OpenLDAP Monitoring Workshop

LDAPCon 2026

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Tübingen

Intro

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Objective

- Learn about monitoring openldap

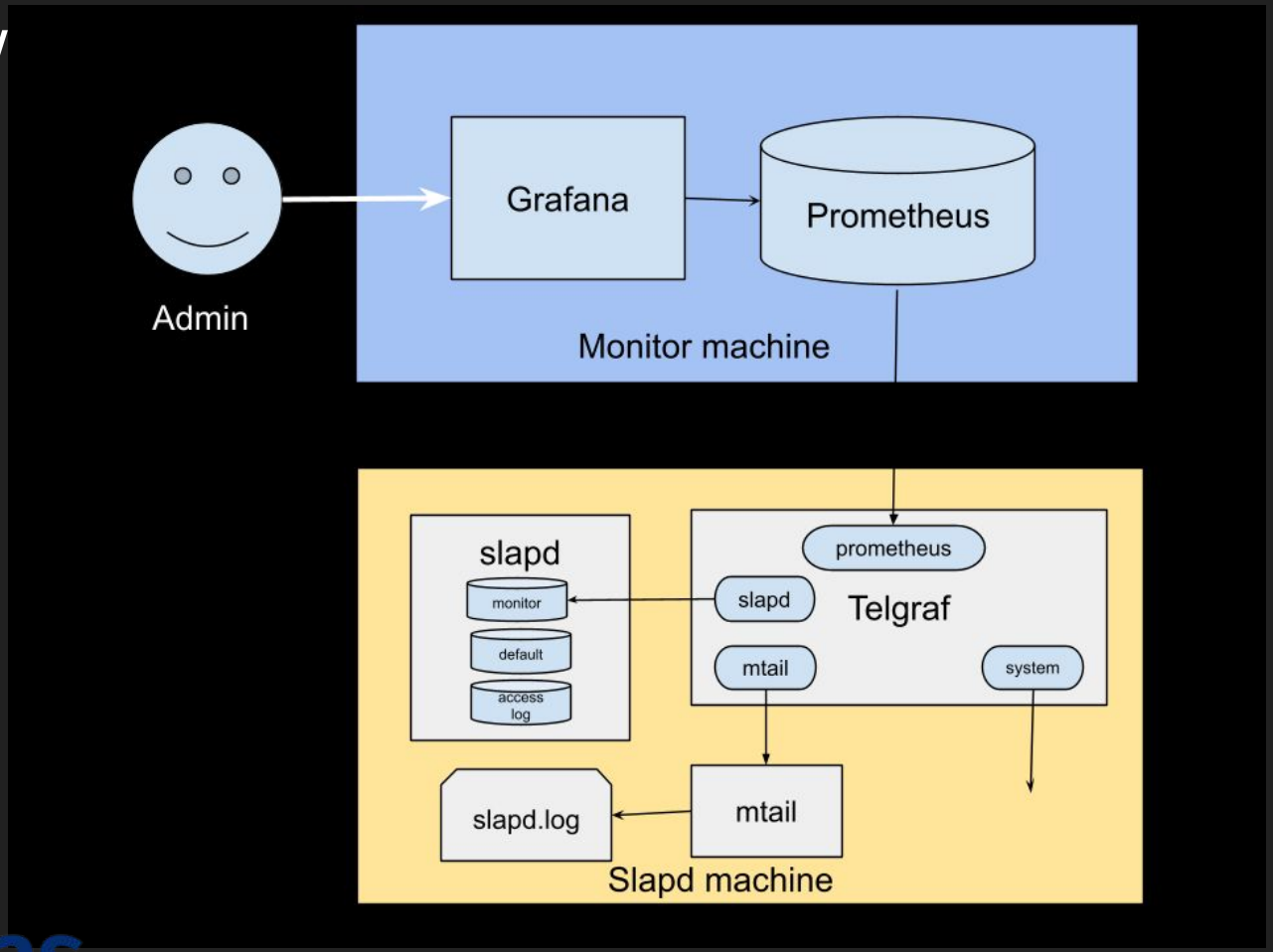
Agenda

- Intro
- Lab env
- Enable monitoring node
- Enable monitoring hub
- Extra credit

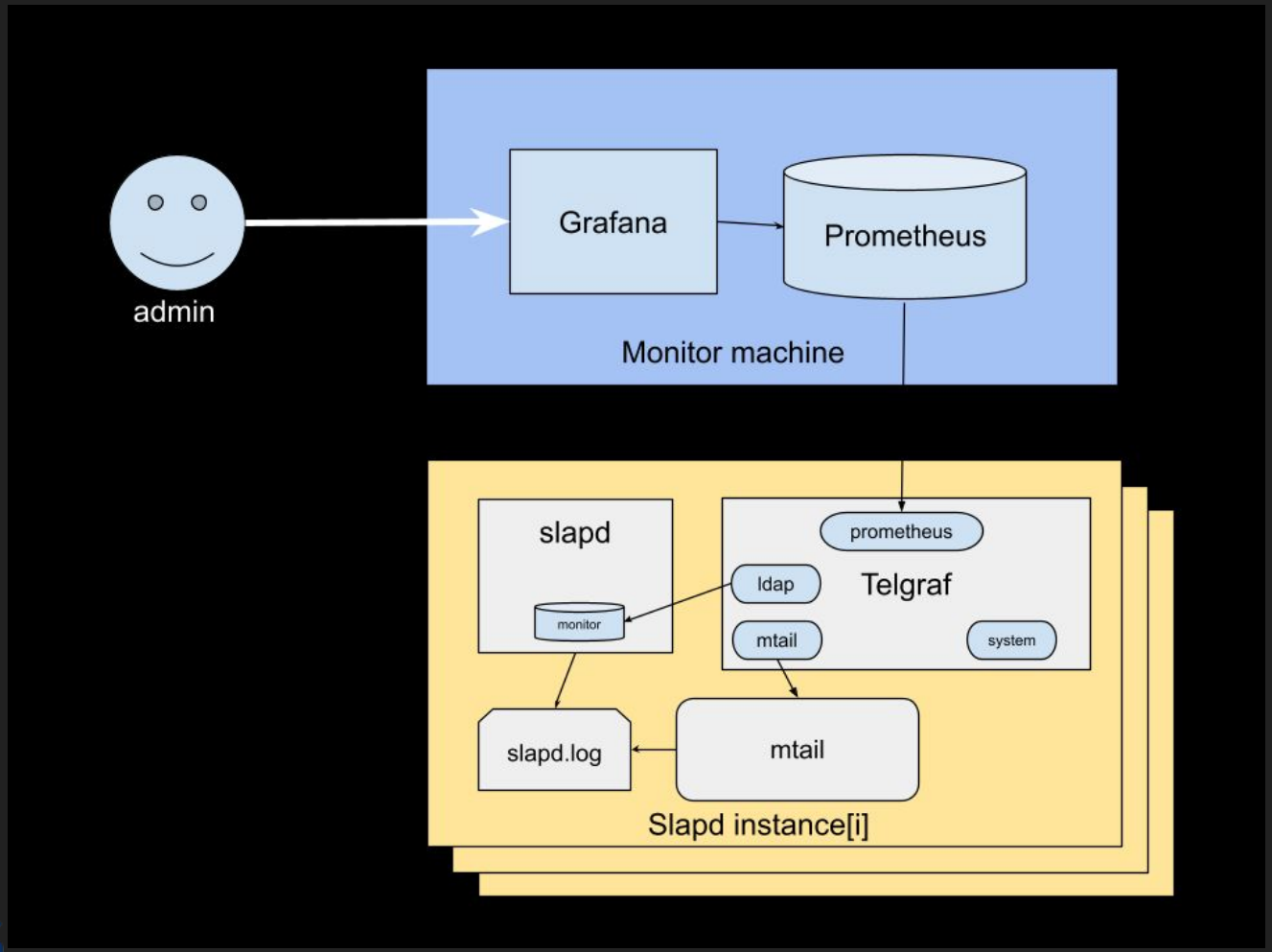
Processes in Play

- Slapd - LDAP V3 server
- Grafana-server - monitoring dashboard
- Prometheus - time series database
- Telegraf - data collector
- Mtail - log reader
- Jmeter - load generator

Overview


Admin
Grafana
Prometheus
Monitor machine
slapd
monitor
default
access log
prometheus
slapd
Telgraf
mtail
system
slapd.log
mtail
Slapd machine

Overview


admin
Grafana
Prometheus
Monitor machine
slapd
monitor
prometheus
ldap
Telgraf
mtail
system
slapd.log
mtail
Slapd instance[i]

OpenLDAP

- 3 instances
  - Load balancer
    - ldap-nn-ldapcon2026.symas.net
  - Provider
    - ldap1-nn-ldapcon2026.symas.net
  - Consumer
    - ldap2-nn-ldapcon2026.symas.net

Mtail

- 3 instances
  - Load balancer
    - ldap-nn-ldapcon2026.symas.net
  - Provider
    - ldap1-nn-ldapcon2026.symas.net
  - Consumer
    - ldap2-nn-ldapcon2026.symas.net

Extend Mtail

- [mtail repo](https://github.com/google/mtail)
- /etc/mtail/slapd.mtail

```
histogram slapd_qtime buckets 0.001, 0.01, 0.1, 1.0, 10.0

histogram slapd_result buckets 0.001, 0.01, 0.1, 1.0, 10.0 by tag, err

histogram slapd_search_result_size buckets 1, 10, 100, 1000, 10000

timer slapd_result_min by tag, err

timer slapd_result_max by tag, err
```

Telegraf

- 3 instances
  - Load balancer
    - ldap-nn-ldapcon2026.symas.net
  - Provider
    - ldap1-nn-ldapcon2026.symas.net
  - Consumer
    - ldap2-nn-ldapcon2026.symas.net

Extend Telegraf

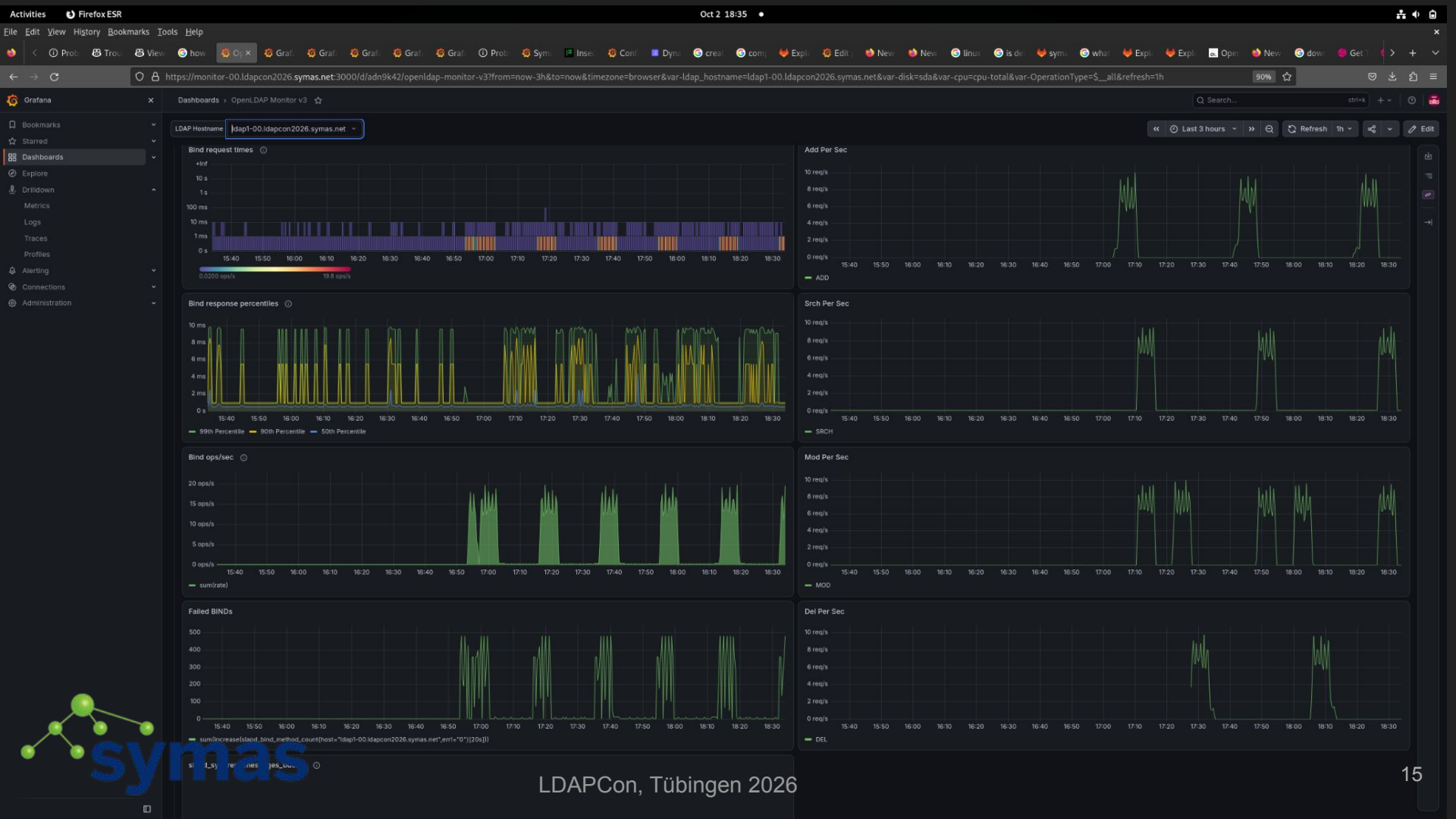
- [telegraf repo](https://github.com/influxdata/telegraf)
  - Load balancer
    - ldap-nn-ldapcon2026.symas.net
  - Provider
    - ldap1-nn-ldapcon2026.symas.net
  - Consumer
    - ldap2-nn-ldapcon2026.symas.net

Prometheus

- 1 instances
  - Monitor node
    - monitor-nn-ldapcon2026.symas.net

Grafana

- 1 instances
  - Monitor node
    - monitor-nn-ldapcon2026.symas.net
    - https://monitor-nn.ldapcon2026.symas.net:3000
    - admin/password


Activities
Firefox ESR
Oct 2 18:35
File Edit View History Bookmarks Tools Help
https://monitor-00.ldapcon2026.symas.net:3000/d/adn9k42/openldap-monitor-v3?from=now-3h&to=now&timezone=browser&var-ldap_hostname=ldap1-00.ldapcon2026.symas.net&var-disk=sda&var-cpu=cpu-total&var-OperationType=$__all&refresh=1h
Grafana
Dashboards › OpenLDAP Monitor v3
Search...
Bookmarks
Starred
Dashboards
Explore
Drilldown
Metrics
Logs
Traces
Profiles
Alerting
Connections
Administration
LDAP Hostname
ldap1-00.ldapcon2026.symas.net
Last 3 hours
Refresh
1h
Edit
Bind request times
+Inf
10 s
1 s
100 ms
10 ms
1 ms
0 s
0.0200 ops/s
19.8 ops/s
Add Per Sec
10 req/s
8 req/s
6 req/s
4 req/s
2 req/s
0 req/s
ADD
Bind response percentiles
10 ms
8 ms
6 ms
4 ms
2 ms
0 s
99th Percentile
90th Percentile
50th Percentile
Srch Per Sec
SRCH
Bind ops/sec
20 ops/s
15 ops/s
10 ops/s
5 ops/s
0 ops/s
sum(rate)
Mod Per Sec
MOD
Failed BINDS
500
400
300
200
100
0
sum(increase(slapd_bind_method_count{host="ldap1-00.ldapcon2026.symas.net",err!="0"}[20s]))
Del Per Sec
DEL
15:40
15:50
16:00
16:10
16:20
16:30
16:40
16:50
17:00
17:10
17:20
17:30
17:40
17:50
18:00
18:10
18:20
18:30

Jmeter

- 1 instances
  - Load Balancer node
    - ldap-nn-ldapcon2026.symas.net
    - Start with ‘loadtest’
    - Logs to /var/log/loadtest

Jmeter (give the monitor something to do)

```
root@ldap-00:~# loadtest
*** PERFORM run-load-tests.sh HOSTNUM:1 START:1 COUNT:5 REPEAT:10 PKG:symas CLEAN:T
OPS:checkUser,-Dverify=false:addGroup:addUser:assignGroup,-Dname=R1H1-1:checkUser,-Dname=R1H1-1,-Dverify=true,-Dsize=500:
modUser:delUser:delGroup
Do a clean...
[INFO] Scanning for projects...
[INFO] Inspecting build with total of 1 modules...
[INFO] Installing Nexus Staging features:
[INFO]   ... total of 1 executions of maven-deploy-plugin replaced with nexus-staging-maven-plugin
[INFO]
*** PERFORM
checkUser,-Dverify=false:addGroup:addUser:assignGroup,-Dname=R1H1-1:checkUser,-Dname=R1H1-1,-Dverify=true,-Dsize=500:modU
ser:delUser:delGroup 10 times...
…
2026-10-02 21:57:00.095 INFO  Summariser:326 - summary +    155 in 00:00:17 =    9.2/s Avg:     0 Min:     0 Max:     0
Err:     0 (0.00%) Active: 5 Started: 5 Finished: 0
2026-10-02 21:57:30.082 INFO  Summariser:326 - summary +    300 in 00:00:30 =   10.0/s Avg:     0 Min:     0 Max:     0
Err:     0 (0.00%) Active: 5 Started: 5 Finished: 0
2026-10-02 21:57:30.085 INFO  Summariser:326 - summary =    455 in 00:00:47 =    9.7/s Avg:     0 Min:     0 Max:     0
Err:     0 (0.00%)
```

Env Details - 4 machines

1. ldap-nn.ldapcon2026.symas.net - loadbalancer + jmeter
2. ldap1-nn.ldapcon2026.symas.net - ldap provider
3. ldap2-nn.ldapcon2026.symas.net - ldap consumer
4. monitor-nn.ldapcon2026.symas.net - monitor machine

Env Details - 4 machines

Load balancer
+
Jmeter machine

ldap-99.ldapcon2026.symas.net

Monitor machine

monitor-99.ldapcon2026.symas.net

LDAP Provider

ldap1-99.ldapcon2026.symas.net

LDAP Consumer

ldap2-99.ldapcon2026.symas.net

e.g.

1. ldap-01.ldapcon2026.symas.net - load balancer
2. ldap1-01.ldapcon2026.symas.net - ldap provider
3. ldap2-01.ldapcon2026.symas.net - ldap consumer
4. monitor-01.ldapcon2026.symas.net - monitor machine

Accessing machines

1. ssh root@ldap-nn.ldapcon2026.symas.net
2. ssh root@ldap1-nn.ldapcon2026.symas.net
3. ssh root@ldap2-nn.ldapcon2026.symas.net
4. ssh root@monitor-nn.ldapcon2026.symas.net

Accessing machines

1. ssh root@ldap-02.ldapcon2026.symas.net
2. ssh root@ldap1-02.ldapcon2026.symas.net
3. ssh root@ldap2-02.ldapcon2026.symas.net
4. ssh root@monitor-02.ldapcon2026.symas.net

Changing config files. (prometheus.yml)

replace [hostname1], [hostname2], [hostname3], [monitor-host]:
with ldap-nn, ldap1-nn, ldap2-nn, monitor-nn-host
where nn = corresponds with env, e.g. 01, 02, 03, … 20.

```
Global:

['[hostname1].ldapcon2026.symas.net:9100','[hostname2].ldapcon2026.symas.net:9100','
[hostname3].ldapcon2026.symas.net:9100']
    scheme: https
    tls_config:
      cert_file: /opt/symas/ssl/[monitor-host].ldapcon2026.symas.net.crt
      key_file: /opt/symas/ssl/[monitor-host].ldapcon2026.symas.net.key
      ca_file: /opt/symas/ssl/ca.crt
```

Changing config files. e.g.

replace [hostname1], [hostname2], [hostname3], [monitor-host]:

```
Global:

['ldap-01.ldapcon2026.symas.net:9100','ldap1-02.ldapcon2026.symas.net:9100','ldap2-0
1.ldapcon2026.symas.net:9100']
    scheme: https
    tls_config:
      cert_file: /opt/symas/ssl/monitor-01.ldapcon2026.symas.net.crt
      key_file: /opt/symas/ssl/monitor-01.ldapcon2026.symas.net.key
      ca_file: /opt/symas/ssl/ca.crt
```

Extra Credit - create new panels

Questions