role

```

Ansible is made to run all playbooks using this "playbooks" dir as your working directory. From there all relative paths works as intended.

You can use some pre-defined playbooks using the Galaxy store :

```
# List installed roles :
ansible-galaxy collection list

# Installs a role from prometheus space called prometheus too :
ansible-galaxy collection install prometheus.prometheus
```

You can run playbooks simply like this :

```
ansible-playbook -i labs.ini calypso-sys.yml
```

Or with more options :

```
# Run only on calypso0 and calypso1, import the users.yml variable file to
have all users UID/GID, start the playbook at the step that runs the ISC2
task
ansible-playbook -i labs.ini calypso-sys.yml --limit calypso0,calypso1 --
extra-vars='@users.yml' --start-at-task="Check or Add ISC2 users"
```

Ansible playbooks

For now that we don't really have a server for this purpose, I'm using my laptop to deploy configurations using Ansible. (Remi)

```
playbooks:-> <role_name>.yaml (Playbooks to run)
            |-> inventory.ini (List of all servers to run playbooks on)
            |-> isc_compute.ini (Chacha and Disco for example)
            |-> labs.ini (Calypso nodes)
            |-> test.ini (Custom list)
            |-> users.yml (The main source for users IDs and assignation
of groups, since we don't have access
            | to the HES LDAP to manage groups ourselves
there. Contains UID/GID, shell and pass
            | only for the default/rescue user)
            L-> roles:-> calypso-sys: (Configures all calypso worker nodes,
with all
            | users, software, and system configs)
            |-> isc_compute: (Configures Disco and Chacha users,
software and system configs)
            |-> julia: (Installs Julia for a user, since
there are no system-wide install)
```

```

nodes)
    |-> k8s: (Configures Kubernetes on all Calypso
nodes)
    |-> learn (TODO: Started a playbook to configure
from scratch a webserver with all
    | Moodle prerequisites, to rebuild
Hannibal in minutes)
    |-> master-sys: (Configures system configs specific on
calypsomaster only)
    |-> munge: (Needed to authenticate SLURM nodes on
Calypso and ISC Compute)
    |-> nvidia-cuda: (Needed to allow servers to use Nvidia
GPUs)
    |-> prometheus: (Empty, TODO : Installs prometheus
exporters and server, separate in 2
    | playbooks)
    |-> rumba-sys: (Configures rumba master, with all
    | users, software, and system configs)
    |-> slurm_research_TODO: (Empty, TODO : redo all
installation part from compilation
    | install, separate install from
config)
    |-> slurm_calypso: (Empty, TODO : redo all installation
part from compilation
    | install, separate install from
config)
    |-> slurm_calypso_old : (Old installation of SLURM using
ubuntu outdated packages)
    L-> vps: (Installs or checks base system
config / users for Hannibal/Hasdrubal)

```

Ansible roles

Calypso-sys

Manages all Calypso lab servers configurations.

```

calypso-sys/-> tasks/-> main.yml (All tasks to configure timezone, system
umask, groups and users, default user,
    | base packages, ssh keys deployment, NFS
homes configs, symlinks in each home,
    | fastfetch install, systemd tweaks to
fasten boot time, set /etc/hosts entries,
    | put sudoers files, install Aptainer,
then run isc[1,2,3].yaml tasks )
    | |-> root.yml (Specific root user configuration)
    | |-> iscx.yml (Configures students accounts for
isc[1,2,3] class)
    |

```

```
|-> files/-> authorized_keys/-> user.name (SSH public keys to
deploy for each user)
|
|-> admin_user_home_config/ (Containing configs
like .zshrc, .config/ and .oh-my-zsh/ )
|
|-> sudoers.d/username (Containing sudoers
specific files for a user, without
dot in the name)
```

From:
<https://wiki.isc-vs.ch/> - **The ISC wiki**

Permanent link:
<https://wiki.isc-vs.ch/doku.php?id=administratif:tooling:ansible&rev=1758895364>

Last update: **2025/09/26 14:02**

