# **Module C4.6 Practical Work Report**

# Elasticsearch\_Kibana\_Logstash\_Firebeat\_RSyslog\_NGINX

# С4.6. Практикум

□ Добавить страницу в мои закладки

Для выполнения заданий потребуется две машины. Будем их называть *Server1* и *Server2*. Для их создания можно использовать Яндекс.Облако.

#### Задание С4.6.1

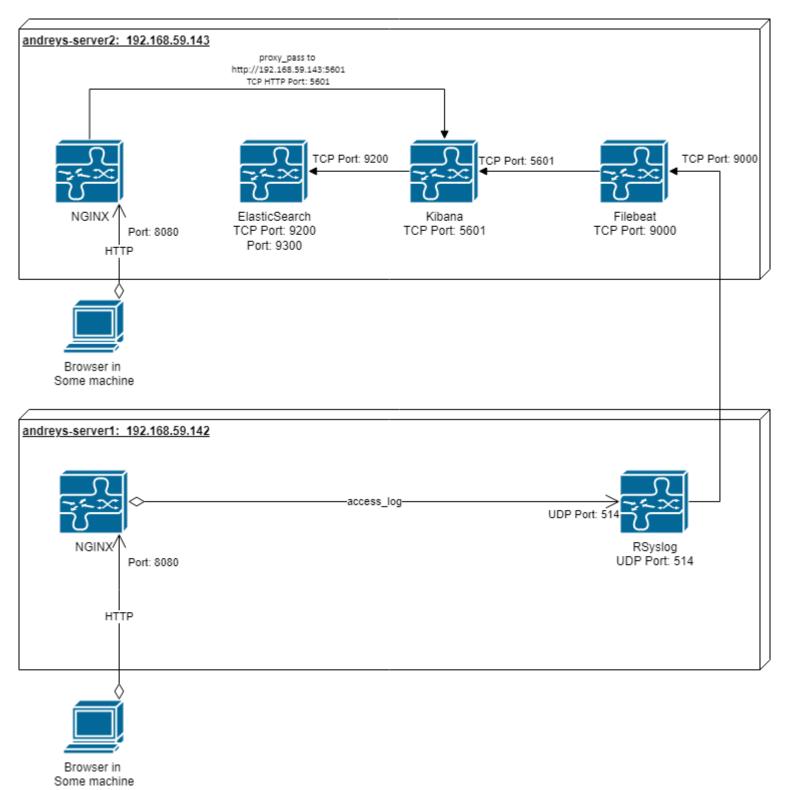
Разверните на Server2 Elasticsearch+Kibana. Настройте визуализацию логов Kibana на ней самой. Log shipper используйте любой на ваш выбор.

Пришлите ментору для проверки скриншот интерфейса Kibana с ее логами и конфиг-файл log shipper.

#### Задание С4.6.2

- 1. Настройте на Server1 с помощью RSyslog отправку логов любого приложения (nginx/Jenkins/что-то еще на ваш выбор) в Elasticsearch на Server2.
- 2. Проверьте через Kibana, что логи доставляются (в пункте Discover).

Для проверки пришлите ментору скриншот с логами вашего приложения из Kibana и конфиги самого приложения и RSyslog.



### Server2 192.168.59.143

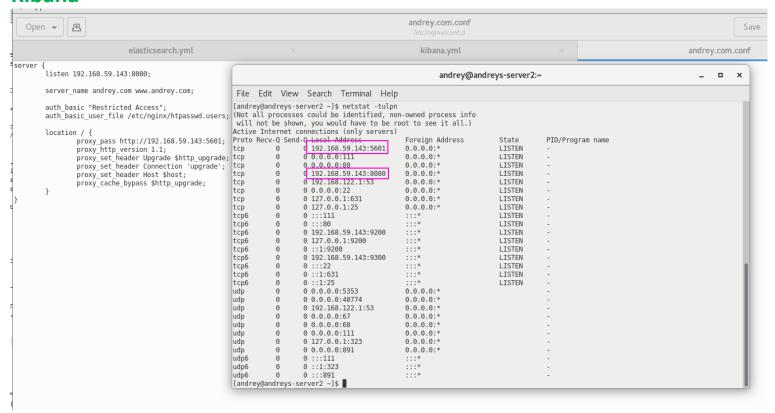


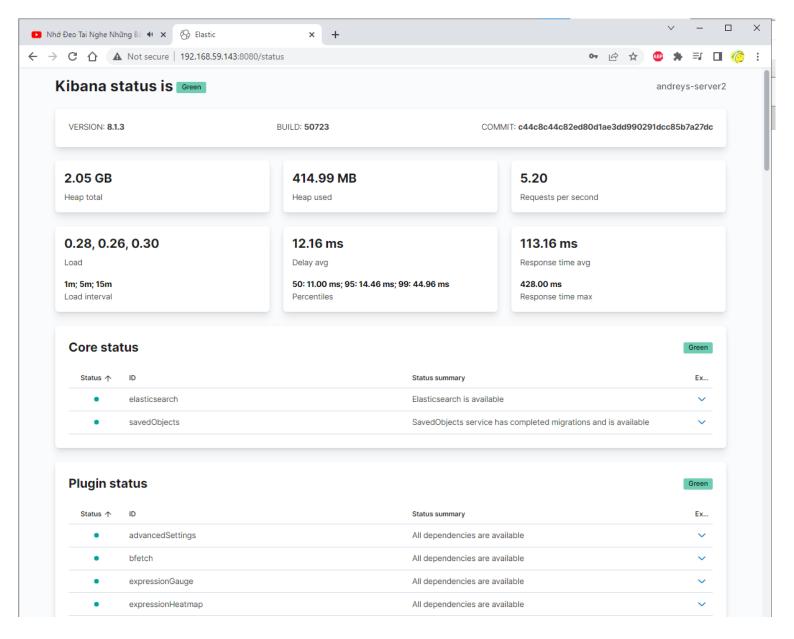
# **ElasticSearch**

```
andrey@andreys-server2:~
 File Edit View Search Terminal Help
[andrey@andreys-server2 ~]$ sudo service elasticsearch status
Redirecting to /bin/systemctl status elasticsearch.service
 elasticsearch.service - Elasticsearch
    Loaded: loaded (/usr/lib/systemd/system/elasticsearch.service; enabled; vendor preset: disabled)
   Active: active (running) since Thu 2022-04-21 04:22:25 EEST; 46s ago
     Docs: https://www.elastic.co
 Main PID: 4341 (java)
    Tasks: 68
   CGroup: /system.slice/elasticsearch.service
              -4341 /usr/share/elasticsearch/jdk/bin/java -Xshare:auto -Des.networkaddress.cache.ttl=60 -Des.networkaddress.cache...
             4626 /usr/share/elasticsearch/modules/x-pack-ml/platform/linux-x86_64/bin/controller
Apr 21 04:22:06 andreys-server2 systemd[1]: Stopped Elasticsearch.
Apr 21 04:22:06 andreys-server2 systemd[1]: Starting Elasticsearch...
Apr 21 04:22:25 andreys-server2 systemd[1]: Started Elasticsearch.
[andrey@andreys-server2 ~]$ curl -X GET http://192.168.59.143:9200
  "name" : "andreys-server2",
  "cluster_name" : "elasticsearch",
"cluster_uuid" : "_IWdIfyPQkeJ08E8nXY5zA",
  "version" : {
  "number" : "8.1.3",
  "build_flavor" : "default",
  "build_type" : "rpm",
     "build_hash" : "39afaa3c0fe7db4869a161985e240bd7182d7a07",
     "build date" : "2022-04-19T08:13:25.444693396Z",
    "build_snapshot" : false,
"lucene_version" : "9.0.0"
     "minimum wire compatibility version": "7.17.0",
     "minimum_index_compatibility_version" : "7.0.0"
  "tagline" : "You Know, for Search"
[andrey@andreys-server2 ~]$ S
```

```
[andrey@andreys-server2 ~]$ netstat -tulpn
(Not all processes could be identified, non-owned process info
 will not be shown, you would have to be root to see it all.)
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address
                                               Foreign Address
                                                                         State
                                                                                      PID/Program name
           0
tcp
                   0 0.0.0.0:111
                                               0.0.0.0:*
                                                                         LISTEN
tcp
                                               0.0.0.0:*
           0
                   0 0.0.0.0:80
                                                                         LISTEN
tcp
           0
                   0 192.168.122.1:53
                                               0.0.0.0:*
                                                                         LISTEN
                                               0.0.0.0:*
tcp
           0
                   0 0.0.0.0:22
                                                                         LISTEN
                                               0.0.0.0:*
tcp
           0
                   0 127.0.0.1:631
                                                                         LISTEN
tcp
           0
                   0 127.0.0.1:25
                                               0.0.0.0:*
                                                                         LISTEN
tcp6
            0
                   0 :::111
                                               :::*
                                                                         LISTEN
tcp6
           0
                   0 192.168.59.143:9200
                                               :::*
                                                                         LISTEN
tcp6
           0
                   0 127.0.0.1:9200
                                               :::*
                                                                         LISTEN
                                               :::*
tcp6
            0
                   0 ::1:9200
                                                                         LISTEN
tcp6
            0
                   0 :::80
                                               :::*
                                                                         LISTEN
                   0 192.168.59.143:9300
                                               :::*
tcp6
            0
                                                                         LISTEN
tcp6
           0
                   0
                     :::22
                                               :::*
                                                                         LISTEN
tcp6
           0
                   0 ::1:631
                                               :::*
                                                                         LISTEN
tcp6
           0
                   0 ::1:25
                                               :::*
                                                                         LISTEN
udp
           0
                   0 0.0.0.0:5353
                                               0.0.0.0:*
udp
           0
                   0 0.0.0.0:40774
                                               0.0.0.0:*
udp
           0
                   0 192.168.122.1:53
                                               0.0.0.0:*
udp
           0
                   0 0.0.0.0:67
                                               0.0.0.0:*
udp
           0
                   0 0.0.0.0:68
                                               0.0.0.0:*
udp
           0
                   0 0.0.0.0:111
                                               0.0.0.0:*
udp
           0
                   0 127.0.0.1:323
                                               0.0.0.0:*
udp
           0
                   0 0.0.0.0:891
                                               0.0.0.0:*
udp6
           0
                   0 :::111
                                               :::*
udp6
           0
                   0 ::1:323
                                               :::*
udp6
           0
                   0 :::891
                                               :::*
[andrey@andreys-server2 ~]$
```

## **Kibana**





# **LOGSTASH**

```
andrey@andreys-server2:~
                                                                                                                                                                                                                                             File Edit View Search Terminal Help
 Redirecting to /bin/systemctl status logstash.service

    logstash.service - logstash
    Loaded: loaded (/etc/systemd/system/logstash.service; enabled; vendor preset: disabled)

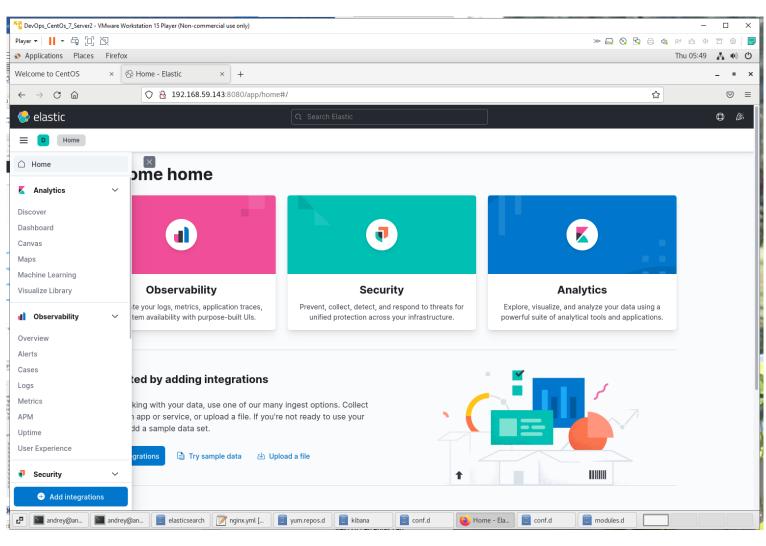
     Active:
                                  ning) since Thu 2022-04-21 04:59:23 EEST; 35s ago
  Main PID: 7957 (java)
     CGroup: /system.slice/logstash.service

-7957 /usr/share/logstash/jdk/bin/java -Xms1g -Xmx1g -XX:+UseConcMarkSweepGC -XX:CMSInitiatingOccupancyFraction=75 -XX:+UseCMSInitiatingOccupancyOnly -Djav...
Apr 21 04:59:57 andreys-server2 logstash[7957]: [2022-04-21T04:59:57,890][INFO ][logstash.javapipeline
                                                                                                                                                         ] Pipeline `main` is configured with `pipeline.ecs ...otherwise
| Apr 21 04:59:57 andreys-server2 logstash[7957]: [2022-04-21704:59:57,956][INFO ][logstash.outputs.elasticsearch][main] New Elasticsearch output [:class=>"Log...43:9200"]}
| Apr 21 04:59:58 andreys-server2 logstash[7957]: [2022-04-21704:59:58,395][INFO ][logstash.outputs.elasticsearch][main] Elasticsearch pool URLs updated {:chan...3:9200/]}
Apr 21 04:59:58 andreys-server2 logstash[7957]:
Apr 21 04:59:58 andreys-server2 logstash[7957]:
                                                                      [2022-04-21T04:59:58,738][WARN [2022-04-21T04:59:58,786][INFO
                                                                                                                   [[logstash.outputs.elasticsearch][main] Restored connection to ES instance {:u...43:9200/"} [[logstash.outputs.elasticsearch][main] Elasticsearch version determined (8.1...ersion=>8}
                                                                                                                   [[logstash.outputs.elasticsearch][main] Detected a 6.x and above cluster: the ...ersion=>8] [logstash.outputs.elasticsearch][main] Config is not compliant with data stre...to `false` [[logstash.outputs.elasticsearch][main] Config is not compliant with data stre...to `false` [[logstash.outputs.elasticsearch][main] Elasticsearch Output configured with `ecs_compat...
Apr 21 04:59:58 andreys-server2 logstash[7957]
Apr 21 04:59:58 andreys-server2 logstash[7957]
                                                                      [2022-04-21T04:59:58,790][WARN [2022-04-21T04:59:58,952][INFO
Apr 21 04:59:58 andreys-server2 logstash[7957]:
Apr 21 04:59:58 andreys-server2 logstash[7957]:
                                                                      [2022-04-21T04:59:58,956][INF0
[2022-04-21T04:59:58,965][WARN
Apr 21 04:59:59 andreys-server2 logstash[7957]: [2022-04-21T04:59:59,020][WARN ][logstash.filters.grok
Hint: Some lines were ellipsized, use -l to show in full.
                                                                                                                                                        ][main] ECS v8 support is a preview of the unreleas...be updated
[andrey@andreys-server2 ~]$ netstat -tulpn
c(Not all processes could be identified, non-owned process info
will not be shown, you would have to be root to see it all.)
¡Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address
tcp 0 0 192.168.59.143:5601
                                                                Foreign Address
                                                                                                   State
                                                                                                                    PID/Program name
                                                                                                   LISTEN
                                                                0.0.0.0:*
tcp
                 0
                           0 0.0.0.0:111
                                                                0.0.0.0:*
                                                                                                   LISTEN
                           0 0.0.0.0:80
                                                                0.0.0.0:*
tcp
                                                                                                   LISTEN
 tcp
                 A
                           0 192.168.59.143:8080
                                                                0.0.0.0:*
                                                                                                   LISTEN
tcp
                           0 192.168.122.1:53
                                                                0.0.0.0:*
                                                                                                   LISTEN
 tcp
                 0
                           0 0.0.0.0:22
                                                                0.0.0.0:*
                                                                                                   LISTEN
tcp
                           0 127.0.0.1:631
                                                                0.0.0.0:*
                                                                                                   LISTEN
tcp
                 0
                           0 127.0.0.1:25
                                                                0.0.0.0:*
                                                                                                   LISTEN
                           0 127.0.0.1:9600
 tcp6
                                                                                                   LISTEN
                           0 :::111
0 :::80
tcp6
                 Θ
                                                                                                   LISTEN
tcp6
                                                                                                   LISTEN
tcp6
                 A
                           0 192.168.59.143:9200
                                                                                                   LISTEN
                           0 127.0.0.1:9200
                                                                                                   LISTEN
tcp6
                 0
                              ::1:9200
                                                                                                   LISTEN
                         0 192.168.59.143:5044
1tcp6
                 Θ
                                                                                                   LISTEN
 tcp6
                 0
                           0 192.168.59.143:9300
                                                                                                   LISTEN
tcp6
                           0 :::22
                                                                                                   LISTEN
tcp6
                 A
                           0 ::1:631
                                                                                                   LISTEN
                           0 ::1:25
                                                                                                   LISTEN
udp
udp
                 0
                           0 0 0 0 0 0:5353
                                                                0.0.0.0:*
                           0 0.0.0.0:40774
                                                                0.0.0.0:*
 udp
                 0
                           0 192.168.122.1:53
                                                                0.0.0.0:*
                                                                0.0.0.0:*
 udp
                           0 0.0.0.0:67
udp
udp
                 Θ
                           0 0.0.0.0:68
                                                                0.0.0.0:*
                           0 0.0.0.0:111
                                                                0.0.0.0:*
 udp
                 A
                           0 127.0.0.1:323
                                                                0.0.0.0:*
                           0 0.0.0.0:891
 udp
                                                                0.0.0.0:*
                           0 :::111 0 ::1:323
 udp6
                 0
 udp6
udp6 0 0 :::8
[andrey@andreys-server2
                           0 :::891
                                                                 :::*
```

#### **FILEBEAT**

#### andrey@andreys-server2:~ Edit View Search Terminal Help File udp6 0 0 ::1:323 :::\* 0 udp6 0 :::894 :::\* [andrey@andreys-server2 ~]\$ netstat -tulpn (Not all processes could be identified, non-owned process info will not be shown, you would have to be root to see it all.) Active Internet connections (only servers) Proto Recv-Q Send-Q Local Address Foreign Address State PID/Program name 0 0 0.0.0.0:111 0.0.0.0:\* LISTEN 0 0.0.0.0:\* 0 0.0.0.0:80 LISTEN tcp 0 0.0.0.0:\* 0 192.168.59.143:8080 LISTEN tcp 0 0 192.168.122.1:53 0.0.0.0:\* LISTEN tcp 0 0 0.0.0.0:22 0.0.0.0:\* LISTEN tcp 0 0 127.0.0.1:631 0.0.0.0:\* LISTEN tcp 0 0 127.0.0.1:25 0.0.0.0:\* LISTEN tcp 0 0 192 168 59 143·5601 0.0.0.0:\* LISTEN tcp 0 0 192.168.59.143:9000 0.0.0.0:\* LISTEN tcp 0 0 :::111 :::\* LISTEN tcp6 0 tcp6 0 192.168.59.143:9200 :::\* LISTEN :::\* 0 0 127.0.0.1:9200 tcp6 LISTEN 0 :::\* tcp6 0 ::1:9200 LISTEN 0 tcp6 0 :::80 :::\* LISTEN 0 tcp6 0 192.168.59.143:5044 :::\* LISTEN 0 0 192.168.59.143:9300 :::\* tcp6 LISTEN 0 0 :::22 :::\* tcp6 LISTEN 0 0 ::1:631 :::\* tcp6 LISTEN 0 0 ::1:25 :::\* tcp6 LISTEN 0 0 127.0.0.1:9600 :::\* tcp6 LISTEN 0 0 192.168.122.1:53 0.0.0.0:\* udp 0 0 0.0.0.0:67 0.0.0.0:\* udp 0 0 0.0.0.0:68 0.0.0.0:\* udp 0 0 0.0.0.0:111 0.0.0.0:\* udp 0 0 127.0.0.1:323 0.0.0.0:\* udp 0 0 0.0.0.0:894 0.0.0.0:\* udp 0 0 0.0.0.0:5353 0.0.0.0:\* udp 0 0 0.0.0.0:59879 0.0.0.0:\* udp 0 0 :::111 :::\* udp6 0 0 ::1:323 udp6 :::\* 0 0 :::894 :::\* udp6 [andrey@andreys-server2 ~]\$

```
andrey@andreys-server2:~
 File Edit View Search Terminal Help
                                               Logs path (default "")
Load additional plugins
        --path.logs string
        --plugin pluginList
                                               Strict permission checking on config files (default true)
Log at INFO level
Use "filebeat modules [command] --help" for more information about a command.
[andrey@andreys-server2 ~]$ sudo filebeat modules list
Enabled:
nginx
system
Disabled:
activemq
apache
auditd
awsfargate
azure
barracuda
```



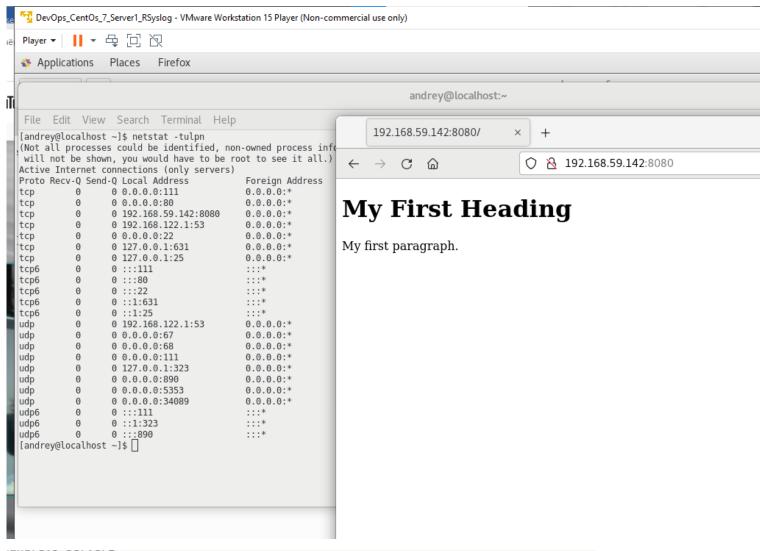
```
andrey@andreys-server2:~
    File Edit View Search Terminal Help
[andrey@andreys-server2 ~]$ curl -X GET 'http://192.168.59.143:9200/filebeat-*/_search?pretty'

[andrey@andreys-server2 ~]$ curl -X GET 'http://192.168.59.143:9200/filebeat-*/_search?pretty'
    "took" : 18,
"timed_out" : false,
"_shards" : {
  "total" : 2,
        "total" : 2,
"successful" : 2,
"skipped" : 0,
"failed" : 0
ellued sniddidddlll lnlfildl:ldi,
   },
"hits" : {
  "total" : {
    "value" : 10000,
    "relation" : "gte"
    " : 1.0,
        },
"max_score" : 1.0,
         "hits" : [
          "log" : {
  "offset" : 593215,
  "file" : {
    "path" : "/var/log/messages"
}
                 }
},
"event" : {
  "dataset" : "system.syslog",
  "module" : "system",
  "original" : "Apr 6 03:24:27 localhost kernel: pcieport 0000:00:17.4: Signaling PME through PCIe PME interrupt",
  "timezone" : "+03:00"
}.
                 },
"service" : {
   "type" : "system"
}
                 },
"fileset" : {
  "name" : "syslog"
                  },
"@timestamp" : "2022-04-21T02:45:35.167Z",
                  "host": {
    "id": "34327ec40a174e7d883fe9e6bd92f42b",
    "containerized": false,
                     "ip" : [
"192.168.59.143",
"fe80::c4ca:9647:4326:cf87",
"192.168.122.1"
```

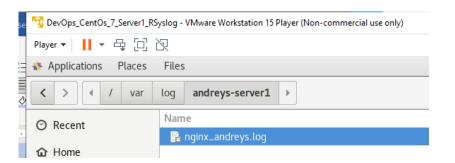
], "architecture" : "x86\_64",

### Server1 192.168.59.142





```
[andrey@andreys-server1 ~]$ netstat -nap | egrep -w "514"
(Not all processes could be identified, non-owned process info
will not be shown, you would have to be root to see it all.)
           0
                  0 0.0.0.0:514
                                             0.0.0.0:*
qbu
udp
           0
                  0 192.168.59.142:49857
                                             192.168.59.142:514
                                                                     ESTABLISHED -
                  0 192.168.59.142:41900
                                             192.168.59.142:514
                                                                     ESTABLISHED
udp
           0
           0
udp6
                  0 :::514
                                             :::*
[andrey@andreys-server1 ~]$
```



## **FINAL TESTING**

