



Course Materials

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Thank you for enrolling in our Elasticsearch course!

First things first – here are links to the slides for the course, so you can keep them for future reference. There are three versions of this course out there for Elasticsearch 5, 6, and 7 – so be sure to follow along for the version you're taking as you go through this page.

Elasticsearch 5: <http://media.sundog-soft.com/es/ElasticStack.pdf>

Elasticsearch 6: <http://media.sundog-soft.com/es6/ElasticStack.pdf>

Elasticsearch 7: <http://media.sundog-soft.com/es7/ElasticStack7.pdf>

These slides also contain text versions of the various snippets of code and configuration we use in the course. You can save time in the course activities by copying and pasting from the slides.

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<https://www.facebook.com/groups/38983076811346>

Setup Instructions

Setting Up a Virtual Machine (if you don't have an Ubuntu system)





Install

Virtualbox from <https://www.virtualbox.org/wiki/Downloads>

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In VirtualBox, select Machine / New and set up a Linux, Ubuntu 64-bit system. Set however much RAM you can spare on your system (I use 8GB on my 16GB system – at least 2GB to be safe.)

Create a virtual drive wherever you can spare the space; you'll need at least 20GB for this course. Start it, and select the ISO file you downloaded for Ubuntu to start the Ubuntu installation process. Go with the defaults unless you have reason to do

otherwise, and enter whatever username and password you want for your root account. When prompted to write changes to disk, select “yes”. You can change selections using the TAB key, and confirm selections with ENTER.

In VirtualBox, bring up the settings for your Ubuntu virtual machine, and select Network, then advanced, and hit the port forwarding button. Add an entry for “Elasticsearch” for TCP on host IP 127.0.0.1, and enter 9200 for the host port and guest port. Leave the Guest IP blank. Also add a “Kibana” entry in the same way, with port 5601, and an “SSH” entry, with port 22. **On MacOS**, you may have a conflict with port 22 – so try setting the host port for SSH to 2222 instead, and connect to your virtual server using port 2222 instead of 22 as shown in the course videos.

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VirtualBox Troubleshooting

If you are running the Avast anti-virus program, it will conflict with VirtualBox. There is a registry hack that gets around the problem, but you might consider switching to Microsoft's free Windows Defender instead while using this course.

Don't forget to check your BIOS settings if you're having trouble. Virtualization needs to be enabled, and I've seen reports of “Hyper-V” virtualization causing problems if it's on.





Start your Ubuntu virtual machine and log in.

For the Elasticsearch 5 course:

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First we need a Java environment:

```
sudo apt-get install openjdk-8-jre-headless -y
sudo apt-get install openjdk-8-jdk-headless -y
```

Now we can install Elasticsearch itself:

```
wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch
```

```
sudo apt-get install apt-transport-https
```

```
echo "deb https://artifacts.elastic.co/packages/5.x/apt stable"
tee -a /etc/apt/sources.list.d/elasticsearch-5.x.list
```

```
sudo apt-get update && sudo apt-get install elasticsearch
```

Now, edit the elasticsearch.yml file:

```
sudo vi /etc/elasticsearch/elasticsearch.yml
```

Change network.host to 0.0.0.0 (in vi, use the arrow keys to where you want to edit, then hit "i" to enter "insert mode" and make your edits. When done, hit ESC to exit "insert mode", then type :wq to write your changes and quit vi.)

```
sudo /bin/systemctl daemon-reload
sudo /bin/systemctl enable elasticsearch.service
sudo /bin/systemctl start elasticsearch.service
```

Elasticsearch is now up and running!

Hit 127.0.0.1:9200 from a browser to test it.

For the Elasticsearch 6 course:

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```
sudo apt-get install openjdk-8-jre-headless -y
```

```
sudo apt-get install openjdk-8-jdk-headless -y
```

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Now we can install Elasticsearch itself. ▾

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```
wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch
```

```
sudo apt-get install apt-transport-https
```

```
echo "deb https://artifacts.elastic.co/packages/6.x/apt sta
```

```
tee -a /etc/apt/sources.list.d/elasticsearch-6.x.list
```

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```
sudo apt-get update && sudo apt-get install elasticsearch
```

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Now, edit the elasticsearch.yml file:

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```
sudo vi /etc/elasticsearch/elasticsearch.yml
```

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Change network.host to 0.0.0.0 (in vi, use the arrow keys to where you want to edit, then hit "i" to enter "insert mode" and

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make your edits. When done, hit ESC to exit "insert mode", then type :wq to write your changes and quit vi.)

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```
sudo /bin/systemctl daemon-reload
```

```
sudo /bin/systemctl enable elasticsearch.service
```

```
sudo /bin/systemctl start elasticsearch.service
```

Elasticsearch is now up and running!

Hit 127.0.0.1:9200 from a browser to test it.

For the Elasticsearch 7 Course:

After logging into your virtual Ubuntu server, use the following commands to install Elasticsearch itself:

```
wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch
```

```
sudo apt-get install apt-transport-https
```

```
echo "deb https://artifacts.elastic.co/packages/7.x/apt sta
```





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```
sudo apt-get update && sudo apt-get install elasticsearch
```

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Next, edit the Elasticsearch configuration using vi:

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```
sudo vi /etc/elasticsearch/elasticsearch.yml
```

Uncomment the **node.name** line (in vi, use the arrow keys to

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where you want to edit, then hit “i” to enter “insert mode” and

make your edits.)

Change **network.host** to 0.0.0.0, **discovery.seed.hosts** to

["127.0.0.1"], and **cluster.initial_master_nodes** to ["node-1"]

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When done, hit ESC to exit “insert mode”, then type :wq to write

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your changes and quit vi.

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```
sudo /bin/systemctl daemon-reload
```

```
sudo /bin/systemctl enable elasticsearch.service
```

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```
sudo /bin/systemctl start elasticsearch.service
```

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Elasticsearch is now up and running! Or, it will be in a couple of

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minutes after everything spins up.

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Troubleshooting

If Elasticsearch doesn't seem to be running, give it a few minutes

and try again. But you may be encountering an issue specific to

Ubuntu 16.04 that has a workaround described

at https://lxadm.com/Problems_starting_elasticsearch_in_Ubuntu

Install the Shakespeare Search Index in Elasticsearch 5:

```
wget http://media.sundog-soft.com/es/shakes-mapping.json
```

```
curl -XPUT 127.0.0.1:9200/shakespeare --data-binary @shakes
```

```
wget http://media.sundog-soft.com/es/shakespeare.json
```

```
curl -XPOST '127.0.0.1:9200/shakespeare/_bulk' --data-binar
```

```
curl -XGET '127.0.0.1:9200/shakespeare/_search?pretty' -d '{
```

```
{
```



```
"text_entry" : "to be or not to be"
}
}
}
}
```

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Install the Shakespeare Search Index in Elasticsearch 6:

```
wget http://media.sundog-soft.com/es6/shakes-mapping.json
```

```
curl -H 'Content-Type: application/json' -XPUT 127.0.0.1:92
--data-binary @shakes-mapping.json
```

```
wget http://media.sundog-soft.com/es6/shakespeare_6.0.json
```

```
curl -H 'Content-Type: application/json' -XPOST
'localhost:9200/shakespeare/_doc/_bulk?pretty' --data-binary
@shakespeare_6.0.json
```

```
curl -H 'Content-Type: application/json' -XGET
'127.0.0.1:9200/shakespeare/_search?pretty' -d '{
```

```
{
  "query" : {
    "match_phrase" : {
      "text_entry" : "to be or not to be"
    }
  }
}
```

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Install the Shakespeare Search Index in Elasticsearch 7:

```
wget http://media.sundog-soft.com/es7/shakes-mapping.json
```





```
wget http://media.sundog-soft.com/es7/shakespeare_7.0.json
```

```
curl -H 'Content-Type: application/json' -XPOST '127.0.0.1:9200/shakespeare/_bulk?pretty' --data-binary @shakespeare_7.0.json
```

```
curl -H 'Content-Type: application/json' -XGET '127.0.0.1:9200/shakespeare/_search?pretty' -d '{
  "query" : {
    "match_phrase" : {
      "text_entry" : "to be or not to be"
    }
  }
}
```

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