

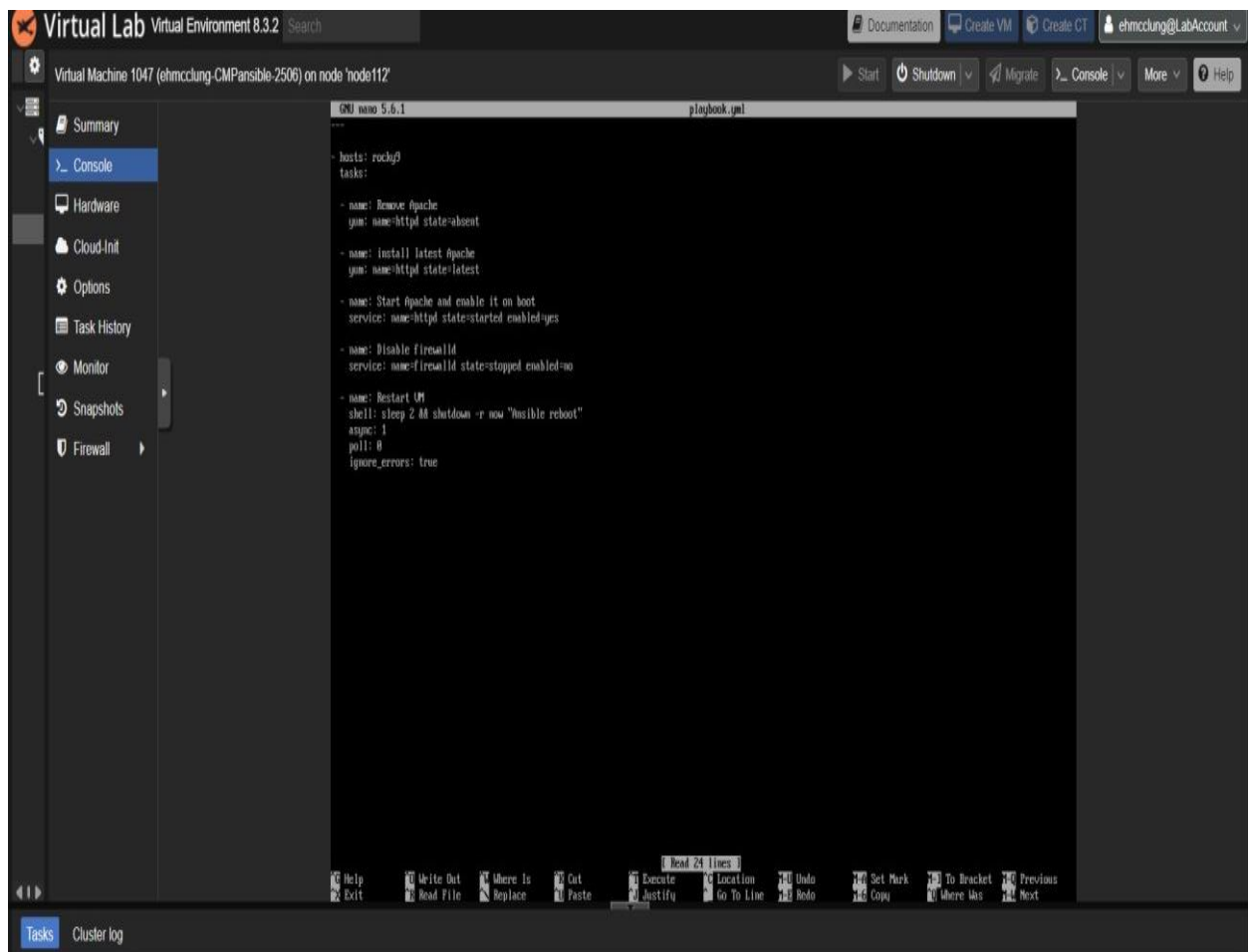
Automated LAMP Stack Deployment using Ansible

Automated the provisioning and configuration of a LAMP web server environment using Ansible within a Proxmox virtualized infrastructure.

Core Technologies: Ansible, Proxmox, Linux, Apache, MySQL, PHP

Demonstrated proficiency in Infrastructure as Code (IaC) by automating the provisioning and configuration of a LAMP web server environment using Ansible within a Proxmox virtualized infrastructure.

Setting up the Ansible playbook (YAML) so to automate LAMP stack has the correct automated deployment.



The screenshot shows the Virtual Lab interface with a sidebar on the left containing options like Summary, Console, Hardware, Cloud-Init, Options, Task History, Monitor, Snapshots, and Firewall. The main window displays a nano editor editing a file named 'playbook.yml'. The content of the file is as follows:

```
hosts: rocky9
tasks:
  - name: Remove Apache
    yum: name=httpd state=absent

  - name: Install latest Apache
    yum: name=httpd state=latest

  - name: Start Apache and enable it on boot
    service: name=httpd state=started enabled=yes

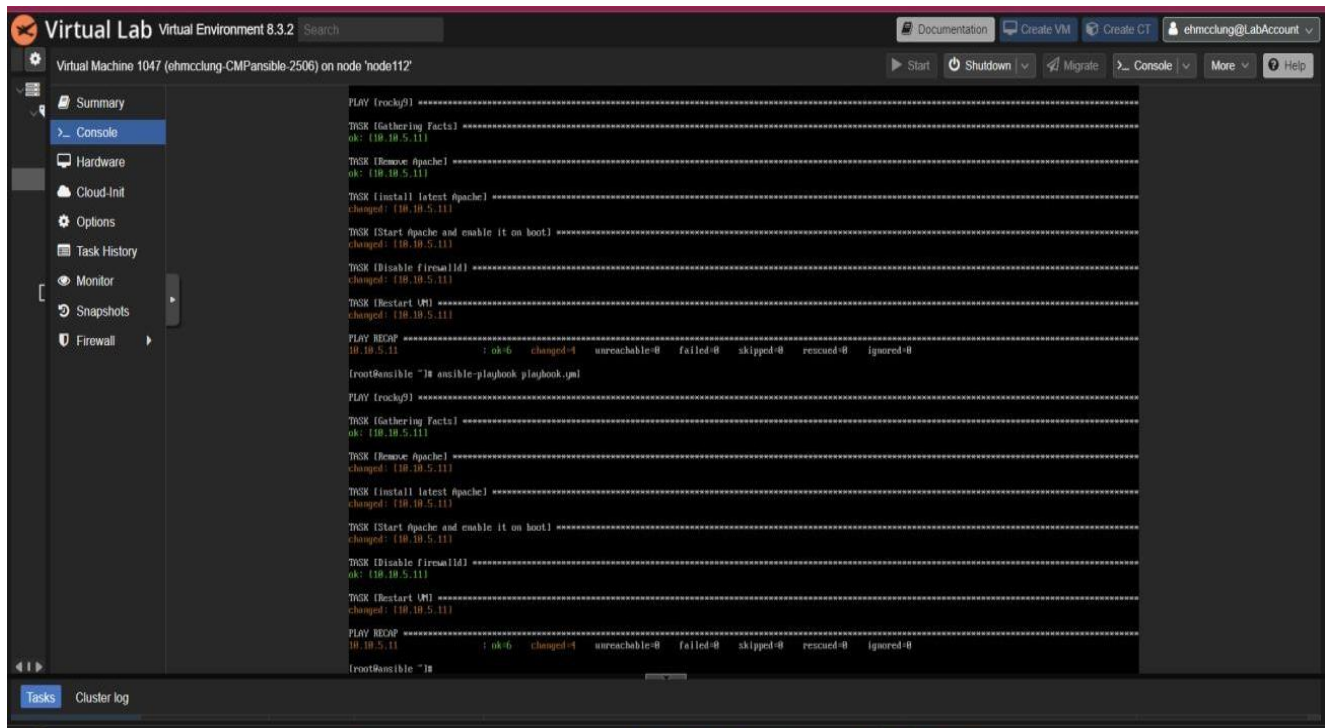
  - name: Disable FirewallD
    service: name=firewalld state=stopped enabled=no

  - name: Restart VM
    shell: sleep 2 && shutdown -r now "Invisible reboot"
    async: 1
    poll: 0
    ignore_errors: true
```

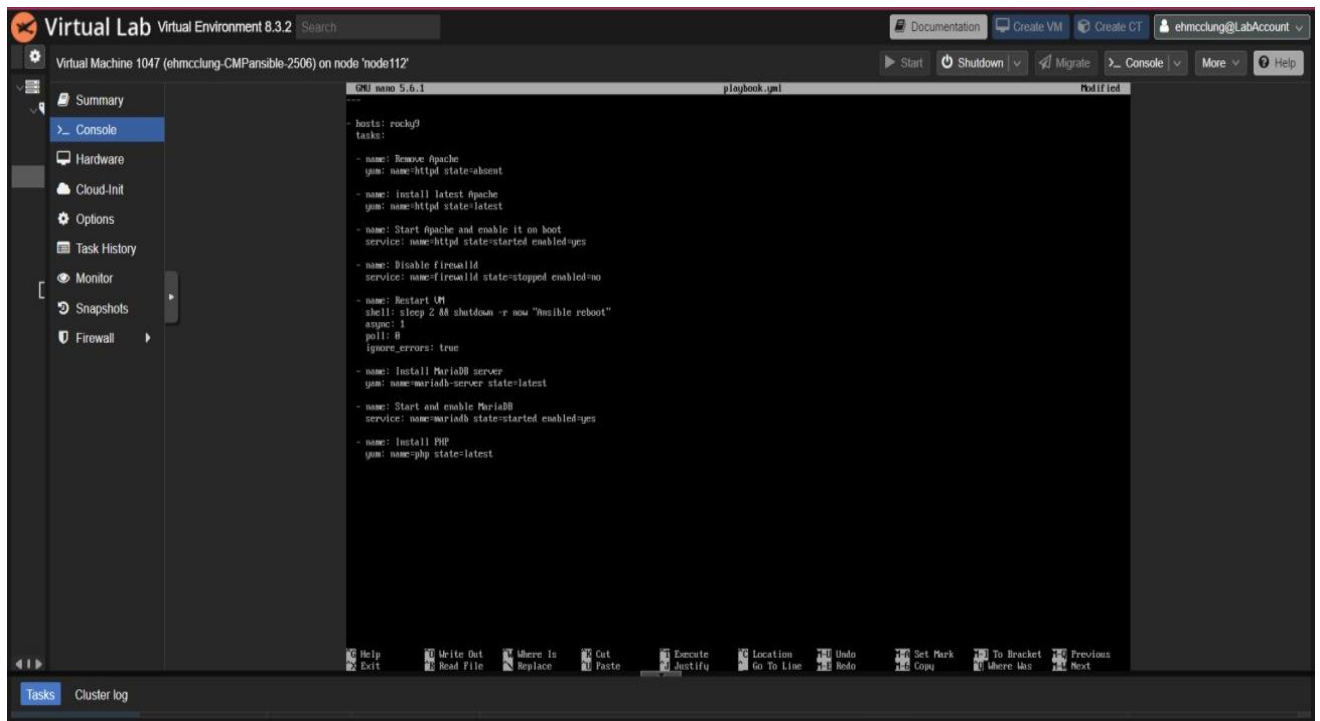
At the bottom of the interface, there is a 'Tasks' tab and a 'Cluster log' section.

Executing the playbook in order to deploy web infrastructure, configure firewall mods, and start services.

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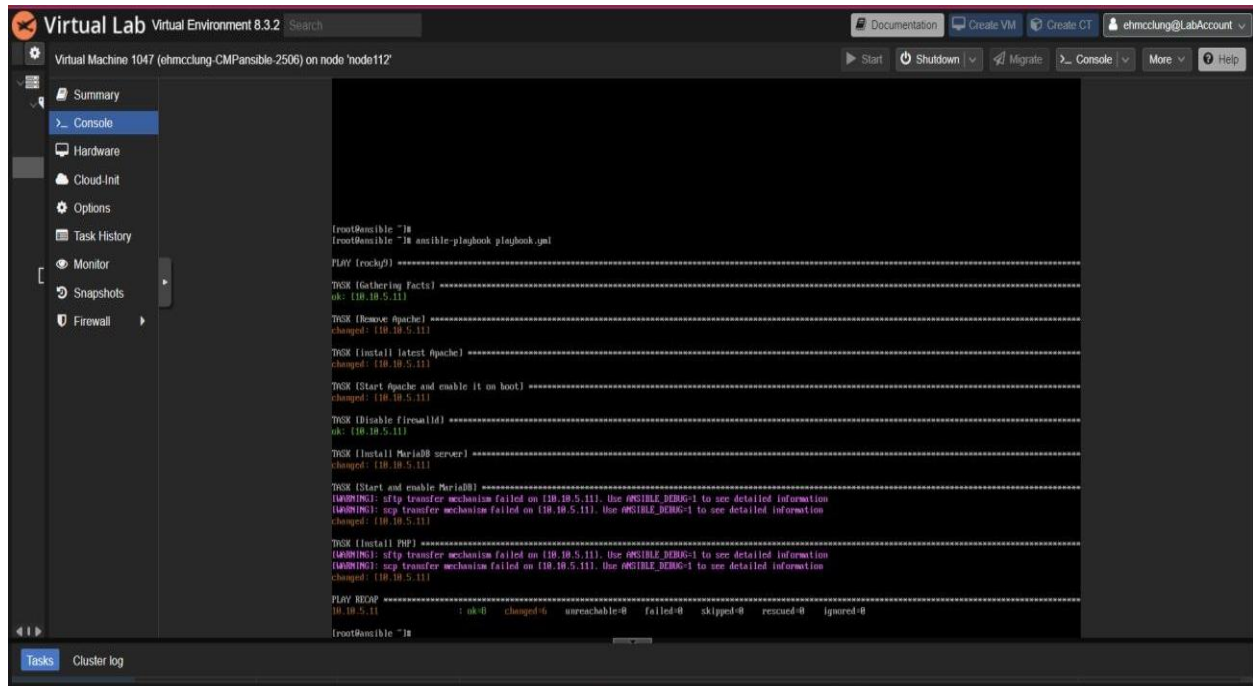


Update the Ansible playbooks dependencies so the server-sides and database servers deploy Infrastructure as Code (IaC) integrating MariaDB and PHP.



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MariaDB and PHP components confirmation successfully. Ansible playbook modified code infrastructure is installed and enabled on server-side scripts.



```
Virtual Lab Virtual Environment 8.3.2 Search
Virtual Machine 1047 (ehmcclung-CMPansible-2506) on node 'node112'

PLAY (rocky9) =====
TASK [Gathering Facts] =====
ok: [10.10.5.11]

TASK [Remove Apache] =====
changed: [10.10.5.11]

TASK [Install latest Apache] =====
changed: [10.10.5.11]

TASK [Start Apache and enable it on boot] =====
changed: [10.10.5.11]

TASK [Disable firewall] =====
ok: [10.10.5.11]

TASK [Install MariaDB server] =====
changed: [10.10.5.11]

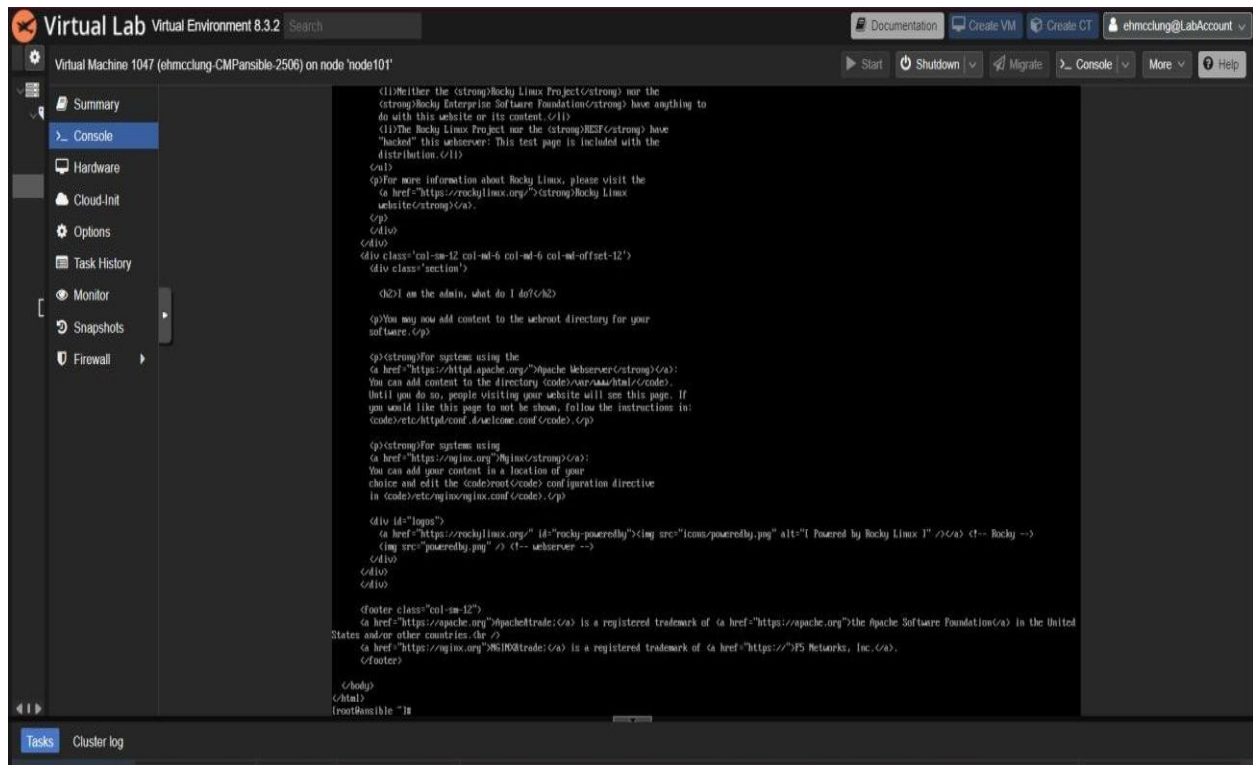
TASK [Start and enable MariaDB] =====
[WARNING]: sftp transfer mechanism failed on [10.10.5.11]. Use ANSIBLE_DEBUG=1 to see detailed information
[WARNING]: scp transfer mechanism failed on [10.10.5.11]. Use ANSIBLE_DEBUG=1 to see detailed information
changed: [10.10.5.11]

TASK [Install PHP] =====
[WARNING]: sftp transfer mechanism failed on [10.10.5.11]. Use ANSIBLE_DEBUG=1 to see detailed information
[WARNING]: scp transfer mechanism failed on [10.10.5.11]. Use ANSIBLE_DEBUG=1 to see detailed information
changed: [10.10.5.11]

PLAY RECAP
10.10.5.11: 1 ok=6 changed=6 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

[root@ansible ~]#
```

Checking for zero failed tasks for Apache, MariaDB, and PHP to verify and finalize components are actively running properly.



```
Virtual Lab Virtual Environment 8.3.2 Search
Virtual Machine 1047 (ehmcclung-CMPansible-2506) on node 'node101'

<!--Neither the (strong)Rocky Linux Project</strong> nor the
(strong)Rocky Enterprise Software Foundation</strong> have anything to
do with this website or its content.</li>
</li>The Rocky Linux Project nor the (strong)RHEL</strong> have
"backed" this website. This text page is included with the
distribution.</li>
</li>
</li>For more information about Rocky Linux, please visit the
<a href="https://rockylinux.org/">(strong)Rocky Linux
website</strong></a>.
</p>
</div>
<div class="col-sm-12 col-md-6 col-md-6 col-md-offset-12">
<div class="section">

<h2>I am the admin, what do I do?</h2>

<p>You may now add content to the website directory for your
software.</p>

<p>(strong)For systems using the
<a href="https://httpd.apache.org/">Apache Webserver</strong></a>:
You can add content to the directory <code>/var/www/html</code>.
Until you do so, people visiting your website will see this page. If
you would like this page to not be shown, follow the instructions in:
<code>/etc/httpd/conf.d/welcome.conf</code>.</p>

<p>(strong)For systems using
<a href="https://nginx.org/">nginx</strong></a>:
You can add your content in a location of your
choice and edit the <code>/etc/nginx</code> configuration directive
in <code>/etc/nginx/nginx.conf</code>.</p>

<div id="logo">
<a href="https://rockylinux.org/" id="rocky-poweredby"></a> <!-- Rocky -->
</div>
</div>
</div>

<div class="col-sm-12">
<a href="https://apache.org/">Apache</a> is a registered trademark of <a href="https://apache.org/">the Apache Software Foundation</a> in the United
States and/or other countries.</div>
<a href="https://nginx.org/">nginx</a> is a registered trademark of <a href="https://www.nginx.com/">FS Networks, Inc.</a>.
</div>
</body>
</html>

[root@ansible ~]#
```