## Interfaces

You can specify an interface (all traffic including broadcast), a specific address (unicast traffic) or use "*" to denote all traffic on all interfaces.

## Subnets

Change the subnet definition to match your network by adding and removing subnets. Directly connected subnets require the "interface" object, as shown in the example.

## Lease Database

Kea can store leases in memfile (a flat CSV file) or SQL databases (MySQL or PostgreSQL). The example configuration uses flat file lease storage (memfile), which is the highest performance option.

In order to configure MySql or PosgreSQL use the following guide:

To configure MySQL:
```
"lease-database": {
  "type": "mysql",
  "host": "mysql-server.example.com",
  "name": "keadatabase",
  "user": "kea",
  password": "secret1"
  }
```

To configure PostgreSQL:
```
"lease-database": {
  "type": "postgresql",
  "host": "pqsql-server.example.com",
  "name": "keadatabase",
  "user": "kea",
  "password": "secret1"
  }
```

## Options configuration

Options can be configured either at the global level (will apply to clients in all subnets) or on subnet-level (will be sent only to clients in that subnet). Kea supports standard, custom, vendor specific and nested options.

## Host Reservations

Kea 1.0 supports host reservations based on MAC address (v4) or DUID (v6), with IPv4 address and hostname reservations. Kea 1.1 will also support reservations for IPv6 addresses, IPv6 prefixes and host specific options. If you are using Host Reservation, you may want to download the latest source.

If you have few reservations, defining them in the configuration file is convenient. Kea can also store host reservations in MySQL, with Postgres support coming soon.

```
"hosts-database": {
  "type": "mysql",
  "host": "mysql-
          server.example.com",
  "name": "keadatabase",
  "user": "kea",
  "password": "secret1"
  }
```

ISC offers paid annual support subscriptions, described on our website at: www.isc.org/kea/

The Kea user community offers free advice on Kea-users, and developers discuss proposed development on Kea-dev. Both mailing lists are available at https://lists.isc.org

# Kea 1.0
# Quick Start Guide

Kea is a modern open-source DHCP server for Linux and Unix variants. This guide will help you get a server up and running quickly.

Kea is licensed under the Mozilla Public License version 2 (MPL 2.0).

## Documentation

The full Kea User's Guide, the Kea Developer's Guide, source code, and the open issue tracker are all available at the Kea project wiki:

**http://kea.isc.org**

# Installation

1. Install required dependencies: g++, make, boost, one crypto library (OpenSSL or Botan), log4cplus. If you want to use databases, you may optionally install MySQL or PostgreSQL.

2. Download a the Kea 1.0 source tarball from ftp.isc.org/isc/kea/ or isc.org/downloads/ and extract.

A number of OS package collections provide Kea pre-built with all the prerequisite packages. See http://kea.isc.org/wiki/Install for a list.

3. Go into the source directory and run the configure script:
```
$ ./configure [your extra parameters]
```

Parameters you may consider: --prefix, --with-dhcp-mysql, --with-dhcp-pgsql, --with-openssl, —with-botan-config

4. Build it:
```
$ make
```

5. Install it (by default the installation prefix is /usr/local/, so you likely need root privileges for that step):
```
# make install
```

6. Edit the configuration file which by default is installed in [kea-install-dir]/etc/kea/kea.conf. See the following section for details. We used **red** to indicate where you should substitute names and addresses relevant to your own network.

7. Start Kea:
```
# kea-dhcp4 -c /path/to/kea4/config-
      file.json
```

# Example configuration

The Kea installation comes with more than a dozen examples in [install-dir]/share/doc/kea/examples. The configuration is a JSON file and consists of a single object started with a curly bracket. The example configuration below is for a DHCPv4 server two subnets, one of which is directly attached, a global option, a subnet option and some host reservations.

Items written in **BOLD** are required for a working configuration. Lighter items are optional.
```
{
"Dhcp4": {
# interfaces
  "interfaces-config": {
    "interfaces": [ "eth0",
"eth3/10.0.0.1" ]
  },
# where the lease database is stored
  "lease-database": {
    "type": "memfile",
    "name": "/tmp/kea-leases4.csv",
    "lfc-interval": 1800
  },

# **** begin optional section ****
# Global options
  "option-data": [ {
    "name": "domain-name-servers",
    "data": "192.0.2.1, 192.0.2.2"
  } ],
# **** end optional section ****

  "valid-lifetime": 1800,
# subnet definitions
  "subnet4": [ {
    "subnet": "192.0.2.0/24",
    "pools": [
     { "pool": "192.0.2.10 -
192.0.2.20" }
    ],
```

# Example, continued
```
# **** begin optional section ****
# Subnet-specific options
    "option-data": [ {
      "name": "domain-name-servers",
      "data": "192.0.2.3"
    } ],
# **** end optional section ****

# **** begin optional section ****
    "reservations": [
      {
        "hw-address": "1a:1b:1c:1d:
         1e:1f",
        "ip-address": "192.0.2.202"
      }, {
        "hw-address": "0a:0b:0c:0d:
         0e:0f",
        "ip-address": "192.0.2.100",
        "hostname": "alice-laptop"
      }
    ]
# **** end optional section ****

# adding another subnet, this one is
directly connected
    }, {
    "subnet": "10.1.2.0/24",
    "pools": [
     { "pool": "10.1.2.5 -
        10.1.2.30" }
    ],
    "interface": "eth0"
    }
    ]
}
}
# end
```