

B SH (/)

[quick tutorial \(https://bit.ly/learn-bosh\)](https://bit.ly/learn-bosh)[docs \(/docs\)](#)[github \(https://github.com/cloudfoundry/bosh\)](https://github.com/cloudfoundry/bosh)[#bosh on slack \(https://slack.cloudfoundry.org\)](https://slack.cloudfoundry.org)

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BOSH Lite v2 is a Director VM running in VirtualBox (typically locally). It is managed via [CLI v2 \(/docs/cli-v2.html\)](#). Internally CPI uses containers to emulate VMs which makes it an excellent choice for:

- General BOSH exploration without investing time and resources to configure an IaaS
- Development of releases (including BOSH itself)
- Testing releases locally or in CI

Install

Follow below steps to get it running on locally on VirtualBox:

1. Check that your machine has at least 8GB RAM, and 100GB free disk space. Smaller configurations may work.
2. Install [CLI v2 \(/docs/cli-v2.html#install\)](#)
3. Install [VirtualBox \(https://www.virtualbox.org/wiki/Downloads\)](https://www.virtualbox.org/wiki/Downloads)

Known working version:

```
$ VBoxManage --version
5.1...
```

Note: If you encounter problems with VirtualBox networking try installing [Oracle VM VirtualBox Extension Pack \(https://www.virtualbox.org/wiki/Downloads\)](https://www.virtualbox.org/wiki/Downloads) as suggested by [Issue 202 \(https://github.com/cloudfoundry/bosh-lite/issues/202\)](https://github.com/cloudfoundry/bosh-lite/issues/202). Alternatively make sure you are on VirtualBox 5.1+ since previous versions had a [network connectivity bug \(https://github.com/concourse/concourse-lite/issues/9\)](https://github.com/concourse/concourse-lite/issues/9).

4. Install Director VM

```
$ git clone https://github.com/cloudfoundry/bosh-deployment ~/workspace/bosh-deployment
$ mkdir -p ~/deployments/vbox
$ cd ~/deployments/vbox
```

Below command will try automatically create/enable Host-only network 192.168.50.0/24 ([details \(https://github.com/cppforlife/bosh-virtualbox-cpi-release/blob/master/docs/networks-host-only.md\)](https://github.com/cppforlife/bosh-virtualbox-cpi-release/blob/master/docs/networks-host-only.md)) and NAT network 'NatNetwork' with DHCP enabled ([details \(https://github.com/cppforlife/bosh-virtualbox-cpi-release/blob/master/docs/networks-nat-network.md\)](https://github.com/cppforlife/bosh-virtualbox-cpi-release/blob/master/docs/networks-nat-network.md)).

```
$ bosh create-env ~/workspace/bosh-deployment/bosh.yml \
--state ./state.json \
-o ~/workspace/bosh-deployment/virtualbox/cpi.yml \
-o ~/workspace/bosh-deployment/virtualbox/outbound-network.yml \
-o ~/workspace/bosh-deployment/bosh-lite.yml \
-o ~/workspace/bosh-deployment/bosh-lite-runc.yml \
-o ~/workspace/bosh-deployment/jumpbox-user.yml \
--vars-store ./creds.yml \
-v director_name="Bosh Lite Director" \
-v internal_ip=192.168.50.6 \
-v internal_gw=192.168.50.1 \
-v internal_cidr=192.168.50.0/24 \
-v outbound_network_name=NatNetwork
```

5. Alias and log into the Director

```
$ bosh alias-env vbox -e 192.168.50.6 --ca-cert <(bosh int ./creds.yml --path /director_ssl/ca)
$ export BOSH_CLIENT=admin
$ export BOSH_CLIENT_SECRET=`bosh int ./creds.yml --path /admin_password`
```

6. Confirm that it works

```
$ bosh -e vbox env
Using environment '192.168.56.6' as '?'

Name: ...
User: admin

Succeeded
```

Deploy example Zookeeper deployment

Run through quick steps below or follow [deploy workflow \(/docs/basic-workflow.html\)](/docs/basic-workflow.html) that goes through the same steps but with more explanation.

1. Update cloud config

```
$ bosh -e vbox update-cloud-config ~/workspace/bosh-deployment/warden/cloud-config.yml
```

2. Upload stemcell

```
$ bosh -e vbox upload-stemcell https://bosh.io/d/stemcells/bosh-warden-boshlite-ubuntu-trusty-go_agent?v=3421.9 \
--sha1 1396d7877204e630b9e77ae680f492d26607461d
```

3. Deploy example deployment

```
$ bosh -e vbox -d zookeeper deploy <(wget -O- https://raw.githubusercontent.com/cppforlife/zookeeper-release/master/manifests/zookeeper.yml)
```

4. Run Zookeeper smoke tests

```
$ bosh -e vbox -d zookeeper run-errand smoke-tests
```

5. Optionally, set up a local route for `bosh ssh` command

```
$ sudo route add -net 10.244.0.0/16 192.168.50.6 # Mac OS X
$ sudo route add -net 10.244.0.0/16 gw 192.168.50.6 # Linux
$ route add 10.244.0.0/16 192.168.50.6 # Windows
```

6. In case you need to SSH into the Director VM, see [Jumpbox \(/docs/jumpbox.html\)](/docs/jumpbox.html).

7. In case VirtualBox VM shuts down or reboots

To bring back the Director on the VM you will have to re-run `create-env` command from above. (You will have to remove `current_manifest_sha` line from `state.json` to force a redeploy.) The containers will be lost after a VM restart, but you can restore your deployment with `bosh cck` command. Alternatively *Pause* the VM from the VirtualBox UI before shutting down VirtualBox host, or making your computer sleep.

If you are looking for the original Vagrant based BOSH Lite, please refer to [cloudfoundry/bosh-lite's README \(https://github.com/cloudfoundry/bosh-lite\)](https://github.com/cloudfoundry/bosh-lite).

[Contribute changes to this page \(https://github.com/cloudfoundry/docs-bosh/blob/master/bosh-lite.html.md.erb\)](https://github.com/cloudfoundry/docs-bosh/blob/master/bosh-lite.html.md.erb)

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