2 -

controller   .

```
[root@controller ~]# yum install openstack-neutron openstack-neutron-ml2 \
  openstack-neutron-linuxbridge ebtables
```

1. /etc/neutron/neutron.conf   .

   - [database]   :

```
[database]
# ...
connection = mysql+pymysql://neutron:NEUTRON_DBPASS@controller/neutron
```

NEUTRON_DBPASS   .

[database]   connection   .

   - [DEFAULT]   2 (ML2)   ,   IP
        :

```
[DEFAULT]
# ...
core_plugin = ml2
service_plugins = router
allow_overlapping_ips = true
```

   - [DEFAULT]   RabbitMQ   :

```
[DEFAULT]
# ...
transport_url = rabbit://openstack:RABBIT_PASS@controller
```

RABBIT_PASS   .

   - [DEFAULT]   [keystone_authtoken]   :

```
[DEFAULT]
# ...
auth_strategy = keystone

[keystone_authtoken]
# ...
www_authenticate_uri = http://controller:5000
auth_url = http://controller:5000
memcached_servers = controller:11211
auth_type = password
project_domain_name = default
user_domain_name = default
project_name = service
username = neutron
password = NEUTRON_PASS
```

NEUTRON_PASS   . *[keystone_authtoken]*
                                              .

  • [DEFAULT]   [nova]   compute   :

```
[DEFAULT]
# ...
notify_nova_on_port_status_changes = true
notify_nova_on_port_data_changes = true

[nova]
# ...
auth_url = http://controller:5000
auth_type = password
project_domain_name = default
user_domain_name = default
region_name = RegionOne
project_name = service
username = nova
password = NOVA_PASS
```

NOVA_PASS   .

  • [oslo_concurrency]   :

```
[oslo_concurrency]
# ...
lock_path = /var/lib/neutron/tmp
```

2 (ML2)

ML2 Linux 2 ( )
.

1. /etc/neutron/plugins/ml2/ml2_conf.ini .

- [ml2] FLAT, VLAN, VXLAN

```
[ml2]
# ...
type_drivers = flat,vlan,vxlan
```

- [ml2] VXLAN

```
[ml2]
# ...
tenant_network_types = vxlan
```

- [ml2] Linux bridge L2-population :

```
[ml2]
# ...
mechanism_drivers = linuxbridge,l2population
```

ML2 type_drivers
. Linux bridge agent VXLAN *.*

- [ml2] :

```
[ml2]
# ...
extension_drivers = port_security
```

- [ml2_type_flat] FLAT provider :

```
[ml2_type_flat]
# ...
flat_networks = provider
```

- [ml2_type_vxlan] VXLAN

```
[ml2_type_vxlan]
# ...
vni_ranges = 1:1000
```

- [securitygroup]   ipset   :

```
[securitygroup]
# ...
enable_ipset = true
```

Linux bridge agent

Linux bridge agent   2 (   )
                              .

1. /etc/neutron/plugins/ml2/linuxbridge_agent.ini
    .

- [linux_bridge]   :

```
[linux_bridge]
physical_interface_mappings = provider:PROVIDER_INTERFACE_NAME
```

PROVIDER_INTERFACE_NAME   **Provider**   .

- [vxlan]   VXLAN   ,
                        IP   , L2-population   .

```
[vxlan]
enable_vxlan = true
local_ip = OVERLAY_INTERFACE_IP_ADDRESS
l2_population = true
```

OVERLAY_INTERFACE_IP_ADDRESS
        IP   .
        .   **OVERLAY_INTERFACE_IP_ADDRESS**   **IP**
 .

- [securitygroup]   iptables
        :

```
[securitygroup]
# ...
enable_security_group = true
firewall_driver =
neutron.agent.linux.iptables_firewall.IptablesFirewallDriver
```

- sysctl 1 Linux
.

```
net.bridge.bridge-nf-call-iptables
net.bridge.bridge-nf-call-ip6tables
```

br_netfilter .
sysctl Kernel parameter .

```
[root@controller ~]# lsmod | grep "br_netfilter"
br_netfilter          22256  0
bridge               151336  1 br_netfilter
```

.

```
[root@controller ~]# modprobe br_netfilter
```

/etc/modules-load.d/br_netfilter.conf .

```
br_netfilter
```

Layer-3

Layer-3 (L3)   NAT   .

1. /etc/neutron/l3_agent.ini   .

    - [DEFAULT]   :

```
[DEFAULT]
# ...
interface_driver = linuxbridge
```

DHCP

DHCP   DHCP   .

1. /etc/neutron/dhcp_agent.ini   .

- [DEFAULT]   , dnsmasq DHCP   ,
  Provider
                                    :

```
[DEFAULT]
# ...
interface_driver = linuxbridge
dhcp_driver = neutron.agent.linux.dhcp.Dnsmasq
enable_isolated_metadata = true
```