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High Availability with Active - Passive Cluster

Product: Antikor v2 - Next Generation Firewall

Configuration Examples

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High Availability with Active - Passive Cluster

High availability (HA) Cluster systems are designed to ensure uninterrupted service by preventing accessibility from being blocked due to problems that may arise at a single point. The uninterrupted operation of very important services offered in a network is the primary purpose.

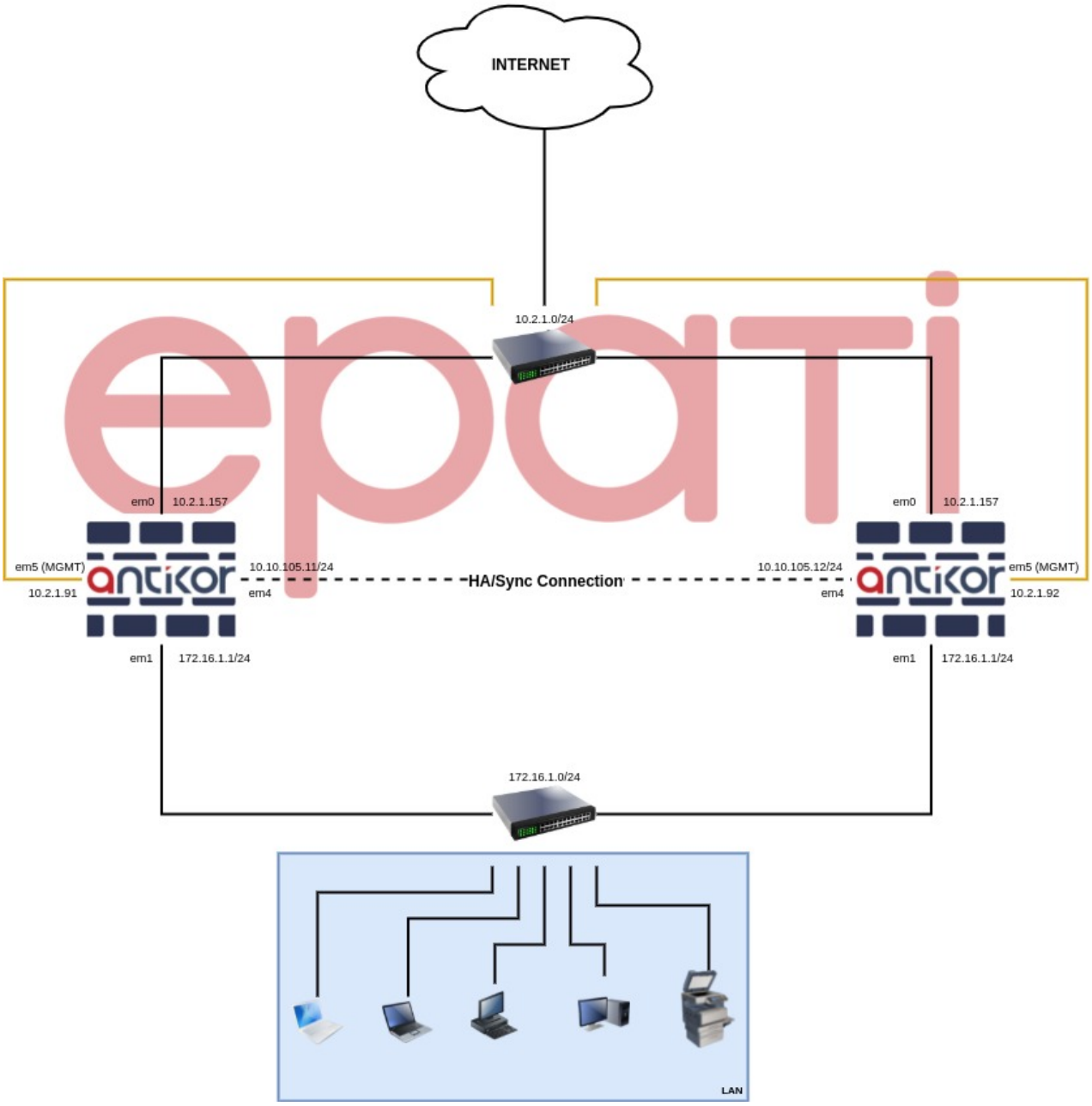
When a server running within the HA Cluster structure encounters any software or hardware errors, passive server is held and another server capable of providing the services provided by the principal server takes over. The service continues uninterrupted while the Master server is correcting the error. This working principle is called failover.

Antikor v2 Firewalls control each other by sending control messages over the network at intervals that we can specify. Task switching occurs between two firewalls when control messages cannot be transmitted due to an error.

The events that initiate the switching task are:

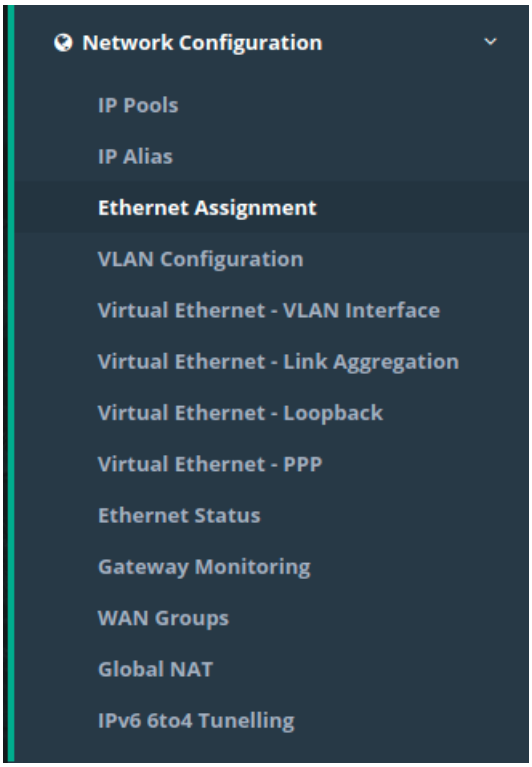
- If there is no access to one or more specified targets through the Active firewall;
- If the Active firewall does not respond to the control messages;
- If there is an error in the path monitoring route or critical software components on the Active firewall.

Network Topology

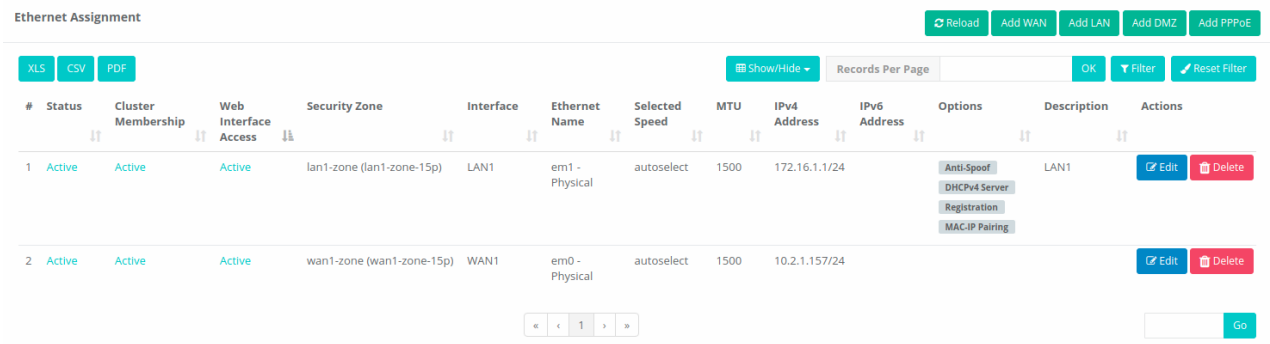


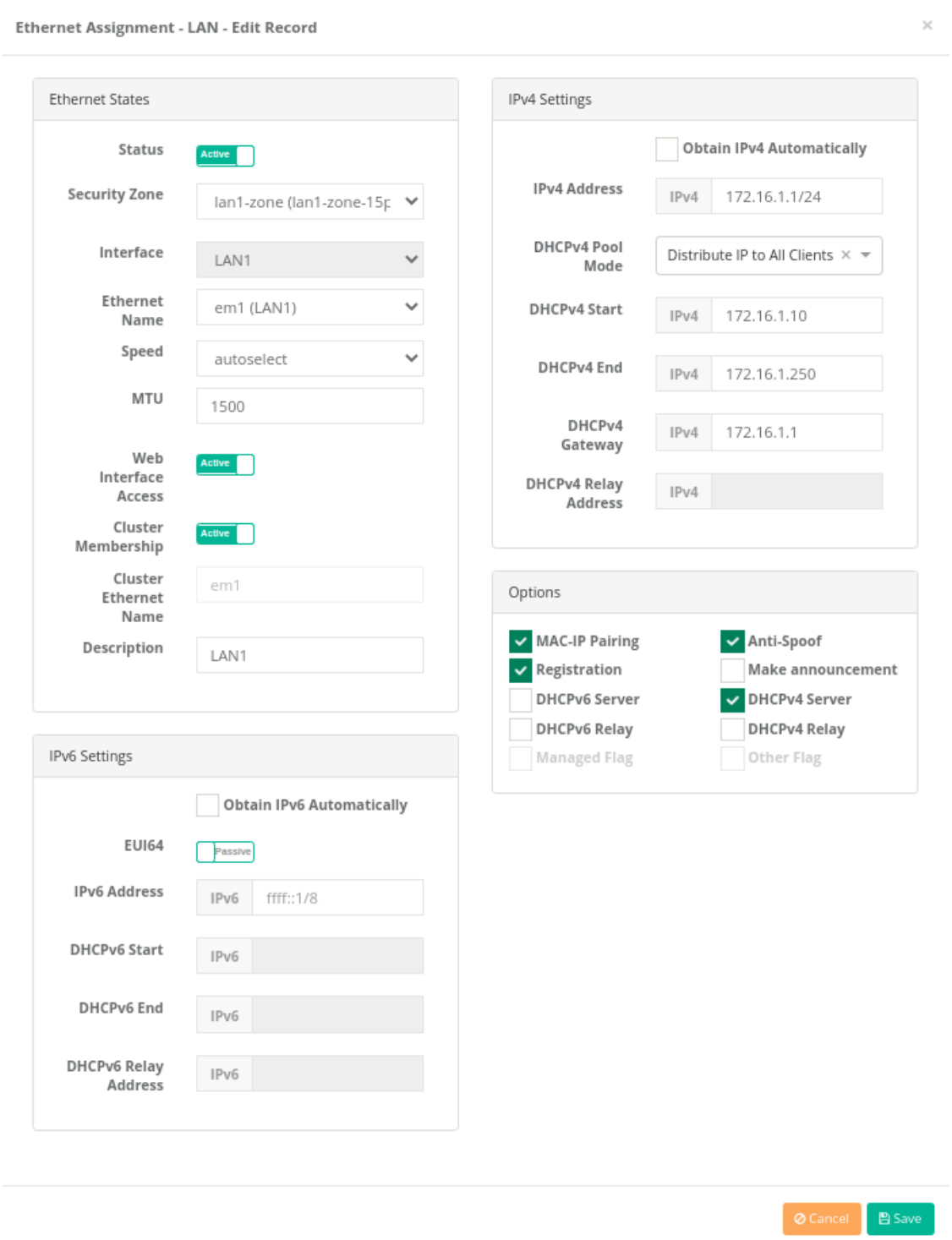
High Availability with Active - Passive Cluster

- **Network Configuration** is entered on the **Ethernet Assignment** page in the menu.



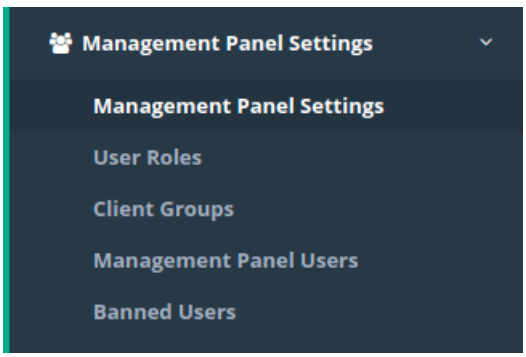
- It should be checked that the ethernet interfaces to be synchronized in the cluster are in the **Active** state of the **Cluster Membership**.

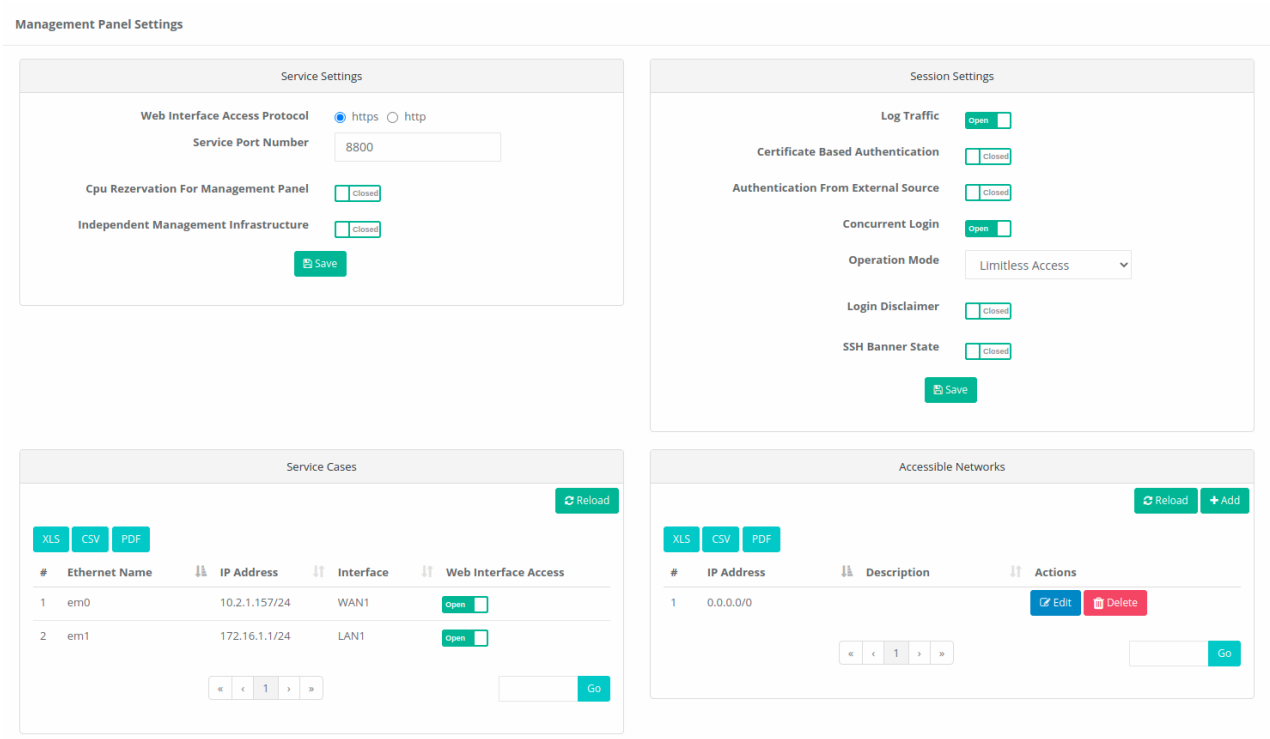




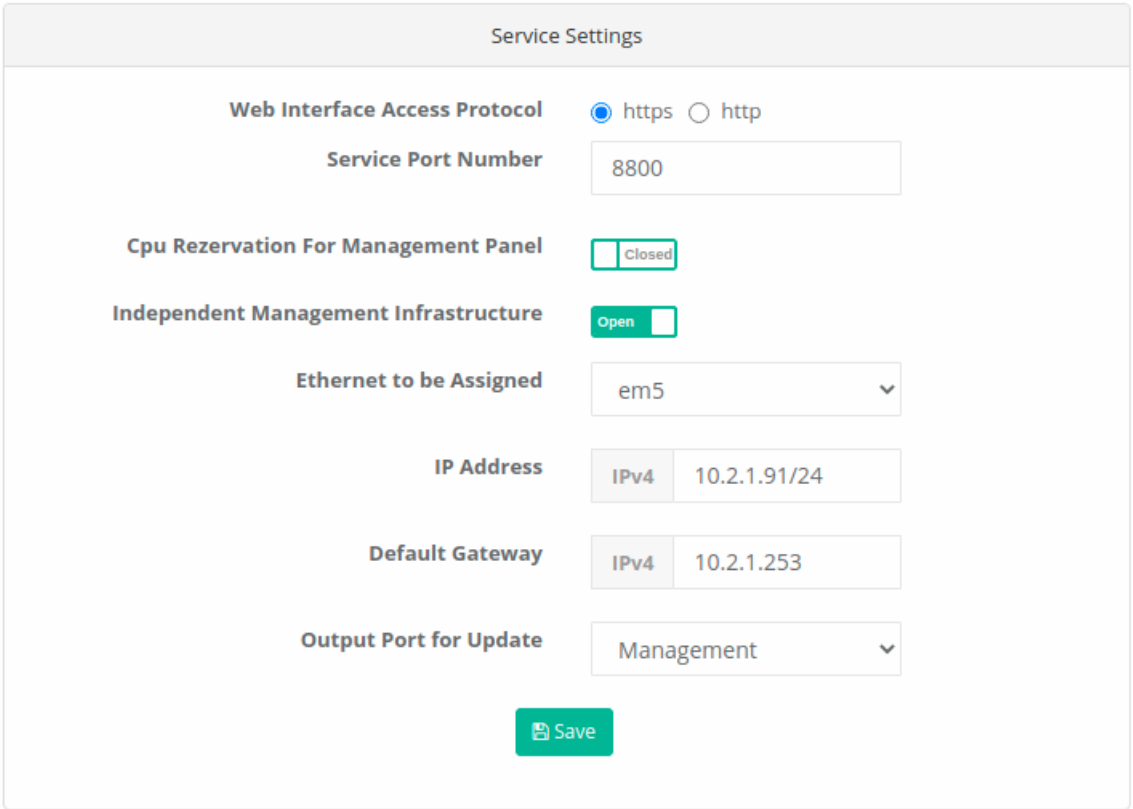
Configurations that Will be Made on the Device where the Beginning Job Will be Active

- Entered **Management Panel Settings** page from **Management Panel Settings** menu.



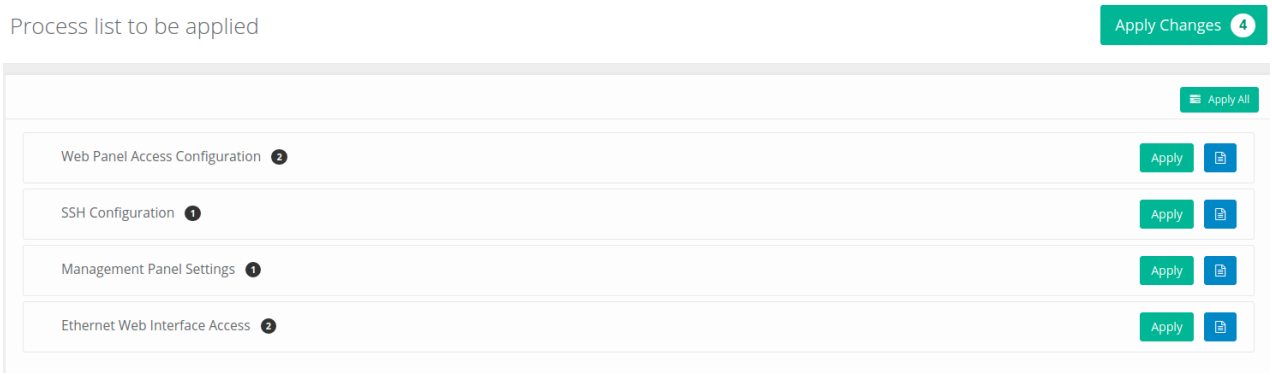


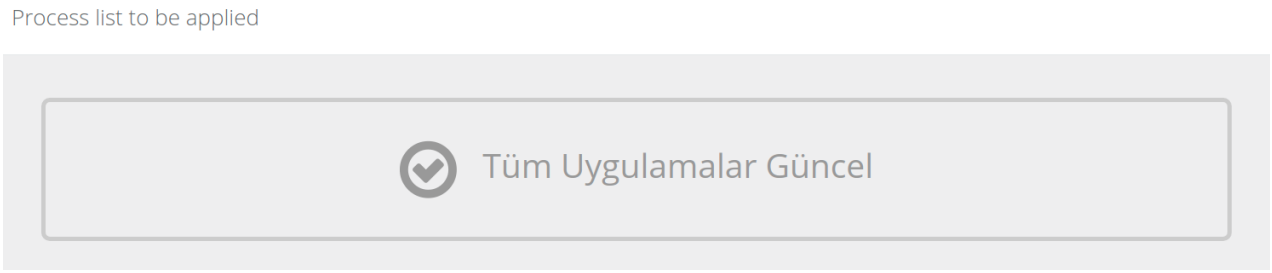
- From the **Service Settings** tab **The Independent Management Infrastructure** is activated and the management IP address is given. In this configuration example, the IP address for the device that will be active in the startup task is set to 10.2.1.91.(After applying cluster synchronization, independent management was used, since the WAN IP addresses of the two devices will be the same.)



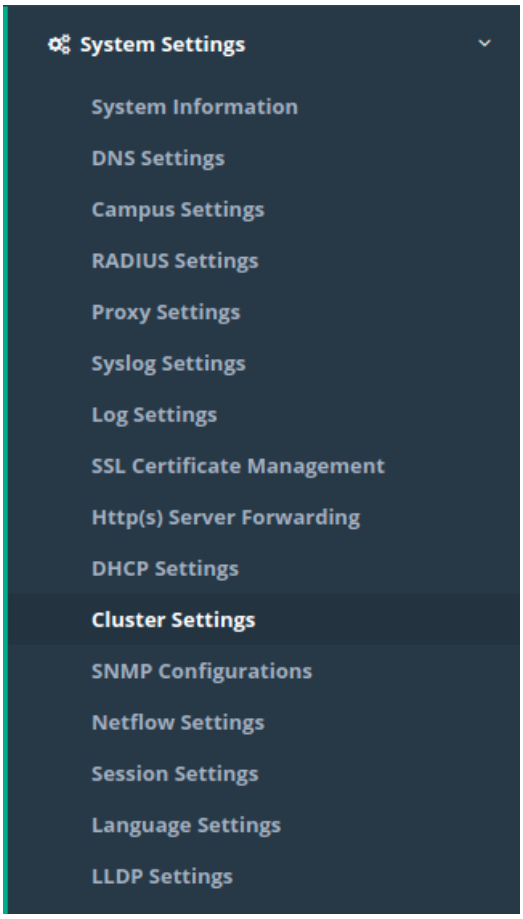
- After entering the settings, the `Save` button is clicked.

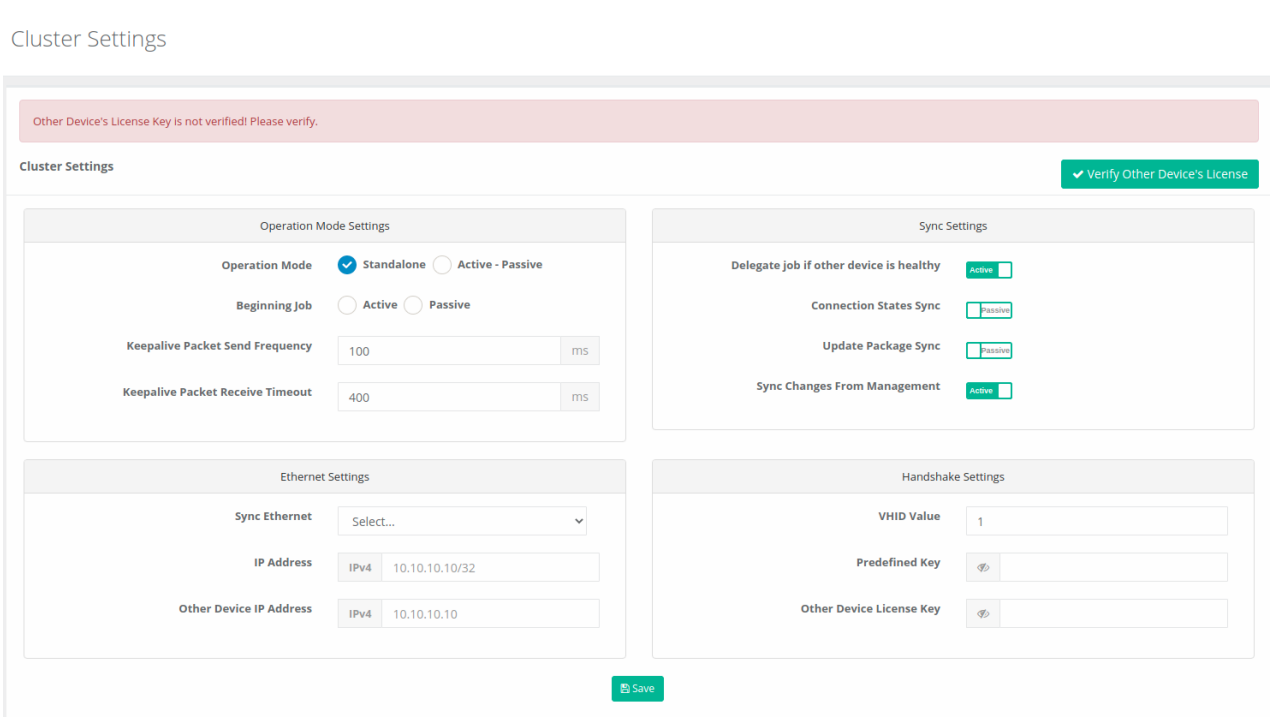
- Definitions are applied by clicking the `Apply Definitions` button.



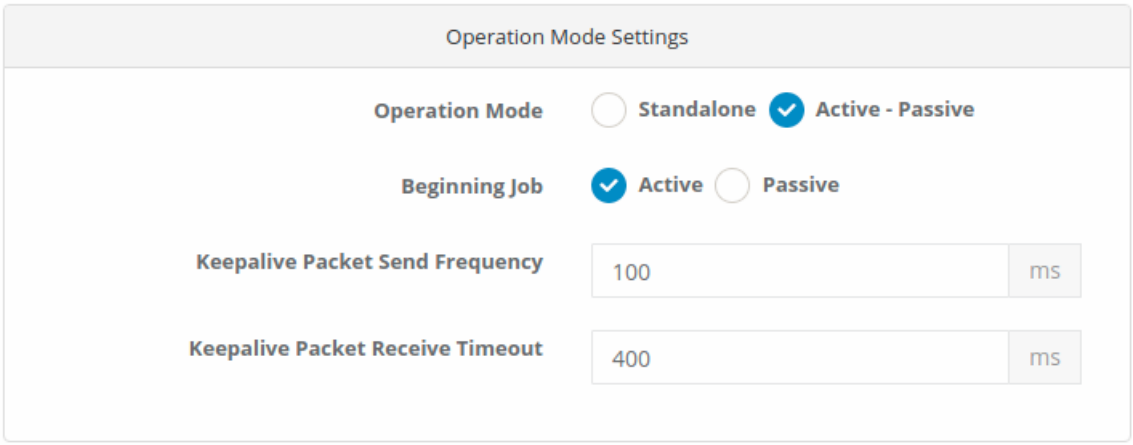


- Entered **Cluster Settings** page from **System Settings** menu.

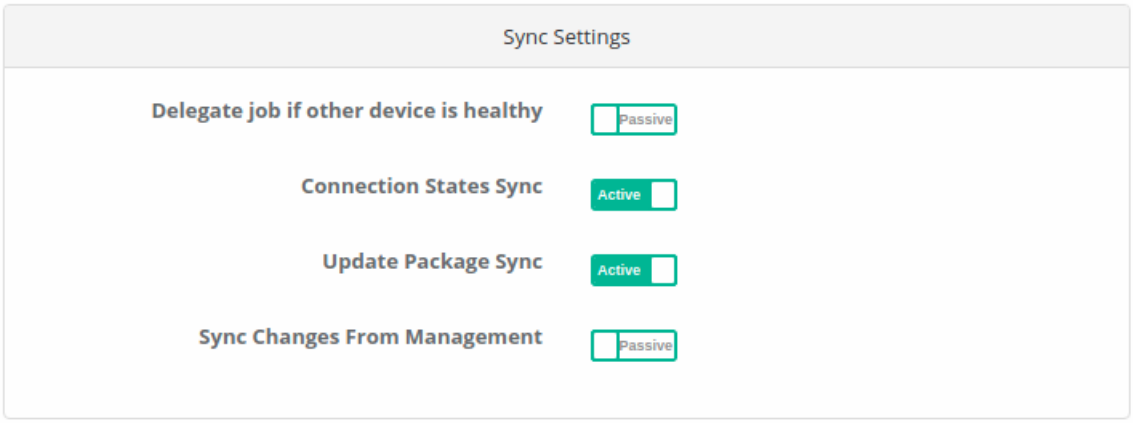




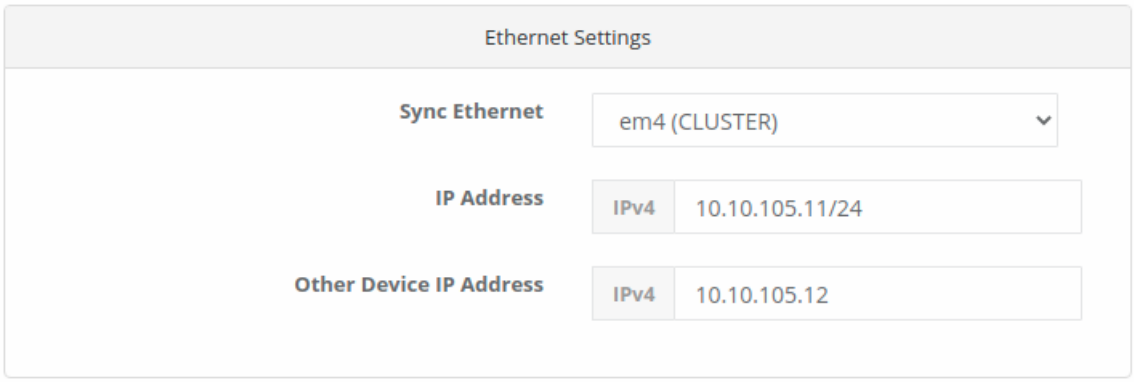
- In **Operation Mode** settings, after Working Mode is set to **Active-Passive**, **Beginning Job** is marked as **Active**.
- **Keepalive Packet Send Frequency** (default 100ms) and **Keepalive Packet Receive Timeout** (default 400ms) are left at **default** values.



- In **Sync Settings**, **Delegate job if other device is healthy** and **Sync Changes From Management** are set to *Passive*.
- **Connection States Sync** and **Update Package Sync** are set to *Active*.

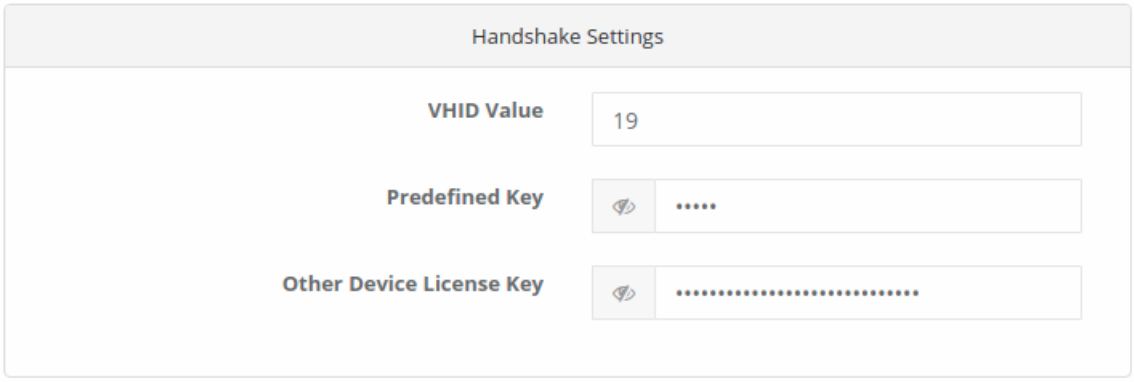


- In **Ethernet Settings**, the ethernet interface to be synchronized is selected.
- The IP address of the Ethernet to be synchronized and the Cluster IP address of the opposite device are written. (The IP address to be entered here does not need to be added to the IP pools.)

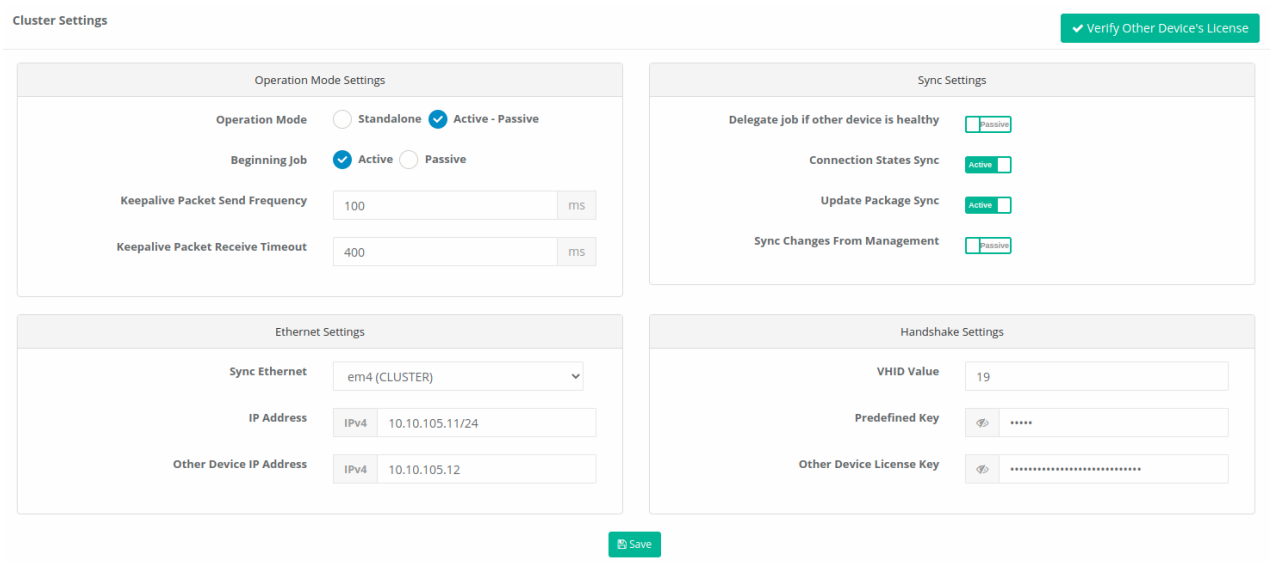


`Note:` The IP addresses to be given to the two devices must be from the same IP block. For example, if the synchronization IP address of this server is 10.10.105.11/24, the IP address of the other server is different from the opposite server, but is located on the same IP block 10.10.105.12/24 is given.

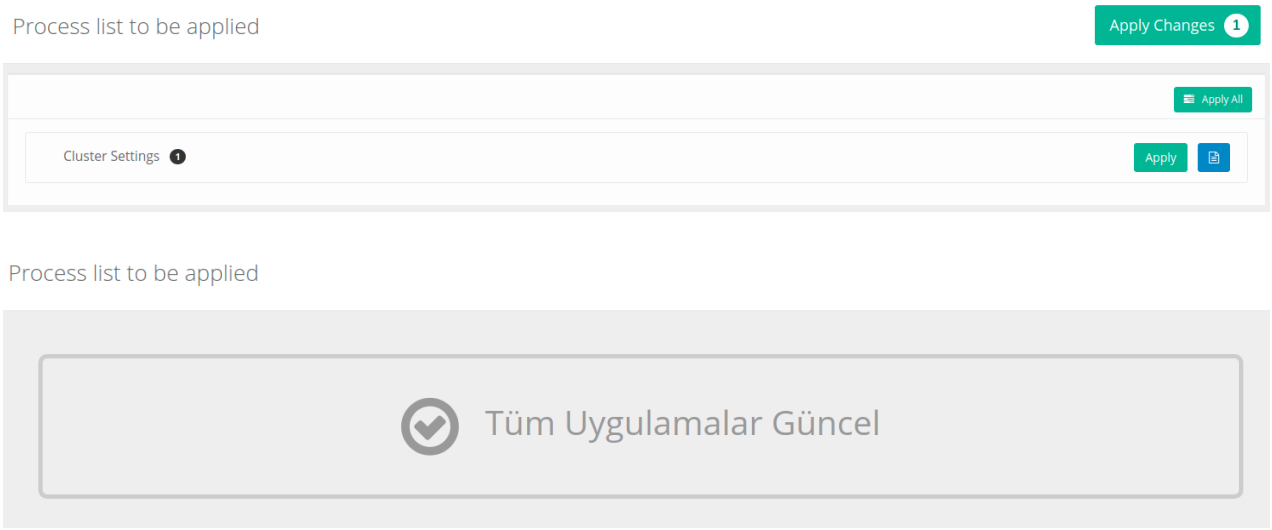
- The VHID value entered in the**Handshake Settings** must be the same as the device opposite. If there is another device running VRRP on the network (such as a switch, router), there may be a VHID conflict. For this reason, VHIDS on other devices or devices should be known and given a different value than them.
- **The Predefined Key** must be the same as the device opposite.
- **The Other Device License Key** is entered in the section of the License key of the opposite device.



- Click the Save button.

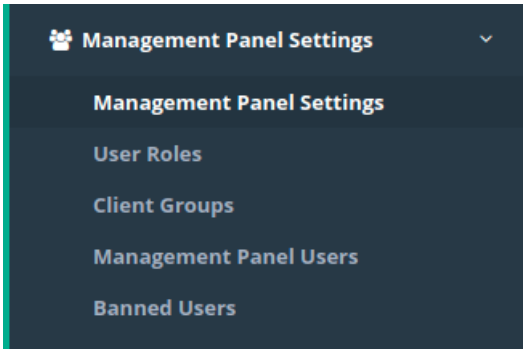


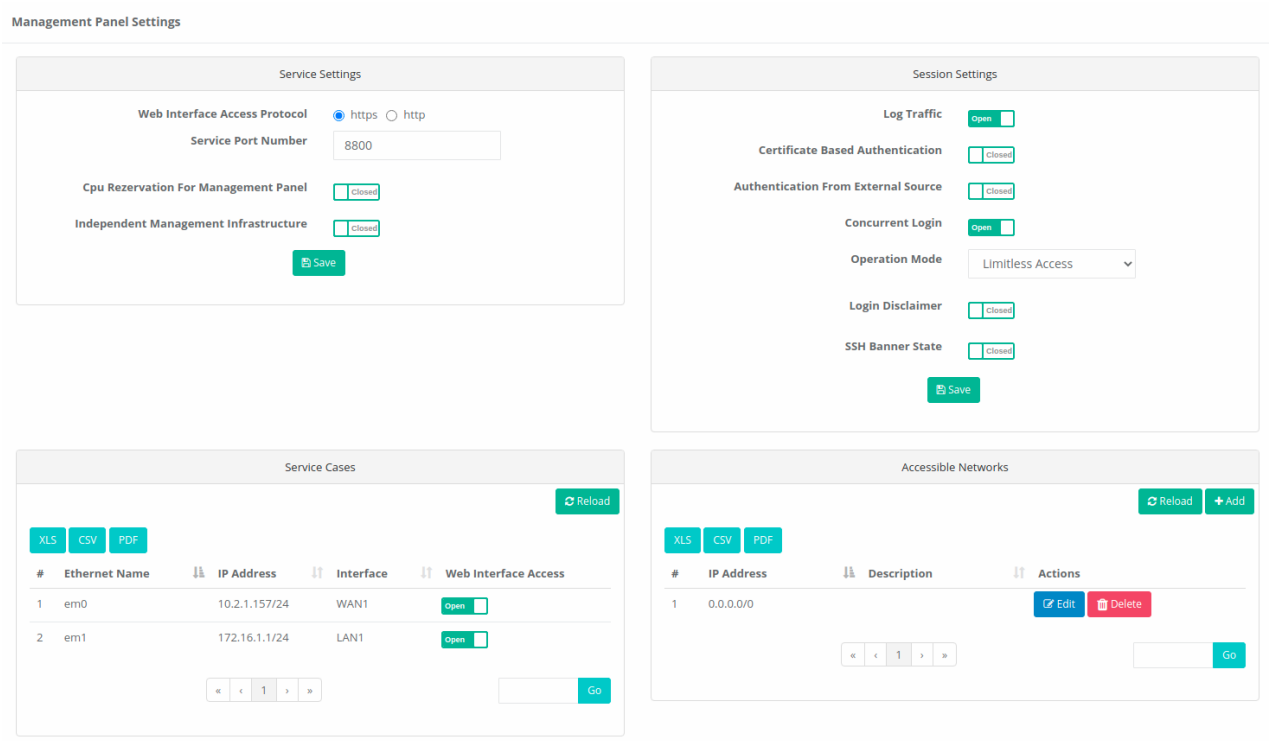
- Definitions are applied by clicking the `Apply Definitions` button.



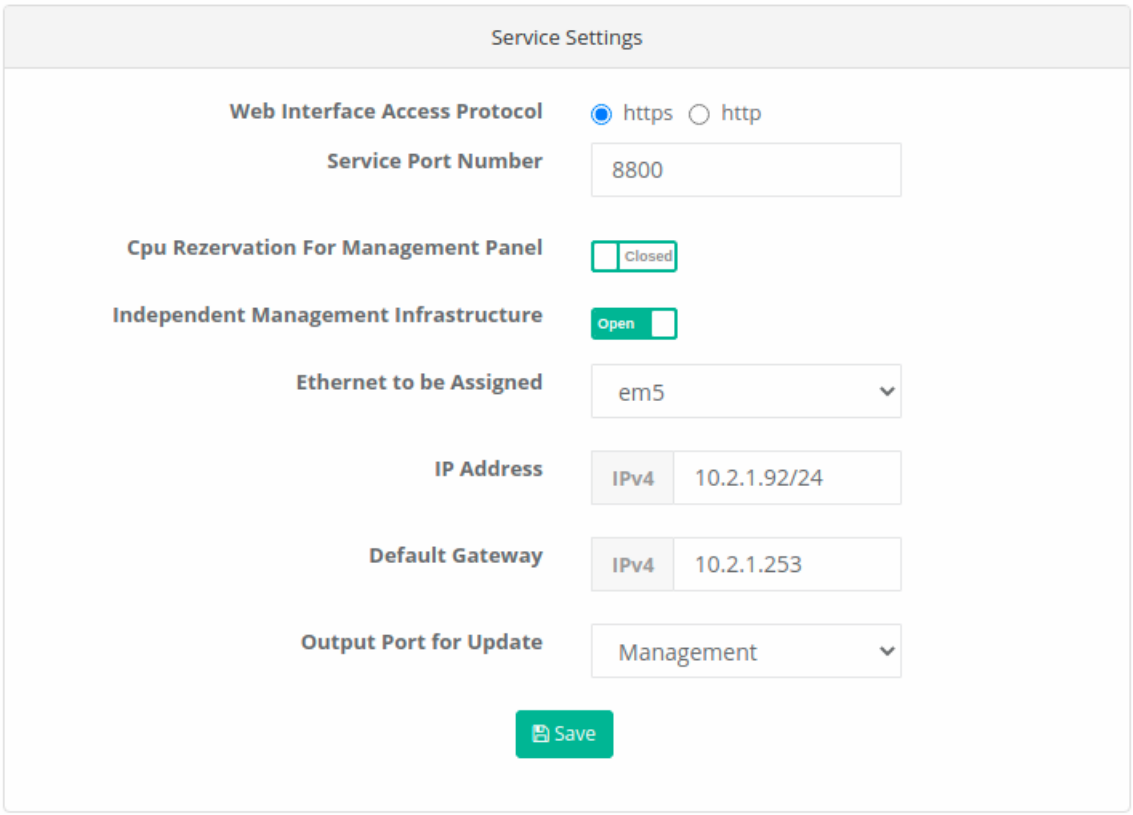
Configurations that Will be Performed on the Device whose Beginning Job Will Be Passive

- Entered **Management Panel Settings** page from **Management Panel Settings** menu.



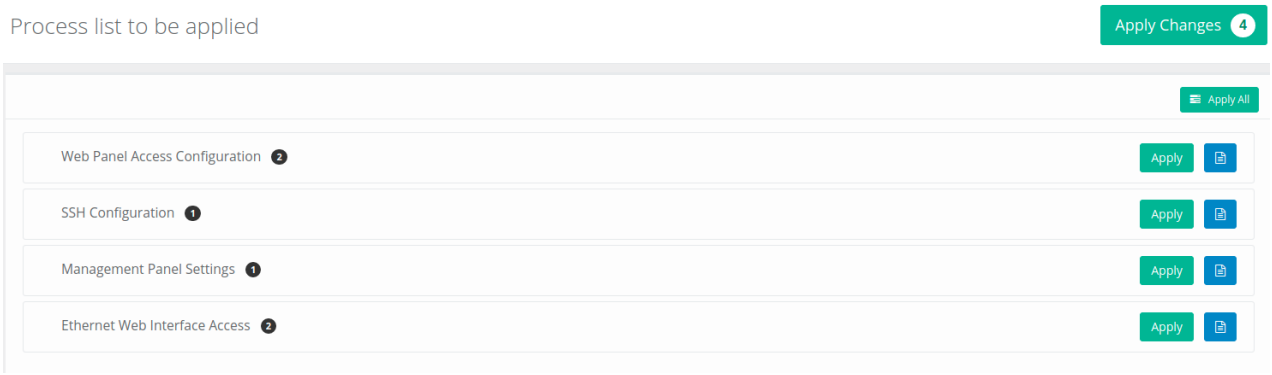


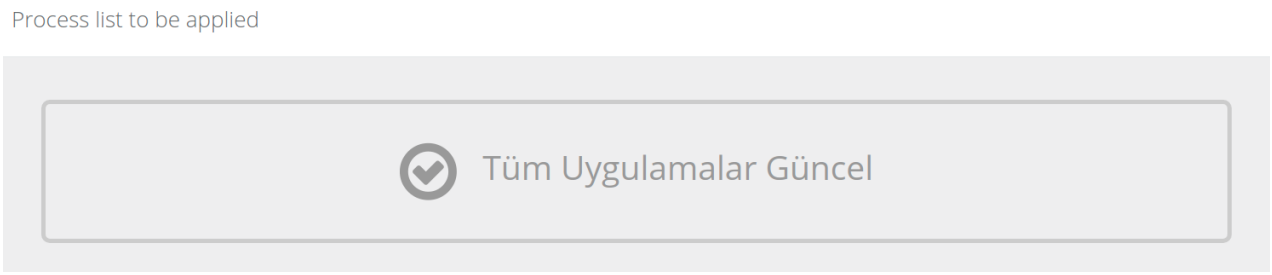
- Management IP address is given by activating **Independent Management Infrastructure** from **Service Settings** tab. In this configuration example, the IP address for the device whose initial task will be passive is set to 10.2.1.92. (Independent management is used since the WAN IP addresses of the two devices will be the same after cluster synchronization is applied.)



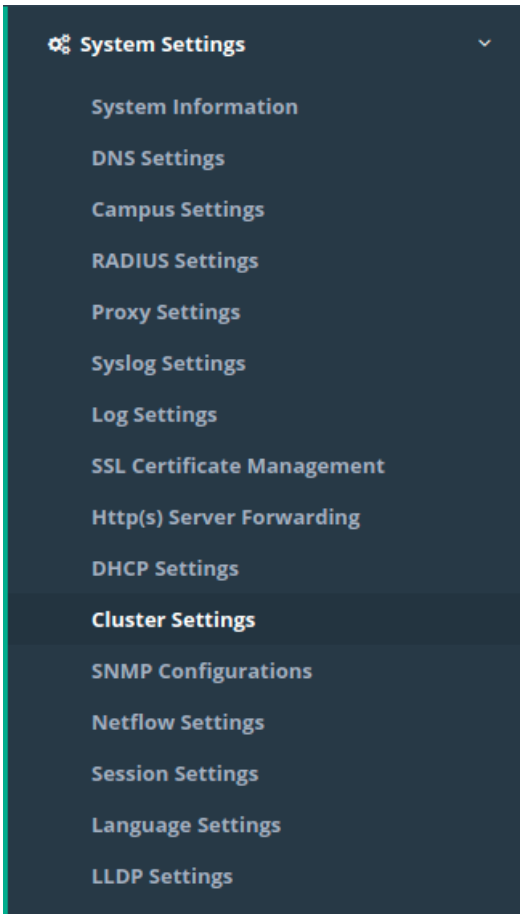
- After entering the settings, the `Save` button is clicked.

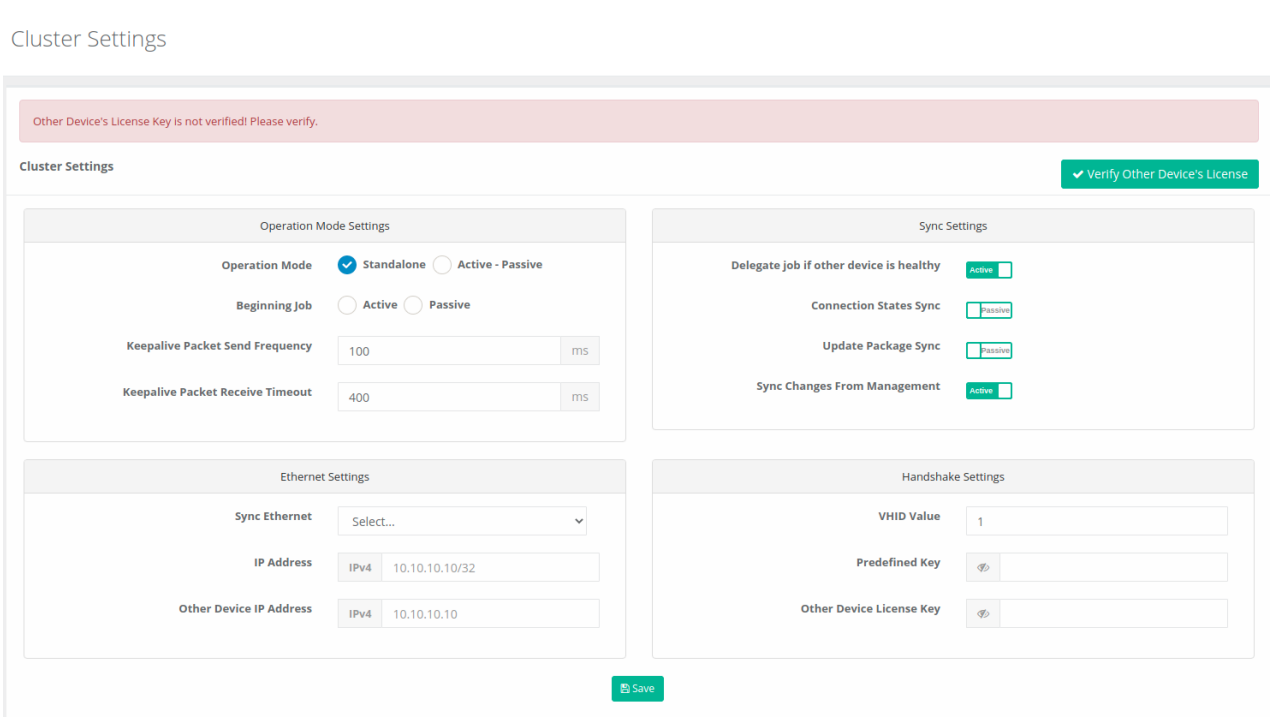
- Definitions are applied by clicking the `Apply Definitions` button.





- Entered **Cluster Settings** page from **System Settings** menu.





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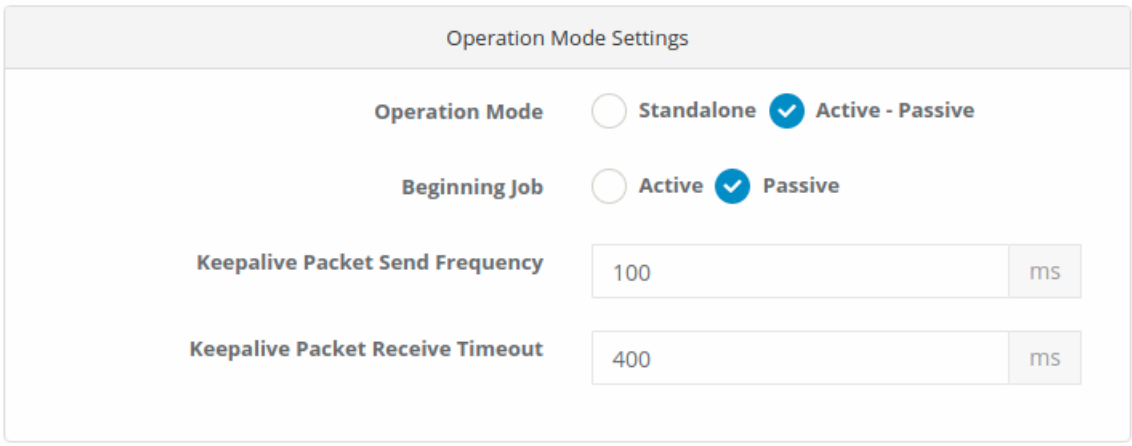

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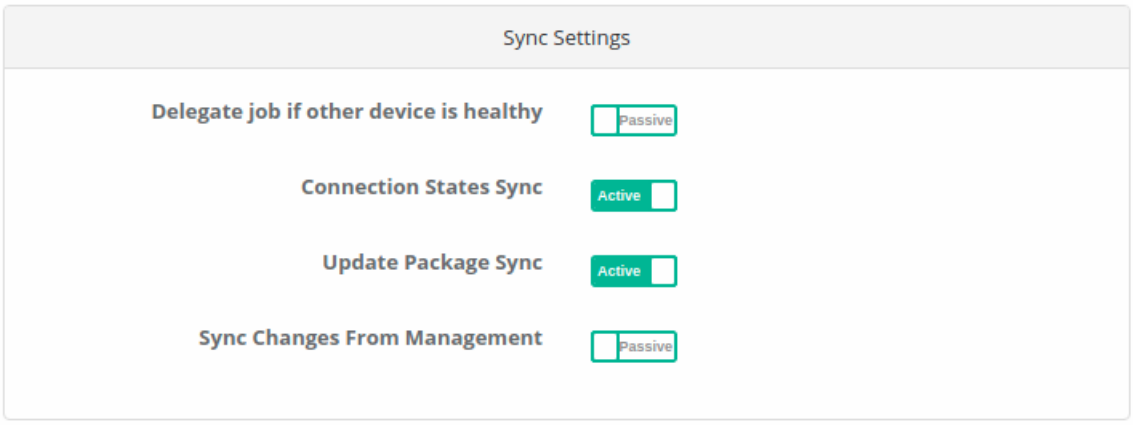

- In **Ethernet Settings**, the ethernet interface to be synchronized is selected.
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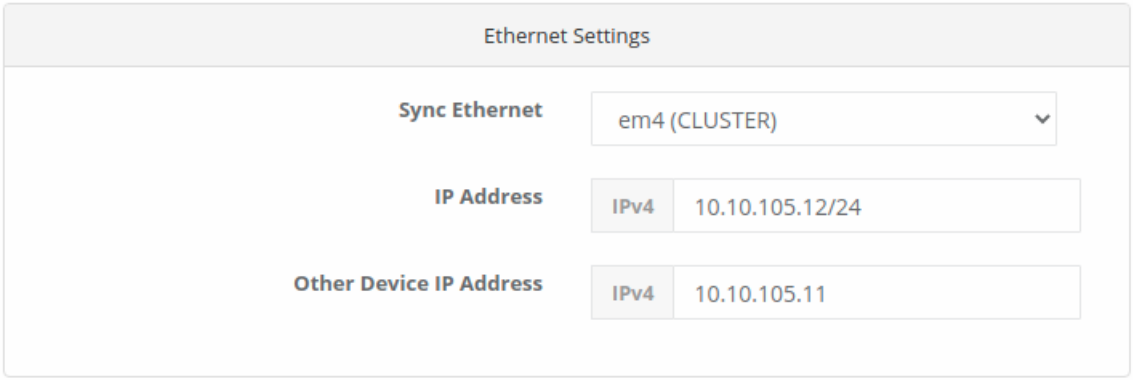

`Note:` The IP addresses to be given to the two devices must be from the same IP block. For example, if the synchronization IP address of this server is 10.10.105.12/24, the IP address of the other server is different from the opposite server, but is located on the same IP block 10.10.105.11/24 is given.

- The VHID value entered in the**Handshake Settings** must be the same as the device opposite. If there is another device running VRRP on the network (such as a switch, router), there may be a VHID conflict. For this reason, VHIDS on other devices or devices should be known and given a different value than them.
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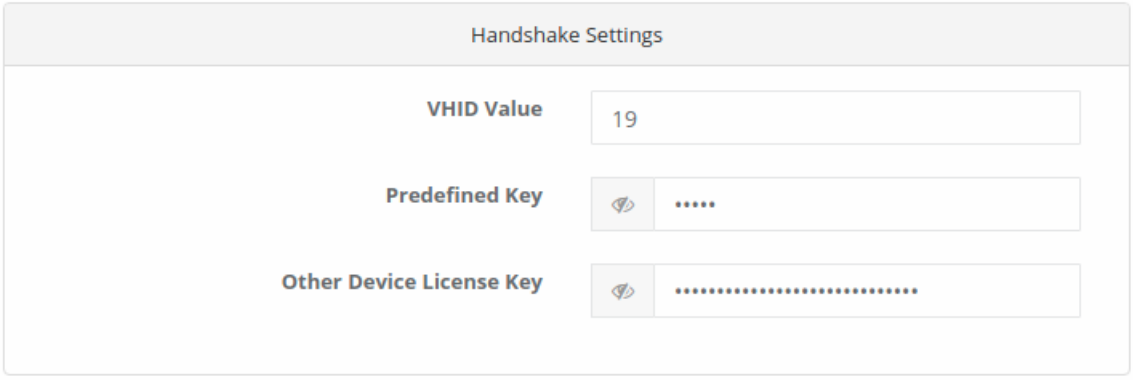
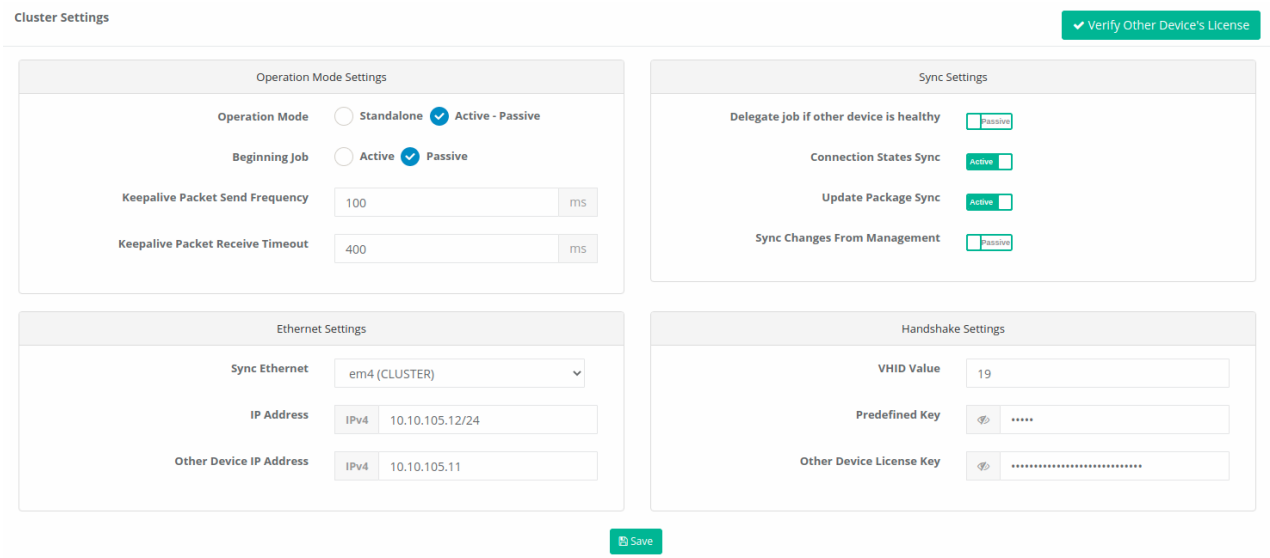
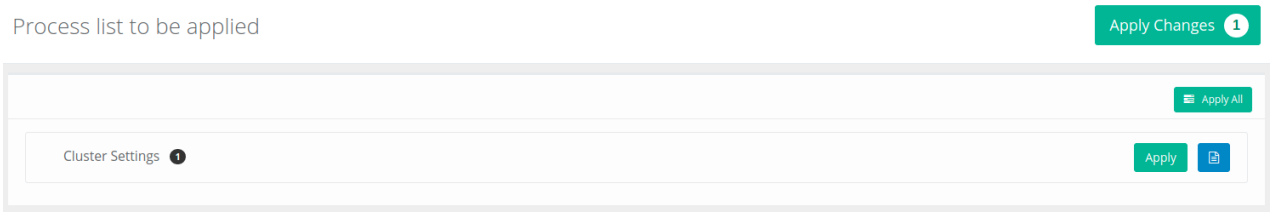
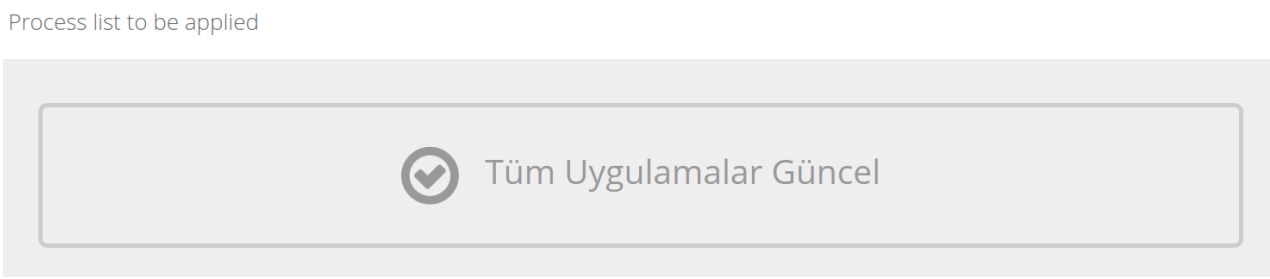


- Click the Save button.

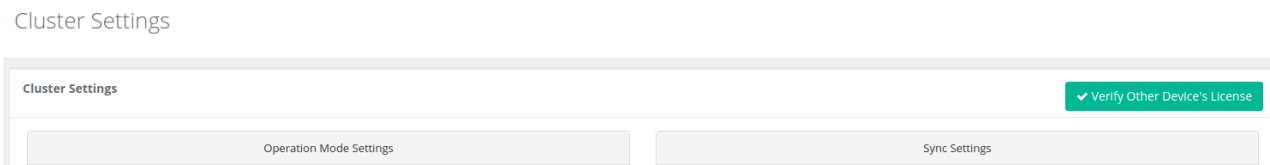


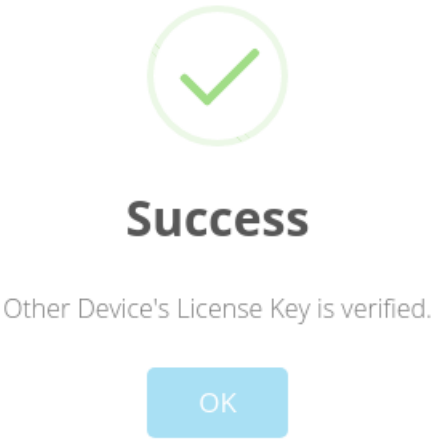
- Definitions are applied by clicking the `Apply Definitions` button.



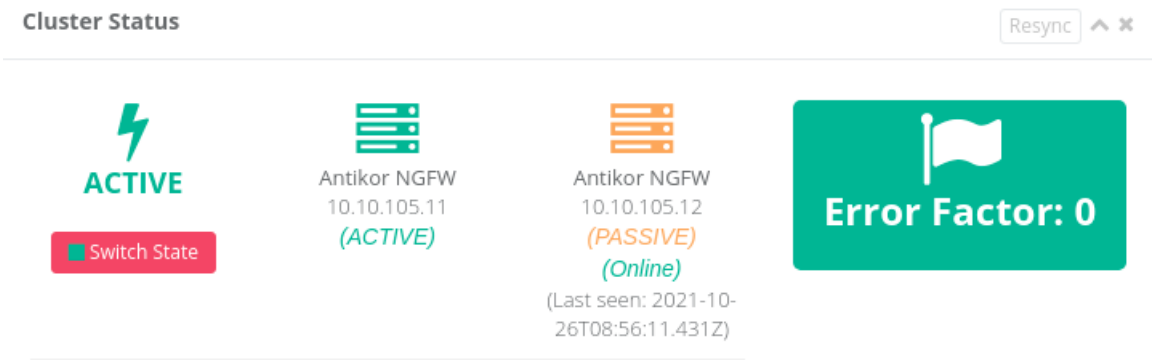


- After applied the definitions, the connection is tested with the `Verify License Key of Other Device` button. It appears to be successful. In case of failure, the license key and connection between the two servers should be checked.



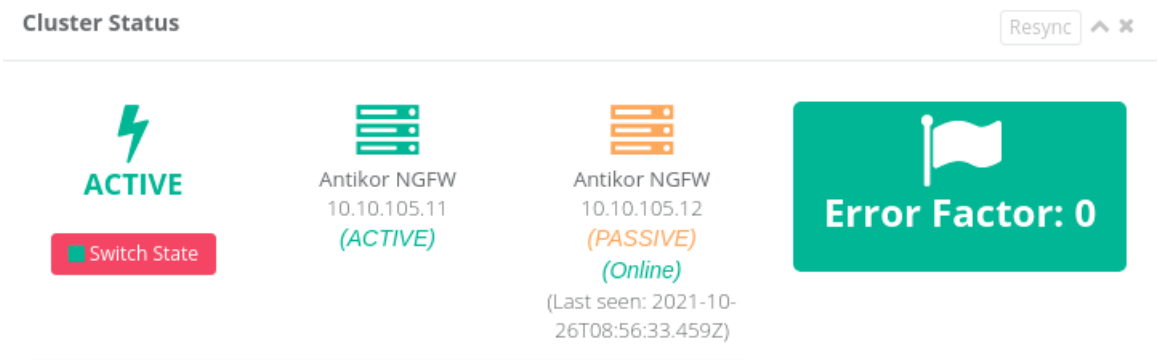


`Note:` If you want the settings to be the same on both devices;**Active** device **Cluster Status** on the **Dashboard** when the `Resynchronize' button is clicked on the tab, all the settings of the active device will be pressed on the Passive device.



Testing and Controls

- The Cluster Status on the Dashboard should indicate that it is`Online` to the Passive device if the device status is **Active**. If it does not write, the cluster settings and physical connections should be checked.



- The Cluster Status on the dashboard should say`Online` for the Active device if the device status is **Passive**. If it does not write, the cluster settings and physical connections should be checked.

Cluster Status

PASSIVE

Antikor NGFW
10.10.105.12
(PASSIVE)

Antikor NGFW
10.10.105.11
(ACTIVE)
(Online)
(Last seen: 2021-10-26T08:56:52.603Z)

Error Factor: 0

ePati Cyber Security Technologies Inc.
Mersin Universitesi Ciftlikkoy Kampusu
Teknopark Idari Binasi Kat: 4 No: 411
Zip Code: 33343 Yenisehir / MERSIN / TURKIYE

www.epati.com.tr
info@epati.com.tr
+90 324 361 02 33
+90 324 361 02 39