Continuous Monitoring on Docker with ELK Stack

Project Objective:

CM on Docker with ELK stack is the process that helps developers to monitor the application in real-time using Kibana.

Used Technologies:

- Docker
- Docker Compose
- Elasticsearch
- Logstash
- Kibana
- Spring Boot application

Developer Detail:

Name:

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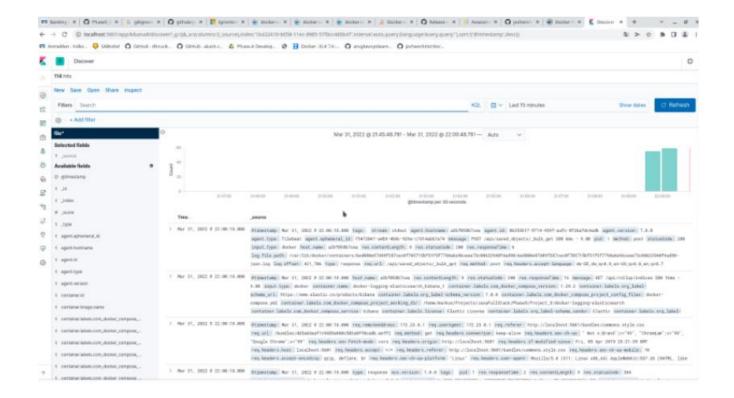
Link Of Github Repository:

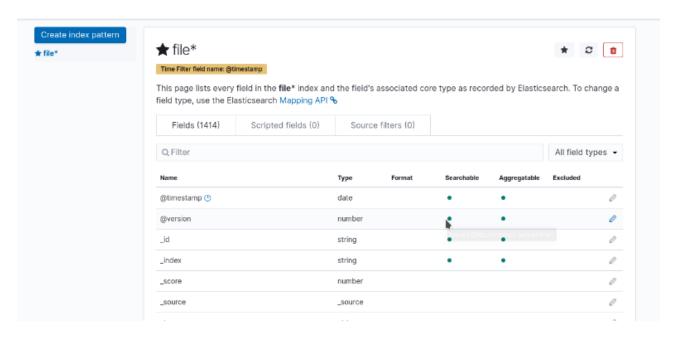
By clicking on the following link one can see the different files stored in the github repository.

https://github.com/NaghmaBano/DockerWithELKStack.git

Output Screenshots:

```
| Comparison | Com
```





Docker Compose:

version: '3.2' services:

run \./mvnw clean package\ before

build: ./demo

ports:

- 8080:8080

filebeat:

build: ./filebeat

volumes:

- /var/lib/docker/containers:/var/lib/docker/containers:ro
- /var/run/docker.sock:/var/run/docker.sock

networks:

- es

depends_on:elasticsearch

kibana:

image: docker.elastic.co/kibana/kibana:7.0.0

ports:

- 5601:5601 environment:

ELASTICSEARCH_URL: http://elasticsearch:9200

networks:

- es

depends_on:

- elasticsearch

elasticsearch:

image: docker.elastic.co/elasticsearch/elasticsearch:7.0.0

container_name: elasticsearch

environment:

- cluster.name=docker-cluster

```
- "ES_JAVA_OPTS=-Xms512m -Xmx512m"
- "network.host=0.0.0.0"
- "discovery.zen.minimum_master_nodes=1"
- "discovery.type=single-node"
ulimits:
memlock:
soft: -1
hard: -1
volumes:
- esdata:/usr/share/elasticsearch/data
ports:
- 9200:9200
networks:
- es
volumes:
esdata:
driver: local
networks:
es:
  FileBeat
  FROM docker elastic co/beats/filebeat:7.0.0
  COPY filebeat.yml /usr/share/filebeat/filebeat.yml
  # must run as root to access /var/lib/docker and /var/run/docker.
  sock USER root
  RUN chown root /usr/share/filebeat/fi
  lebeat.yml#dontrun with =e, to dis
  able output to stderrCMD [""]
# filebeat.yml
filebeat.inputs:
- type: docker
containers.ids: '*'
json.message_key: message
json.keys_under_root: true
json.add_error_key: true
json.overwrite_keys: true
processors:
- add_docker_metadata: ~
output.elasticsearch:
hosts: ["elasticsearch:9200"]
logging.to_files: true
  logging.to_s
  yslog: false
```

DemoApplication:

```
package com.example.demo;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.boot.SpringApplication;
import
org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RestController;
@SpringBootApplication
@RestController
public class DemoApplication {
private static final Logger logger =
LoggerFactory.getLogger(DemoApplication.class);
public static void main(String[] args) {
SpringApplication.run(DemoApplication.class, args);
@GetMapping("/")
public String hello() {
logger.info("Hello World");
logger.error("Ooops, there was an error", new
RuntimeException("I am a runtime exception"));
return "Hello World";
}
}
```