

# sdnog users creation using Ansible

## Ansible Playbook: Sudo Users creation with SSH Keys

This page was written by Manhal Mohamed, sdnog team, on 11 August 2024.

This Ansible playbook configures users with sudo privileges, sets up SSH keys, and requires users to change their password upon first login.

### Overview

The playbook performs the following tasks:

1. Installs necessary packages based on the operating system (Debian/Ubuntu or RedHat/CentOS).
2. Checks if users already exist.
3. Generates passwords for new users.
4. Creates new users with these passwords and assigns them to the sudo group.
5. Sets passwords to expire upon the user's first login.
6. Deploys SSH public keys for users.
7. Sends the password to users via email.

### Variables

- **users:** A list of users to be created, each with the following attributes:
  - **username:** The username for the new account.
  - **ssh\_key:** The SSH public key to be deployed for the user.
  - **email:** The email address where the password will be sent.

### Tasks

#### Task 1. Install Required Packages

For Debian/Ubuntu

```
- name: needed packages are installed (Debian/Ubuntu)
  apt:
```

```
name: "{{ item }}"
state: latest
loop: ["sudo", "openssh-server", "mailutils"]
when: ansible_facts['os_family'] == "Debian"
```

## For RedHat/CentOS

```
- name: needed packages are installed (RedHat/CentOS)
yum:
  name: "{{ item }}"
  state: latest
loop: ["sudo", "openssh-server", "mailx"]
when: ansible_facts['os_family'] == "RedHat"
```

## Task 2. Check if Users Exist and Set Facts for New Users

```
- name: Check if users exist and set fact for new users
command: "getent passwd {{ item.username }}"
register: user_check
loop: "{{ users }}"
changed_when: false
failed_when: false
```

## Task 3. Generate Passwords for New Users

```
- name: Generate passwords for new users
set_fact:
  user_passwords: "{{ user_passwords | default({}) | combine({item.item.username: lookup('password', '/dev/urandom', length=16)}) }}"
loop: "{{ user_check.results }}"
when: item.stdout == ""
```

## Task 4. Create New Users with Plain-Text Passwords

```
- name: Create new users with plain-text passwords if they do not exist
user:
  name: "{{ item.username }}"
  password: "{{ user_passwords[item.username] | default('') | password_hash('sha512') }}"
  groups: sudo
  append: yes
  create_home: yes
  shell: /bin/bash
  update_password: on_create
  expires: -1
loop: "{{ users }}"
when: item.username in user_passwords
```

## Task 5. Set Password to Expire Upon First Login

```
- name: Set password to expire upon first login for newly created users
command: chage -d 0 "{{ item.username }}"
loop: "{{ users }}"
when: item.username in user_passwords
```

## Task 6. Deploy SSH Public Keys for the Users

```
- name: Deploy SSH public keys for the users
authorized_key:
  user: "{{ item.username }}"
  state: present
  key: "{{ item.ssh_key }}"
loop: "{{ users }}"
```

## Task 7. Send Password to Users via Email

```
- name: Send password to users via email
mail:
  host: relay.example.com
  port: 25
  to: "{{ item.email }}"
  subject: "Your new account password"
  body: |
    Dear {{ item.username }},

    Your new account has been created on the following host: {{ ansible_host }}.

    Username: {{ item.username }}
    Password: {{ user_passwords[item.username] }}

    Please change your password upon first login.
    **Note:** This is an automated message generated by Ansible. Please do not reply to this email.

    Best regards,
    Sdnog Team

  from: sdnog-ansible-at-email.com
loop: "{{ users }}"
when: item.username in user_passwords
```

## Appendix : The Full Code

```
- name: Configure sudo users with SSH keys and require password change on first login
hosts: host-ip-address
become: true
vars:
  users:
```

- username: sdnog-user  
ssh\_key: "ssh-ed25519 some SSH KEY here eddsa-key-20240807"  
email: "email-at-example.com"

tasks:

- name: needed packages are installed (Debian/Ubuntu)  
apt:  
  name: "{{ item }}"  
  state: latest  
  loop: ["sudo", "openssh-server", "mailutils"]  
  when: ansible\_facts['os\_family'] == "Debian"
- name: needed packages are installed (RedHat/CentOS)  
yum:  
  name: "{{ item }}"  
  state: latest  
  loop: ["sudo", "openssh-server", "mailx"]  
  when: ansible\_facts['os\_family'] == "RedHat"
- name: Check if users exist and set fact for new users  
command: "getent passwd {{ item.username }}"  
register: user\_check  
loop: "{{ users }}"  
changed\_when: false  
failed\_when: false
- name: Generate passwords for new users  
set\_fact:  
  user\_passwords: "{{ user\_passwords | default({}) | combine({item.item.username: lookup('password', '/dev/urandom', length=16)}) }}"  
loop: "{{ user\_check.results }}"  
when: item.stdout == ""
- name: Create new users with plain-text passwords if they do not exist  
user:  
  name: "{{ item.username }}"  
  password: "{{ user\_passwords[item.username] | default('') | password\_hash('sha512') }}"  
  groups: sudo  
  append: yes  
  create\_home: yes  
  shell: /bin/bash  
  update\_password: on\_create  
  expires: -1  
  loop: "{{ users }}"  
  when: item.username in user\_passwords
- name: Set password to expire upon first login for newly created users  
command: chage -d 0 "{{ item.username }}"  
loop: "{{ users }}"  
when: item.username in user\_passwords
- name: Deploy SSH public keys for the users  
authorized\_key:  
  user: "{{ item.username }}"

```
state: present
key: "{{ item.ssh_key }}"
loop: "{{ users }}"
```

- name: Send password to users via email

mail:

```
host: relay.example.com
port: 25
to: "{{ item.email }}"
subject: "Your new account password"
body: |
    Dear {{ item.username }},
```

Your new account has been created on the following host: {{ ansible\_host }}.

Username: {{ item.username }}

Password: {{ user\_passwords[item.username] }}

Please change your password upon first login.

**\*\*Note:\*\*** This is an automated message generated by Ansible. Please do not reply to this email.

Best regards,  
Sdnog Team

```
from: sdnog-ansible-at-example.com
loop: "{{ users }}"
when: item.username in user_passwords
```

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