Technical documentation

Proxmox VMs control interface

Login page :

- The proxmox host field should be an IP address with the format ***x.x.x.x***
- The proxmox user field should be a ***string*** followed by an **@** and the ***realm*** of the user (ex: root@pam)
- The proxmox node field should the name of the node where your VMs are located
- Make sure you fill all the fields before trying to login

VMs control page:

- You can shut the server by clicking on the button ***shutdown node,*** this will take you back to the ***login page***
- You can logout and comeback to the login page by clicking on the ***logout*** button
- The VMs have violet borders and the templates have magenta borders
- You can click on the down arrow for each box to display VM or template commands:

For the VMs:

- You can start the VM if it is not running by clicking on ***Start VM*** button, if it is running, you can stop it by clicking on Stop VM
- You can delete the VM by clicking on the ***Delete*** button
- If you submitted ***cloud init*** configuration and didn't find it active on the VM (ex: the VM have 2 network interfaces but you only find one), click on the button ***Regenerate*** to fix the problem, make sure the VM is ***not running***
- To convert a VM to a template, click on the ***Convert to template*** button, before that, make sure that the VM doesn't have any IP address configured internally to avoid any address conflict that can be caused by the override of MAC addresses
- You can display the cloud init configuration modal by clicking on the ***Cloud init*** button
- If you want to ***delete*** either the IP configurations or user's, you will have to submit an ***empty form***
- If you want to ***modify*** one of the configurations, you simply ***enter the new one***, this will ***overwrite*** the previous one

For the Templates:

- If you want to ***clone*** a template, you will have to enter an ID for the newly created VM (the next ID available is the default value of the field), the target ***node*** which is a dropdown menu that displays every available node (in case you have multiple nodes), and the ***name*** of the ***new VM*** than click on the ***Clone template*** button
- You can delete the Template by clicking on the ***Delete*** button
- If you submitted ***cloud init*** configuration and didn't find it active on the VM (ex: the VM have 2 network interfaces but you only find one), click on the button ***Regenerate*** to fix the problem
- You can display the cloud init configuration modal by clicking on the ***Cloud init*** button
- If you want to ***delete*** either the IP configurations or user's, you will have to submit an ***empty form***
- If you want to ***modify*** one of the configurations, you simply ***enter the new one***, this will ***overwrite*** the previous one

- The VMs control server is directly connected to a ***MySQL database*** where it stores the ***net1 interface IP address*** of each proxmox VM if it is available, the net1 IP address is extracted from the ***cloud init configuration***
- If you don't want to use a database, we can provide you the adapted program for the server

VyOS routers management

Access page :

- The VyOS management server is directly connected to same the ***MySQL database*** that the Proxmox server is connected to, on the VyOS interface, all the ***running VMs*** will be displayed on a dropdown menu, if the ***net1 interface*** have a cloud init IP configuration, ***it will be used*** to access the router management interface, if not, you will you will have to enter the ***IP address manually***
- If you don't want to use a database, we can provide you the adapted program for the server
- The ***key*** represents the ***VyOS HTTPS API key***, it is usually a string
- Make sure you fill all the fields before trying to login
- If the informations you entered are valid, you will be redirected to the VyOS router management interface that contains 9 web pages: ***Interfaces, Routing, NAT, API, VPN, Firewall, Users, NTP and SSH***

Management pages :

- Interfaces page:
  - This page displays all the available interfaces of the VyOS routers
  - If you want to save you configuration, you can click on the ***floppy disc*** icon located on the top left of the page
  - If you want to ***create*** a new ***tunnel interface***, you can click on ***the + icon*** located next to the ***floppy disk*** icon
  - You can delete tunnel interface by clicking on the ***delete interface*** button located in the table
  - The IP addresses on VyOS have the format ***x.x.x.x/CIDR***
  - VyOS allow an interface to have ***multiple IPs***, so you can ***add*** an IP address to an interface using the ***configure IP*** box
  - If you want to ***delete*** an IP address, you will use the ***delete IP*** box
  - If you want to ***delete*** the ***IP address*** you used to ***access*** the router, first make sure you have ***another IP address configured*** so you can re access the router later, than after you delete it, you will have ***to logout*** and eventually ***login*** with another IP address
  - You can ***create or update the description*** of an interface using the ***configure description*** box

- Routing page:
  - This page displays all the configured static routes
  - You can ***delete*** a static route by clicking on the ***delete route*** button

  - You can ***add*** a new static route with its next hop using the ***configure routing*** box
  - If you want to be able to configure other routing protocols (RIP, OSPF, ….), we can provide you special programs

- NAT page:
  - This page displays all the NAT rules and their configurations that are configured on the router
  - You can ***delete*** a rule using the ***delete rule*** button located on the table
  - You can ***add*** a new rule using the ***configure NAT*** box where you will need to provide the ***rule number***, an ***outbound interface*** from the dropdown menu that displays all the ***available physical interfaces***, a ***source address*** that should have the format ***x.x.x.x/CIDR*** and the ***translation address*** where we usually use ***masquerading***

- API page:
  - This page displays information about the HTTPS API
  - It displays the API key ID; API key value and the API listen address

- VPN page:
  - This page contains all the informations related to VPN connections
  - VyOS VPN uses ***authentication instances*** that are used to establish VPN connections
  - You can ***delete*** an authentication by clicking on the ***delete*** button
  - VPN connections also need peers
  - You can ***delete*** a peer by clicking on the ***delete peer*** button on the table
  - You can ***configure*** an ***authentication*** using the ***configure authentication*** box where you will have to enter the ***authentication name*** that is a string, the ***authentified ID*** for the ***first peer*** of the VPN connection and the ***authentified ID*** for the ***second peer*** (use the IP addresses as IDs to make it easier to distinguish between the different IDs)
  - You can ***configure*** a peer using the ***peer configuration*** box where you will have to enter the ***peer's name***, ***the remote peer ID*** (it should be one of the authentified IDs), the ***remote peer address*** (x.x.x.x), the ***local peer address*** (x.x.x.x) and finally the ***name of the tunnel*** (we usually use numbers to distinguish between the different tunnels)
  - To ***properly establish a VPN connection***, you have to ***configure*** a ***tunnel interface*** on the ***interfaces page***, then ***create*** an ***authentication*** and finally ***create the peer***

- Firewall page:
  - This page contains the ***inbound*** and ***outbound rules*** of the VyOS firewall
  - You can ***delete*** and ***inbound*** or ***outbound rule*** by clicking on the ***delete button***
  - You can ***add rule*** using the ***configure rule*** box where you will need to ***specify*** if it's an ***inbound or an outbound rule***, enter a ***rule number*** (the rule numbers of inbound and outbound firewalls aren't related an can have the same value), specify the ***action*** of the rule if it will either ***drop*** the related packets or ***accept***

them (***all packets are accepted by default***), the protocol's TCP ***port number***, and a ***description*** for the rule which is usually the ***name of the protocol***
  - If you want to be able to add rules related to more protocols, we can provide you special programs

- Users page:
  - This page displays all the configured users on the VyOS routers with their encrypted password
  - You can ***delete*** a ***user*** by clicking on the ***delete button***
  - You can ***add*** a new ***user*** with its ***password*** using the ***add user*** box

- NTP page:
  - This page displays all the NTP servers that the router is using for time synchronization

- SSH page:
  - This page contains the listen address and the port used for SSH remote connections
  - You can ***delete*** the ***listen address*** by clicking on ***the delete listen address button***
  - You can ***add*** a new ***listen address*** using the ***configure SSH listen address*** box
  - ***Before*** configuring ***the new listen address***, make sure you ***delete*** the ***previous one***

For any suggestion, issue notification or for business inquiry, contact us on the email:
mekki.wail1@gmail.com

VyProx Team