

A background graphic featuring a network of blue lines connecting yellow circular nodes, set against a dark blue gradient.

LFN Mentorship Project Presentation

August 2020

Log Analysis and Alerting

› Introduction

- › **Name:** Adarsh Yadav
- › **Location:** Delhi, India
- › **University:** University Of Delhi
- › **Mentor(s):** Sridhar K. N. Rao
- › **LFN Project:** OPNFV - VSPERF

Log Analysis and Alerting

Project Description:

- › Help user to understand the test behaviour and analyze the performance results from logs generated by VSperf
- › Alert Management solution to send alerts.

Tools:

- › Elasticsearch, Fluentd, Kibana, Elastaalert, Kubernetes, Ansible, Jupyter-Notebook

Log Analysis and Alerting

Project Objectives:

- › Deployment of K8s cluster
- › Deploy EFK Stack
- › Achieve high availability
- › Configure Fluentd
- › Alert Configuration

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- › **Project Deliverables:**
 - › Client-Side Ansible Playbooks for BM
 - › Deploy and Configure agents
 - › Server-Side Ansible playbooks for BM
 - › Deploy K8S Cluster
 - › Deploy and configure EFK
 - › Alerting Configuration
 - › Jupyter Notebooks
 - › Analysis of Logs
 - › Visualization and alert management in OPNFV airship.

Log Analysis and Alerting

- › **Project Execution & Accomplishments:**
- › Client-Side Ansible Playbooks
 - › Deploy and Configure agents
- › Server-Side Ansible playbooks
 - › Deploy K8S Cluster
 - › Deploy and configure EFK
 - › Alerting Configuration
- › Jupyter Notebooks
 - › Analysis of Logs

Log Analysis and Alerting

Updated Aug 24 REPLY

Owner Adarsh Yadav ?

Assignee Set assignee...

Reviewers jenkins-ci ×
Sridhar Rao ×
ADD REVIEWER

CC ADD CC

Repo vswitchperf

Branch master EDIT

Parent e5eef0f □

Topic ADD TOPIC

Strategy Merge if Necessary

Hashtags ADD HASHTAG

✓ Verified +1 jenkins-ci ■

🔍 Code-Review No votes.

LMA: Deployment of LMA solution.
Docs for LMA deployment

Signed-off-by: Adarsh Yadav <adiyadav0509@gmail.com>
Change-Id: Ib58bec806ce80c6927b40ddd490d612195bd6d70

Files Base ▾ ↪ Patchset 1 ▾ | [bad171c](#) □ | ADD PATCHSET DESCRIPTION UPDATE CHANGE DOWNLOAD EXPAND ALL

File	Comments	Size	Delta
Commit message			
A docs/lma/logs/images/elasticsearch.png			+35.2 K1B
A docs/lma/logs/images/fluend-cs.png			+39.3 K1B
A docs/lma/logs/images/fluend-ss.png			+17.9 K1B
A docs/lma/logs/images/nginx.png			+35.9 K1B
A docs/lma/logs/images/setup.png			+42.5 K1B
A docs/lma/logs/README.rst			+329 -0
			+329 -0
			+170.7 K1B +/-0 B (-0%)

Change Log Comment Threads

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Owner Adarsh Yadav

Assignee Set assignee...

Reviewers jenkins-ci Sridhar Rao

ADD REVIEWER

CC ADD CC

Repo vswitchperf

Branch master EDIT

Parent e5eef0f

Topic ADD TOPIC

Strategy Merge if Necessary

Hashtags ADD HASHTAG

```
LMA: Deployment of LMA solution.(ansible)
Ansible playbooks for LMA deployment
Signed-off-by: Adarsh Yadav <adiyadav0509@gmail.com>
Change-Id: I3ab71e139bc1668577506fb996105a834a9c3c65
```

✓ Verified +1 jenkins-ci

🔍 Code-Review No votes.

Files Base ▾ → Patchset 2 ▾ | [2d384e2](#) | [ADD PATCHSET DESCRIPTION](#) UPDATE CHANGE DOWNLOAD EXPAND ALL

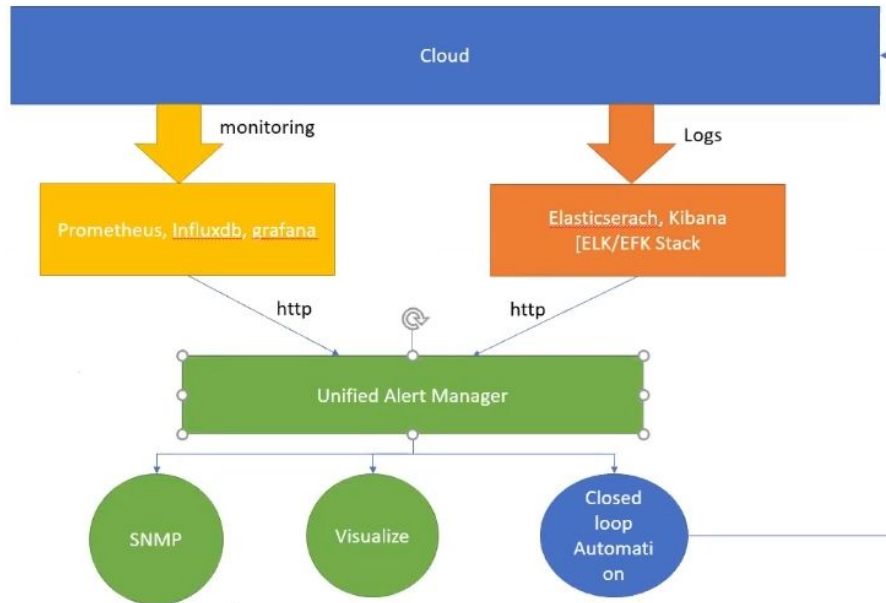
File	Comments	Size	Delta
Commit message			
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A tools/lma/ansible-client/hosts		1	+2 -0
A tools/lma/ansible-client/playbooks/setup.yml		1	+28 -0
A tools/lma/ansible-client/roles/clean-td-agent/tasks/main.yml		1	+28 -0
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A tools/lma/ansible-server/group_vars/all.yml		1	+27 -0
A tools/lma/ansible-server/hosts		1	+12 -0

Log Analysis and Alerting

- › **Deliverables that were not completed.**
 - › We had planned to take our work on monitoring and logging to OPNFV-Airship.
 - › Unfortunately the OPNFV-Airship deployments were not stable and the LMA components of the Airship constantly crashed.
 - › OPNFV-Airship team could not fix the issues.

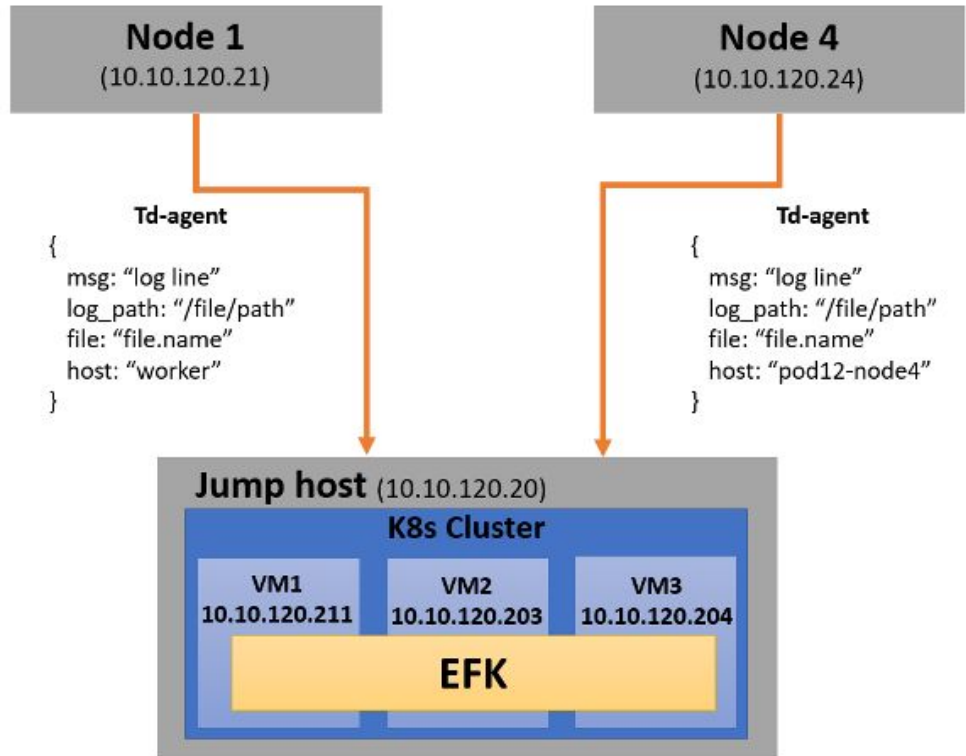
Log Analysis and Alerting

- **Recommendations for future work:**
- CLA - Closed Loop Automation



Log Analysis and Alerting

Project Output or Results:



Log Analysis and Alerting

► Project Output or Results:

```
[root@vm1 ~]# kubectl get pods -n logging
NAME                                READY   STATUS    RESTARTS   AGE
elastalert-64ddfc8d4c-4mh52        1/1     Running   0           3d17h
fluentd-7b5cc69df5-pw2jp          1/1     Running   0           3d17h
fluentd-7b5cc69df5-tq6vj          1/1     Running   0           3d17h
logging-es-vm1-data-0              1/1     Running   0           3d17h
logging-es-vm1-master-0            1/1     Running   0           3d17h
logging-es-vm2-data-0              1/1     Running   0           3d17h
logging-es-vm2-master-0            1/1     Running   0           3d17h
logging-es-vm3-data-0              1/1     Running   0           3d17h
logging-es-vm3-master-0            1/1     Running   0           3d17h
logging-kb-85bb9d6d68-4cvqc        1/1     Running   0           3d17h
nginx-685456d445-4sbzp             1/1     Running   0           3d17h
nginx-685456d445-xzxn4             1/1     Running   0           3d17h
```

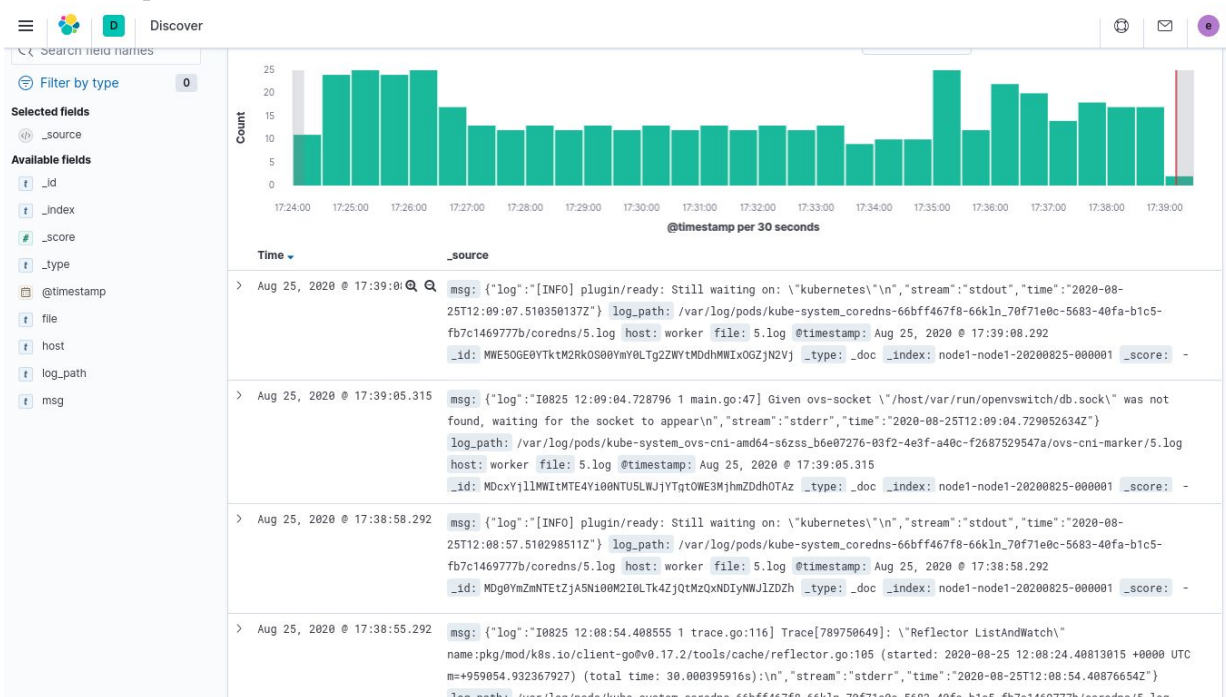
Log Analysis and Alerting

- ▶ **Project Output or Results:**
 - ▶ Alert

```
{"type": "pattern-match", "label": "failed", "index": "node1-20200810", "log": "2020-08-10 14:57:49,059 : Failed to run test", "log_path": "/tmp/results_2020-08-10_14-53-57/vsperf-overall_2020-06-11_06-53-57.log", "reason": "Failed to run test", "num_hits": 2, "num_matches": 2}
```

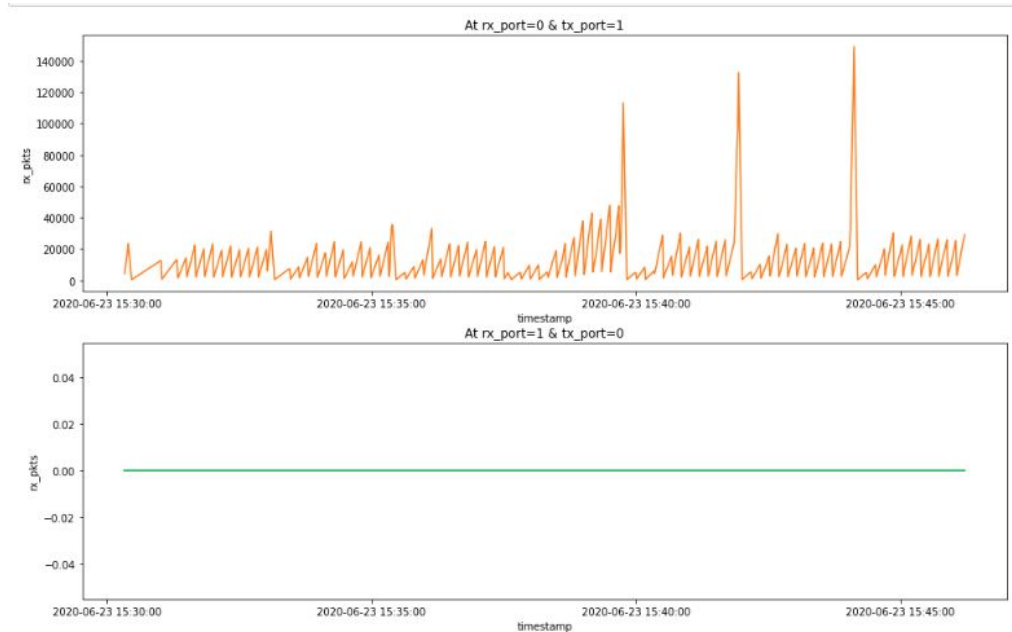
Log Analysis and Alerting

Project Output or Results: Elasticsearch



Log Analysis and Alerting

► Project Output or Results: Jupyter Notebook



Log Analysis and Alerting

- › **Project Output or Results:**
 - › Time Analysis from logs

```
Setup duration: 0.671 s  
Iteration duration: 35.239 s  
Traffic duration: 666.741 s  
Test duration: 667.842 s  
Report duration: 0.015 s
```


Log Analysis and Alerting

- › **Insights Gained:**
 - › Develops technical skills
 - › Meet with other people that can inspire you and help you.
 - › Exposure to real world software development scenarios

A network diagram background consisting of numerous blue lines connecting yellow circular nodes, set against a dark blue gradient background.

THANK YOU!

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 **LF** NETWORKING