

How To Securely Configure a Production MongoDB Server

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Securely Configure a Production MongoDB Server

If MongoDB is your document store of choice, then this article should help you configure everything securely and properly for a production-ready environment.

The MongoDB Installation Tutorial covers how to install MongoDB.

Steps

There are two differently recommended paths that are available. The first is to connect securely to your database through an SSH tunnel. The alternative is to allow connections to your database over the internet. Of the two choices, the former is recommended.

Connect Over SSH Tunnel

By connecting to your Mongo Virtual Private Server through an SSH tunnel, you can avoid a lot of potential security issues. The caveat is that your server must otherwise be totally locked down with few to no other ports open. A recommended SSH configuration is key-only or key+password.

To setup an SSH tunnel, you'll need to ensure that:

- You can SSH into your Mongo
- Your Mongo instance(s) are bound to localhost

Next, run the following command to initialize the connection:

The \s are just to multiline the command and make it more readable

```
ssh \  
  
-L 4321:localhost:27017 \  
  
-i ~/.ssh/my_secure_key \  
  
ssh_user@mongo_db_host_or_ip
```

Let's run through this step-by-step:

1. SSH tunneling simply requires SSH - there are no special other programs/binaries you'll need
2. The `-L`` option is telling SSH to setup a tunnel where port 4321 on your current machine will forward to the host ``localhost`` on port ``27017`` on your Mongo being SSH'ed into
3. The `-i`` option simply represents the recommendation made above to connect with an SSH key and not a password
4. The ``ssh_user@mongo_db_host_or_ip`` is standard for establishing an SSH connection

Number 2 is really the meat of the instruction. This will determine how you tell your applications or services to connect to your MongoDB.

Connect Over the Internet

If connecting over an SSH tunnel is not necessarily an option, you can always connect over the internet. There are a few security strategies to consider here.

The first is to use a non-standard port. This is more of an obfuscation technique and simply means that default connection adapters will not work.

In your MongoDB configuration file, change the following line to something other than 27017

```
port = 27017
```

Secondly, you'll want to bind Mongo directly to your application server's IP address. This means that Mongo will only accept connections.

In your MongoDB configuration file, change the following line to your application server's IP address

```
bind_ip = 127.0.0.1
```

Lastly, consider using MongoDB's authentication feature and set a username and password. To set this up, connect to the MongoDB shell as an admin with the `mongo` command and add a user. Once that's done, make sure you're adding the newly added username/password in your MongoDB connection strings.

Conclusion

Please consider the above a starting point and not the be-all-end-all for MongoDB security. A key factor NOT mentioned here are server firewall rules.