

## ЛР 2. Ansible + Caddy

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Работу выполнили на удаленном сервере.

1. Проверяем, что сервер с Ansible подключился к “клиенту” (в нашем случае это одна и та же машина, localhost)

```
root@boton:~# cd lab_2/
root@boton:~/lab_2# ansible my_servers -m ping -c local
[WARNING]: Platform linux on host local_server is using the discovered Python interpreter at /usr/bin/python3.10, but
Future installation of another Python interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
local_server | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.10"
  },
  "changed": false,
  "ping": "pong"
}
root@boton:~/lab_2#
```

2. Пробуем выполнить команду посложнее на нашем клиенте

Создаем текстовый файл с произвольным содержимым, через модуль shell: `ansible my_servers -c local -m shell -a 'echo test_file_content > $HOME/test.txt'`

Проверяем, что по нужному пути создан нужный файл с нужным именем и содержимым

Удаляем файл через модуль file: `ansible my_servers -c local -m file -a 'path=$HOME/test.txt state=absent'`

```
root@boton:~/lab_2# ansible my_servers -c local -m shell -a 'echo test_file_content > $HOME/test.txt'
[WARNING]: Platform linux on host local_server is using the discovered Python interpreter at /usr/bin/python3.10, but
Future installation of another Python interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
local_server | CHANGED | rc=0 >>
```

```
root@boton:~# ls
get-pip.py  lab_2  marzban.txt  test.txt
root@boton:~#
```


```
root@boton:~/lab_2# ansible my_servers -c local -m file -a 'path=$HOME/test.txt state=absent'
[WARNING]: Platform linux on host local_server is using the discovered Python interpreter at /usr/bin/python3.10, but
Future installation of another Python interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
local_server | OK | rc=0 >>
{
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.10"
  },
  "changed": true,
  "path": "/root/test.txt",
  "state": "absent"
}
```

3. Для начала создадим в рабочей директории папку roles и в ней инициализируем исходное конфигурационное “дерево”: `ansible-galaxy init caddy_deploy`

```
root@boton:~/lab_2# tree
.
├── ansible.cfg
├── caddy_deploy.yml
├── inventory
├── hosts
└── roles
    └── caddy_deploy
        ├── defaults
        │   └── main.yml
        ├── files
        ├── handlers
        │   └── main.yml
        ├── meta
        │   └── main.yml
        ├── README.md
        ├── tasks
        │   └── main.yml
        ├── templates
        │   └── Caddyfile.j2
        ├── tests
        │   ├── inventory
        │   └── test.yml
        └── vars
            └── main.yml

11 directories, 12 files
root@boton:~/lab_2#
```

#### 4. Регистрируем себе бесплатный домен на ip-адрес ВМ на сервисе duckdns.org



## Duck DNS

account Kew1710@github  
type free  
token 111acea4-a495-4601-9fc2-7931861bd433  
token generated 1 day ago  
created date 11 Dec 2024, 16:37:34

domains 1/5

http://  .duckdns.org

domain	current ip	ipv6	changed
lab2net	<input type="text" value="77.234.209.96"/> <input type="button" value="update ip"/>	<input type="text" value="ipv6 address"/> <input type="button" value="update ipv6"/>	1 day ago <input type="button" value="delete domain"/>

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#### 5. Снова запускаем обновленный плейбук

```
PLAY [Install and configure Caddy webserver] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host local_server is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
[local_server]
TASK [caddy_deploy : Install prerequisites] *****
[local_server]
TASK [caddy_deploy : Add key for Caddy repo] *****
[local_server]
TASK [caddy_deploy : add Caddy repo] *****
[local_server]
TASK [caddy_deploy : add Caddy src repo] *****
[local_server]
TASK [caddy_deploy : Install Caddy webserver] *****
[local_server]
TASK [caddy_deploy : Create config file] *****
[local_server]
TASK [caddy_deploy : Reload with new config] *****
changed: [local_server]
PLAY RECAP *****
local_server : ok=6 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
root@boton:~/lab_2#
root@boton:~/lab_2# cat /etc/caddy/Caddyfile
lab2net.duckdns.org {
    root * /usr/share/caddy
    file_server

    log {
        output file /var/log/caddy_access.log
        format json
        level INFO
    }
}
```

**1. Переписать пример с созданием и удалением файла из шага 5 Части 1 с ad-hoc команд на плейбук формат, а так же добавить четвертый шаг - перед удалением поменять содержимое файла на любое другое.**

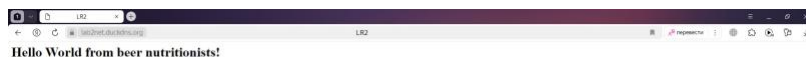
```
- name: Task 1
  hosts: my_servers
  connection: local
  tasks:
    - name: Create a text file with initial content
      shell: 'echo test_file_content > {{ ansible_env.HOME }}/test.txt'
      register: create_file_output

    - name: Check if the file exists and contains the correct content
      command: "cat {{ ansible_env.HOME }}/test.txt"
      register: file_content_check
      failed_when: "'test_file_content' not in file_content_check.stdout"

    - name: Change the content of the file
      shell: 'echo new_test_content > {{ ansible_env.HOME }}/test.txt'
      when: file_content_check is succeeded

    - name: Delete the test file
      file:
        path: "{{ ansible_env.HOME }}/test.txt"
        state: absent
```

**2. “Расширить” конфиг вебсервера Caddy любым функционалом по желанию: например, добавить проксирование, или какие-нибудь заголовки (header). Вместо дефолтной страницы Caddy подставить свою, хотя бы index.html с Hello world внутри. Добавить это в качестве дополнительного шага в tasks**



## Обновленный Caddyfile.j2

```
{{ domain_name }} {  
    root * /var/www/html  
    file_server  
  
    log {  
        output file {{ log.file }}  
        format json  
        level {{ log.level }}  
    }  
  
    header / {  
        X-Custom-Header "Hello from Caddy"  
    }  
  
    reverse_proxy /api/* localhost:3000  
}
```

## Обновленный main.yml

```
---  
# tasks file for caddy_deploy  
  
- name: Install prerequisites  
  apt:  
    pkg:  
    - debian-keyring  
    - debian-archive-keyring  
    - apt-transport-https  
    - curl  
  
- name: Add key for Caddy repo  
  apt_key:  
    url: https://dl.cloudsmith.io/public/caddy/stable/gpg.key  
    state: present  
    keyring: /usr/share/keyrings/caddy-stable-archive-keyring.gpg  
  
- name: add Caddy repo  
  apt_repository:  
    repo: "deb [signed-by=/usr/share/keyrings/caddy-stable-archive-keyring.gpg]  
https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version main"  
    state: present  
    filename: caddy-stable  
  
- name: add Caddy src repo  
  apt_repository:  
    repo: "deb-src [signed-by=/usr/share/keyrings/caddy-stable-archive-keyring.gpg]  
https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version main"  
    state: present  
    filename: caddy-stable
```

```
- name: Install Caddy webserver
apt:
  name: caddy
  update_cache: yes
  state: present

- name: Create config file
template:
  src: templates/Caddyfile.j2 # Откуда берем
  dest: /etc/caddy/Caddyfile # Куда кладем

- name: Create /var/www/html directory
file:
  path: /var/www/html
  state: directory
  owner: www-data
  group: www-data
  mode: '0755'

- name: Create custom index.html
copy:
  content: |
    <html>
      <head>
        <title>LR2</title>
      </head>
      <body>
        <h1>Hello World from beer nutritionists!</h1>
      </body>
    </html>
  dest: /var/www/html/index.html
  owner: www-data
  group: www-data
  mode: '0664'

- name: Reload with new config
service:
  name: caddy
  state: reloaded
```