

1&1 Mail & Media

LIBREOFFICE ONLINE ADOPTION INTO 1&1 MAIL & MEDIA ECOSYSTEM



Eduard Ardeleanu
Senior Software Engineer



Agenda

- Where and Why LibreOffice Online?
- Architecture Overview
 - System Solution
 - Deployment – Kubernetes
 - Monitoring – Prometheus / Grafana
- Contributions added by 1&1

1&1 Mail & Media

**united
internet**

**email, cloud
and identity
services**

**30 million
active users in
Europe and
North America**

4 brands

GMX



mail.com

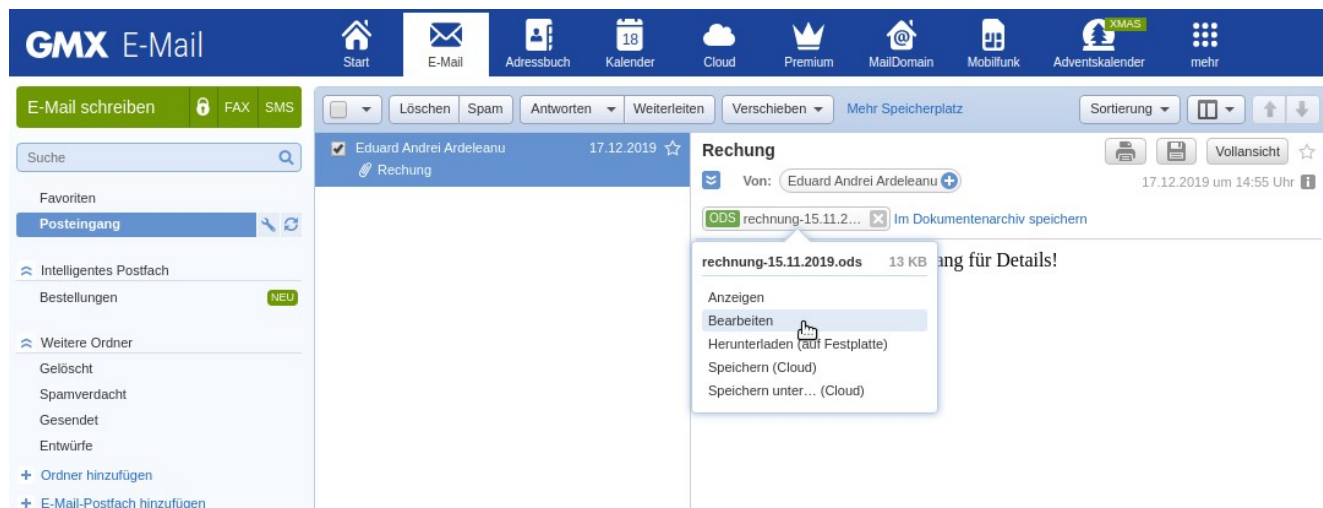
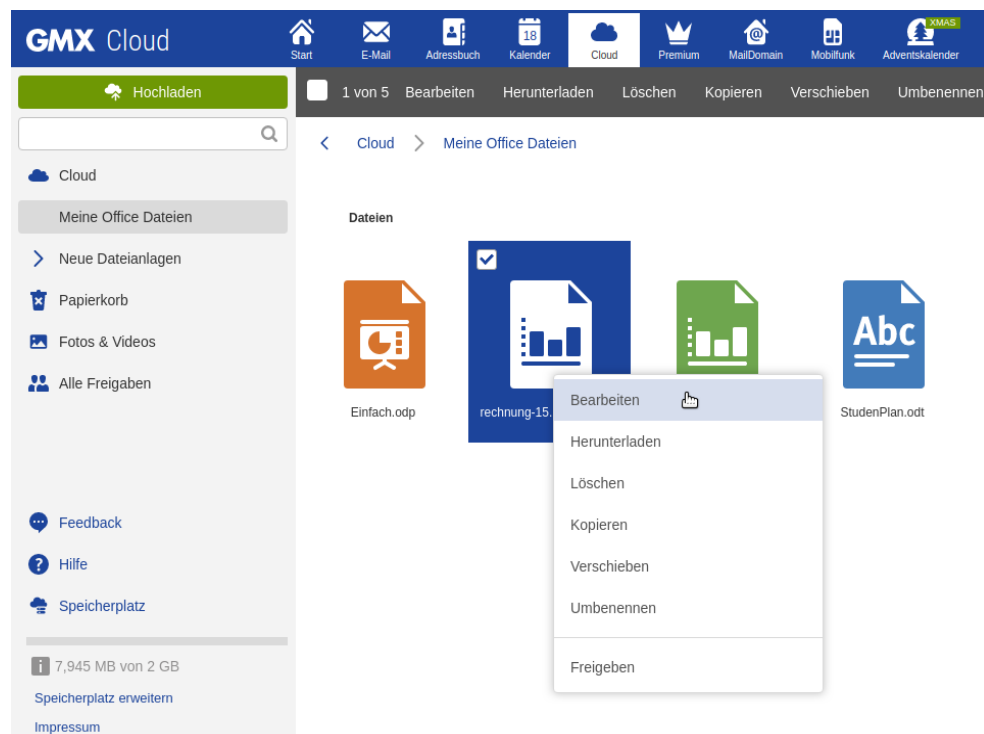
Where to find LibreOffice Online ?



GMX

mail.com

Why LibreOffice Online ?



Online Office Editor

abc

WEB.DE

Online Office

Start

E-Mail

Adressbuch

Kalender

Online-Speicher

WEB.DE Club

Domains

Mobiltfunk

Musik-Flatrate

mehr

abc

Online Office

Zuletzt verwendet

Designvorlagen

Datei öffnen

Aus Online-Speicher

Hochladen

Einführungstour

Feedback

Hilfe

Impressum

Online Office

Designvorlagen

abc

Neues Dokument

Neue Tabelle

Neue Präsentation

abc Bericht

abc Brief

abc Broschüre-2

abc Broschüre

abc Geschäftsbrief

abc Kochrezept

abc Kündigung...ment-Datum

Alle Designvorlagen ansehen

Zuletzt verwendete Dateien

Typ	Name	Pfad	Erstellt	Geändert	Größe
abc	Studenplan.odt	Online-Speicher/Meine Office Dateien	18.12.2019	21.01.2020	1.5 MB
abc	Silvester.odt	Online-Speicher/Meine Office Dateien	17.01.2020	17.01.2020	372.4 kB
abc	Bericht.odt	Online-Speicher/Meine Office Dateien	18.12.2019	17.01.2020	494.5 kB

Alle ansehen

Online Office Editor Upload



Online Office

abc



Online Office



Zuletzt verwendet



Designvorlagen

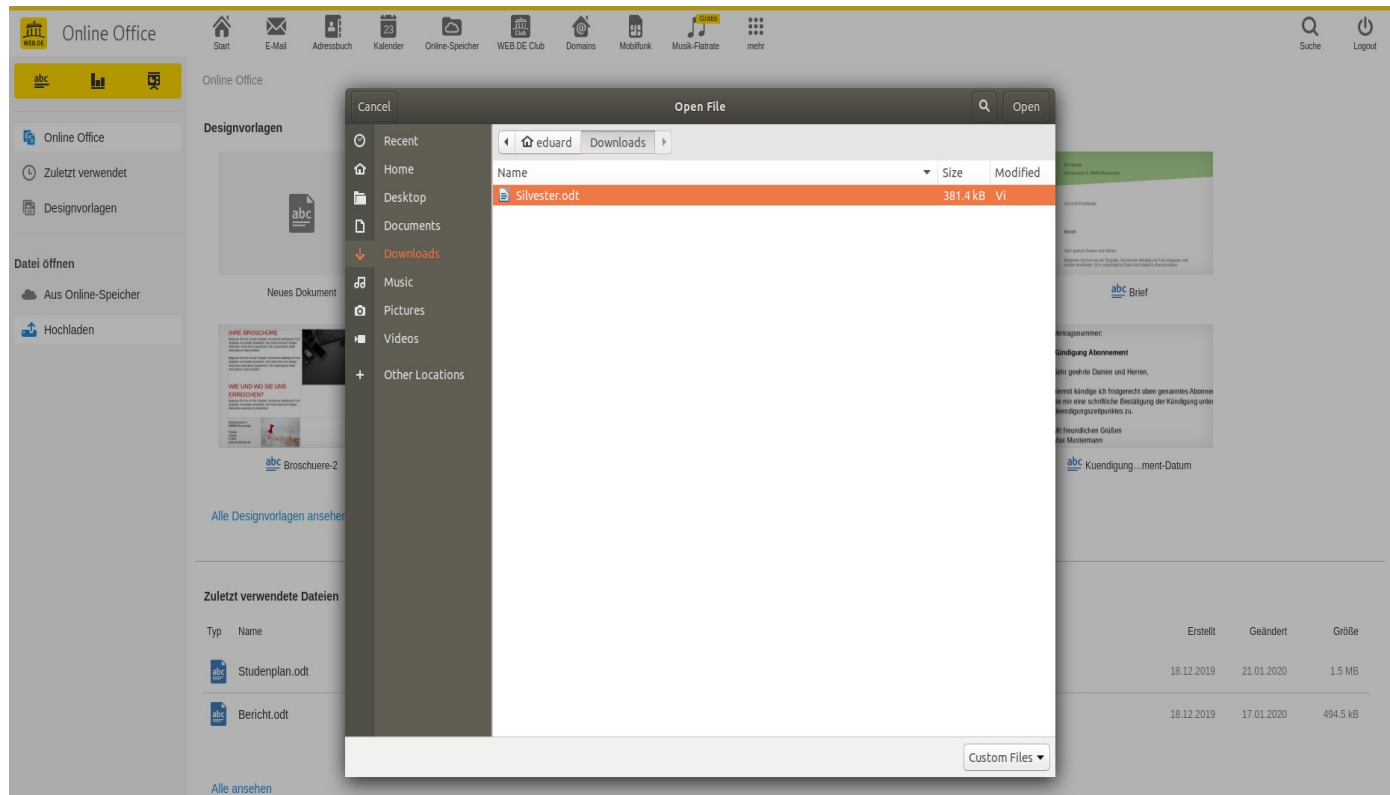
Datei öffnen



Aus Online-Speicher



Hochladen



Online Office Editor WEB.DE

The screenshot displays the Online Office Editor WEB.DE interface. The top navigation bar includes icons for Start, E-Mail, Adressbuch, Kalender, Online-Speicher, WEB.DE Club, Domains, Mobilfunk, Musik-Flatrate, and mehr. The main menu bar contains options like Datei, Bearbeiten, Ansicht, Einfügen, Format, Tabelle, Extras, and Hilfe. The document editor shows a festive background with balloons, musical notes, and champagne glasses. The text 'Guten Rutsch!' is prominently displayed in blue, followed by the instruction 'Tippen Sie hier einfach Ihren gewünschten Text ein.' in orange. The left sidebar lists 'Online Office', 'Zuletzt verwendet', 'Designvorlagen', and 'Datei öffnen' with sub-options 'Aus Online-Speicher' and 'Hochladen'. The bottom status bar shows 'Suchen:', 'Seite 1 von 1', '11 Wörter, 70 Zeichen', 'Einfügen', 'Standardauswahl', 'Deutsch (Deutschland)', and 'Dokument gespeichert'.

Online Office

Start E-Mail Adressbuch Kalender Online-Speicher WEB.DE Club Domains Mobilfunk Musik-Flatrate mehr

Suche Logout

Silvester.odt

Online Office

Zuletzt verwendet

Designvorlagen

Datei öffnen

Aus Online-Speicher

Hochladen

Einführungstour

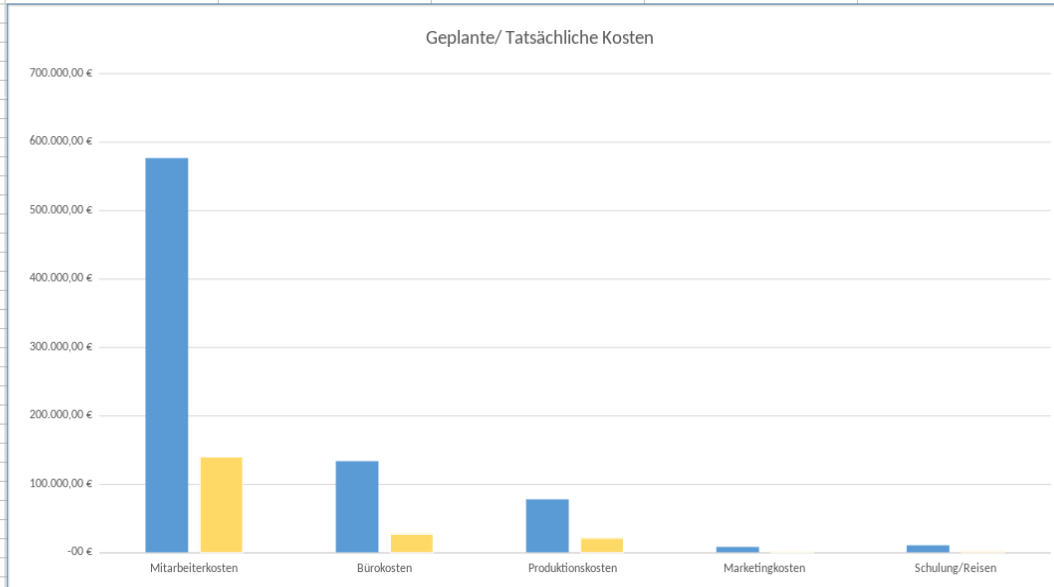
Feedback

Hilfe

Impressum

Suchen: Seite 1 von 1 | 11 Wörter, 70 Zeichen | Einfügen | Standardauswahl | Deutsch (Deutschland)

Dokument gespeichert | 100%

[illegible]

Online Office Editor mail.com

mail.com

Home E-mail Contacts Organizer File Storage Online Office Premium More

File Edit View Insert Format Table Slide Tools Help

Vorstellung.odp

IHR LOGO

Hier steht eine Überschrift

Beginnen Sie hier mit der Eingabe. Sie können hier beliebig viel Text eingeben und wieder bearbeiten. Ihre Datei wird nach einigen Sekunden automatisch gespeichert. Die ursprüngliche Datei wird dadurch überschrieben.

Beginnen Sie hier mit der Eingabe. Sie können hier beliebig viel Text eingeben und wieder bearbeiten.

- Listenpunkt 1
- Listenpunkt 2
- Listenpunkt 3
- Listenpunkt 4

Beginnen Sie hier mit der Eingabe. Sie beliebig viel Text eingeben und wieder Datei wird nach einigen Sekunden automatisch gespeichert. Die ursprüngliche Datei wird überschrieben.

Beginnen Sie hier mit der Eingabe. Sie beliebig viel Text eingeben und wieder

Search: Slide 1 of 2 German (Germany)

Document saved 100%

Online Office Editor Templates

abc

Online Office

Zuletzt verwendet

Designvorlagen

Datei öffnen

Aus Cloud

Hochladen

Einführungstour

Feedback

Hilfe

Impressum

Alle Designvorlagen

Wochenplan

Überschrift

nine Überschrift

To-Do-Liste (Projektname)

TAGESPLAN

Wochenplan

Wellness

Vorstellung

Todoiste

Tagesplan

Datum | Überschrift

Stundenplan von Name

HERSTELLT DIE BERSCHRIFT

Rechnung

Rechnung-2

Tagebuch

Stundenplan

Sportlich

Rechnung

Rechnung-2

Protokoll

Präsentation

Notizen

Monatsbudget

Lebenslauf

Lebenslauf-serif

Lebenslauf-modern

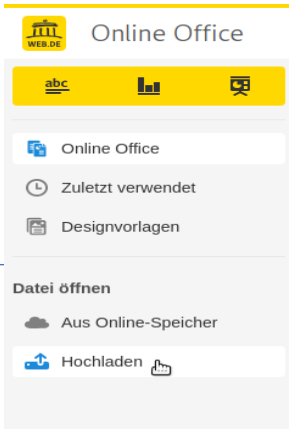
Kuendigung-Strom

Kuendigung...trom-Datum

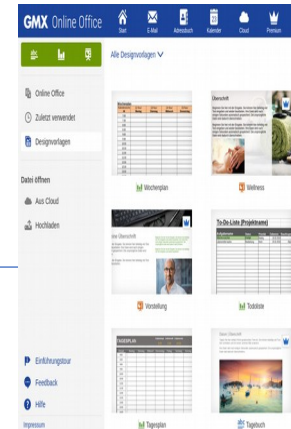
Kuendigung-Mobilfunk

Summary

LibreOffice Online version – 6.2



Upload



Templates

GMX

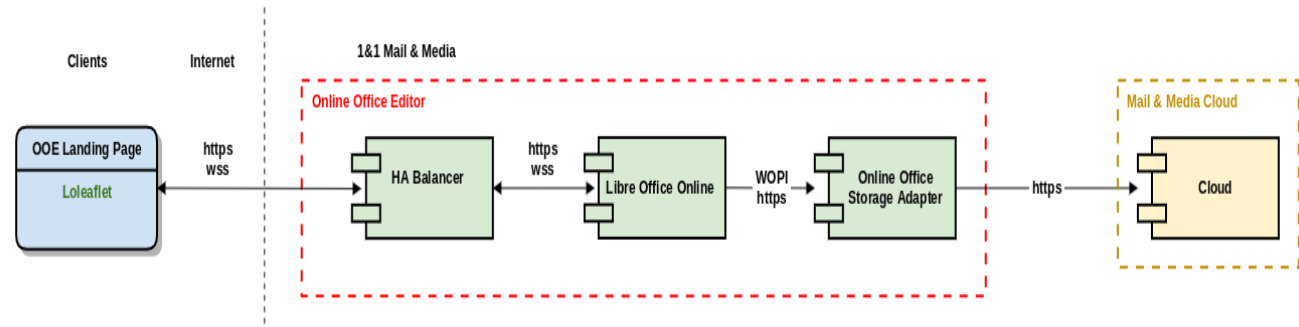


mail.com

Agenda

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 - ☐ System Solution
 - ☐ Deployment – Kubernetes
 - ☐ Monitoring – Prometheus / Grafana
- ☐ Contributions added by 1&1

System Solution



OOE LANDING PAGE

- Create new documents from predefined templates
- Browse through your Cloud documents to edit them
- Upload new documents in your Cloud and open them in edit mode
- Browse through your recently edited documents from Cloud

HA BALANCER

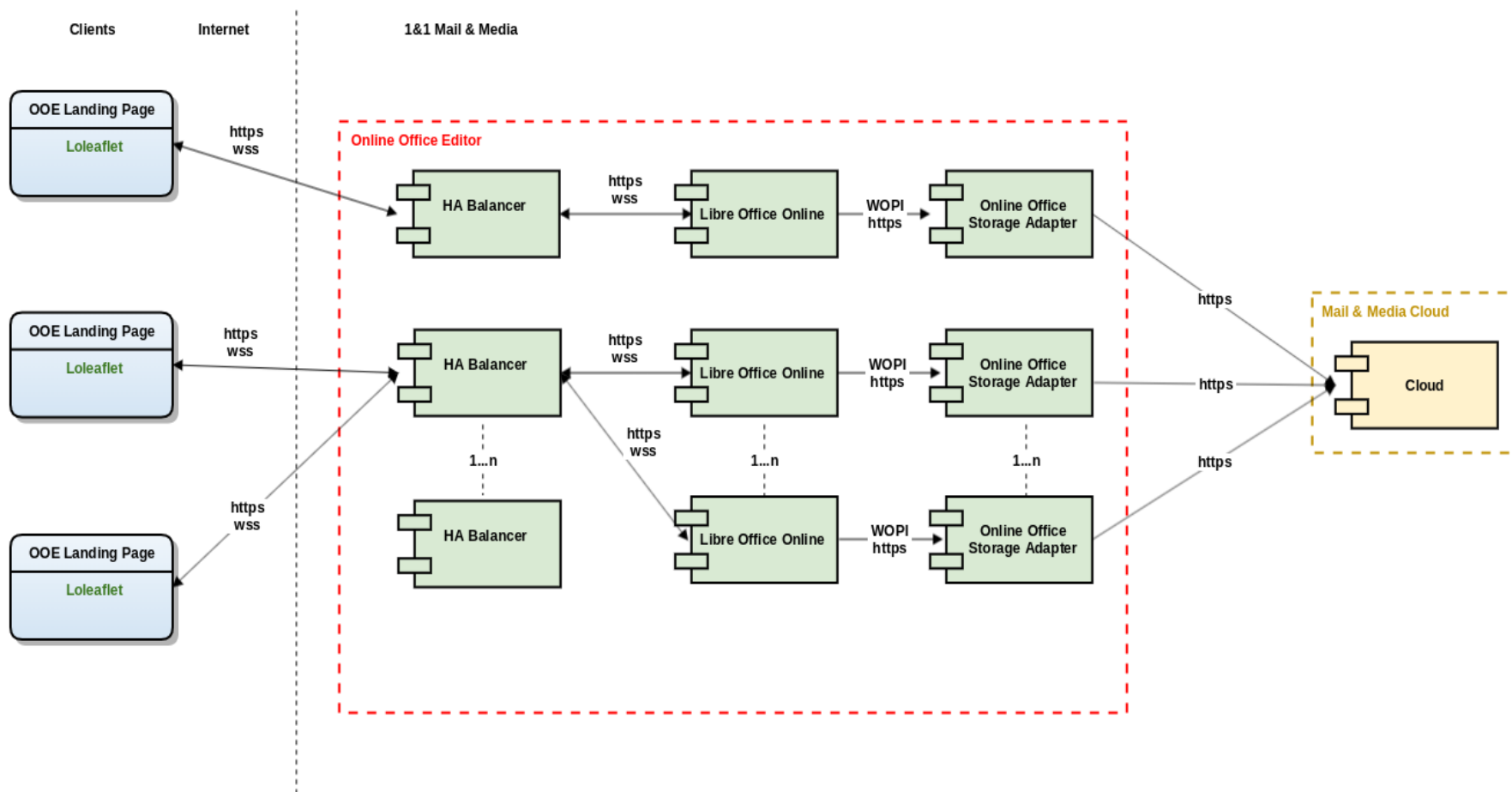
- Middleware between Clients and LibreOffice Online
- Responsible for: authentication, session management and load-balancing

OOE STORAGE ADAPTER

- Facilitates communication between LibreOffice Online and Mail & Media Cloud
- Implements WOPI REST Specifications

All Online Office Editor modules are scaled with Kubernetes

System Solution



Deployment - Kubernetes



Package manager for Kubernetes

- **Helm** uses a packaging format called **charts**
- A **chart** is a collection of files that describe a related set of **Kubernetes resources** – **Helm Hub** -

The screenshot shows a GitHub repository page for 'LibreOffice / online'. The repository has 54 watches, 332 stars, and 118 forks. The 'Code' tab is selected, showing the file structure. The branch is 'master'. The file list includes 'templates', 'Chart.yaml', and 'values.yaml'. The commit history shows that 'templates' and 'values.yaml' were updated 4 days ago, while 'Chart.yaml' was updated 2 months ago.

File	Commit Message	Time
templates	kubernetes: libreoffice-online helm chart improvements	4 days ago
Chart.yaml	Add basic support for kubernetes deploy	2 months ago
values.yaml	kubernetes: libreoffice-online helm chart improvements	4 days ago



LibreOffice Online Helm Chart

Chart for deploying LibreOffice Online in Kubernetes cluster.

How to test:

1. Install Kubernetes cluster locally - minikube - <https://minikube.sigs.k8s.io/docs/start/linux/>
2. Install helm - needed version >= 3.0.0 - <https://helm.sh/docs/intro/install/>
3. Update libreoffice-online/values.yaml with your required settings for environmentVariablesLool username/password/domain settings
4. Install helm-chart using below command

```
helm install --namespace=${your desired namespace} --generate-name libreoffice-online
```

Access LibreOffice Online locally through service ClusterIP and port 9980.

```
kubect1 -n ${your desired namespace} describe service libreoffice-online
```

Deployment - Kubernetes



```

eduard@LXBU-9XKJPQ2:~/Development/LibreOffice/gerrit/online/kubernetes/helm$ helm install --namespace=default --generate-name libreoffice-online
NAME: libreoffice-online-1577104710
LAST DEPLOYED: Mon Dec 23 14:38:31 2019
NAMESPACE: default
STATUS: deployed
REVISION: 1
TEST SUITE: None
eduard@LXBU-9XKJPQ2:~/Development/LibreOffice/gerrit/online/kubernetes/helm$ kubectl -n default get all
NAME                                READY    STATUS    RESTARTS   AGE
pod/libreoffice-online-569689b8b7-cr6k  1/1      Running   0           4m54s
pod/libreoffice-online-569689b8b7-jbhn5  1/1      Running   0           4m54s
pod/libreoffice-online-569689b8b7-z9kjf  1/1      Running   0           4m54s

NAME                                TYPE          CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
service/kubernetes                  ClusterIP     10.96.0.1     <none>         443/TCP    10d
service/libreoffice-online          ClusterIP     10.96.88.36   <none>         9980/TCP   4m54s

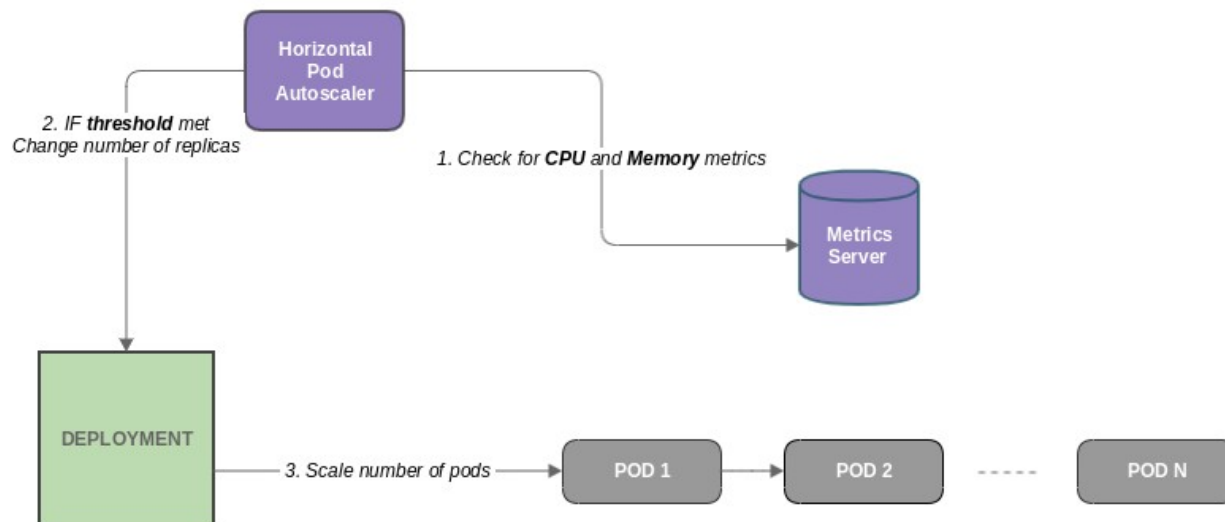
NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/libreoffice-online  3/3      3             3            4m54s

NAME                                DESIRED    CURRENT    READY    AGE
replicaset.apps/libreoffice-online-569689b8b7  3          3          3        4m54s

NAME                                REFERENCE                                TARGETS          MINPODS    MAXPODS    REPLICAS    AGE
horizontalpodautoscaler.autoscaling/libreoffice-online  Deployment/libreoffice-online  58%/70%, 0%/70%    1          10         3            4m54s

```

Kubernetes - Horizontal Pod Autoscaler



```
Metrics:
resource memory on pods (as a percentage of request): 75% (808167424) / 70%
resource cpu on pods (as a percentage of request): 11% (11m) / 70%
Min replicas: 1
Max replicas: 10
Deployment pods: 4 current / 4 desired
```

Automatically scales the number of pods based on **CPU / Memory** usage

Kubernetes - Horizontal Pod Autoscaler



Normal SuccessfulRescale 2m25s horizontal-pod-autoscaler New size: 4; reason: memory resource utilization (percentage of request) above target

Memory threshold (70%) met (✓) Scale number of pods from **3** to **4**

```
eduard@LXBU-9XKJPQ2:~/Development/LibreOffice/gerrit/online/kubernetes/helm$ kubectl -n default get all
```

NAME	READY	STATUS	RESTARTS	AGE
pod/libreoffice-online-569689b8b7-cr6k	1/1	Running	0	28m
pod/libreoffice-online-569689b8b7-jbhn5	1/1	Running	0	28m
pod/libreoffice-online-569689b8b7-w92qn	0/1	ContainerCreating	0	1s
pod/libreoffice-online-569689b8b7-z9kjf	1/1	Running	0	28m

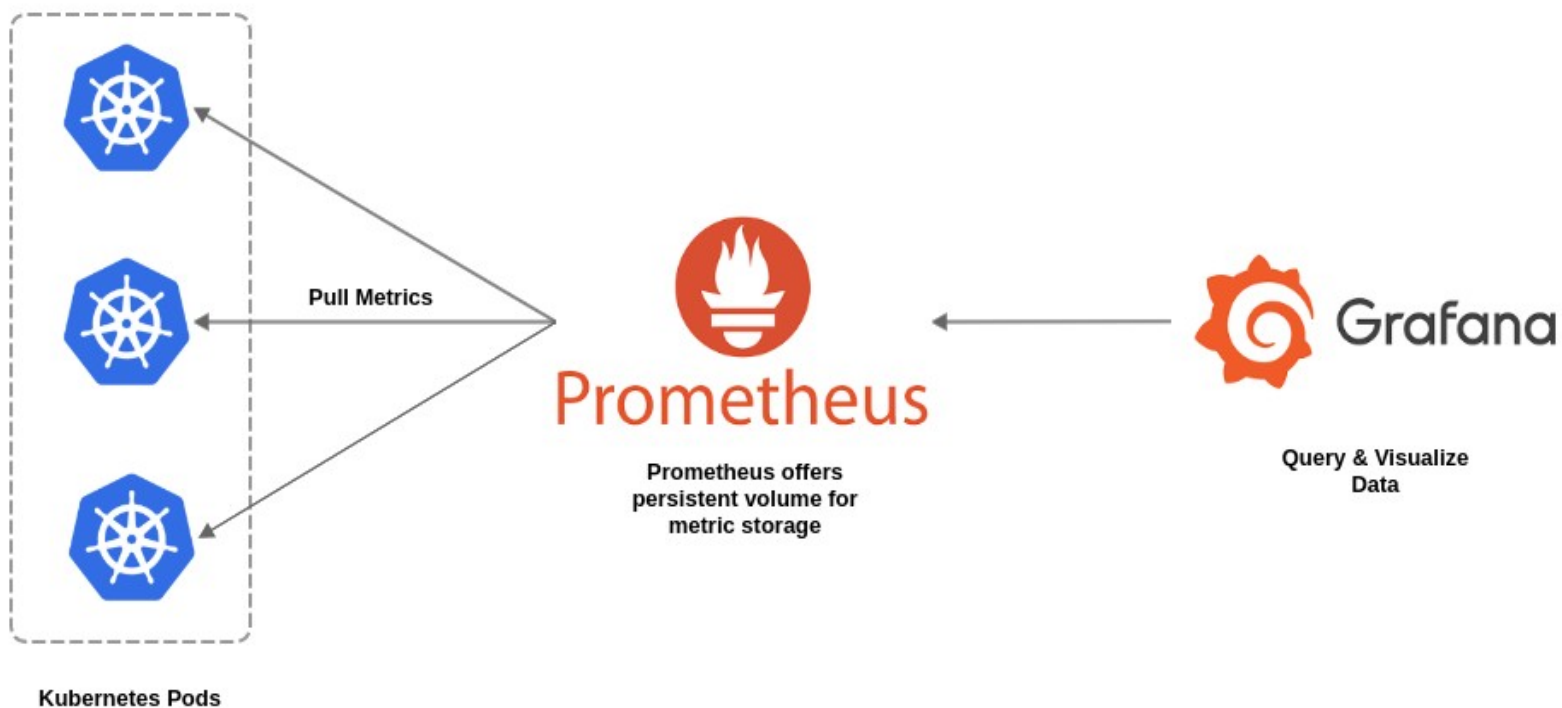
NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	10d
service/libreoffice-online	ClusterIP	10.96.88.36	<none>	9980/TCP	28m

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/libreoffice-online	3/4	4	3	28m

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/libreoffice-online-569689b8b7	4	4	3	28m

NAME	REFERENCE	TARGETS	MINPODS	MAXPODS	REPLICAS	AGE
horizontalpodautoscaler.autoscaling/libreoffice-online	Deployment/libreoffice-online	80%/70%, 34%/70%	1	10	3	28m

Monitoring - Prometheus / Grafana



LibreOffice Online exposes **monitoring metrics**, compliant with **Prometheus** format, on **REST** endpoint **'/lool/getMetrics'**

Monitoring - LibreOffice Online REST Endpoint

LibreOffice / **online**

Watch 54

Star 338

Fork 123

Code

Pull requests 0

Actions

Projects 0

Security

Insights

Branch: master **online / wsd / metrics.txt**

Find file

Copy path

 **Gabriel Masei** Add REST endpoint for admin metrics.

2164f52 on Nov 25, 2019

0 contributors

155 lines (133 sloc) | 14.4 KB

Raw

Blame

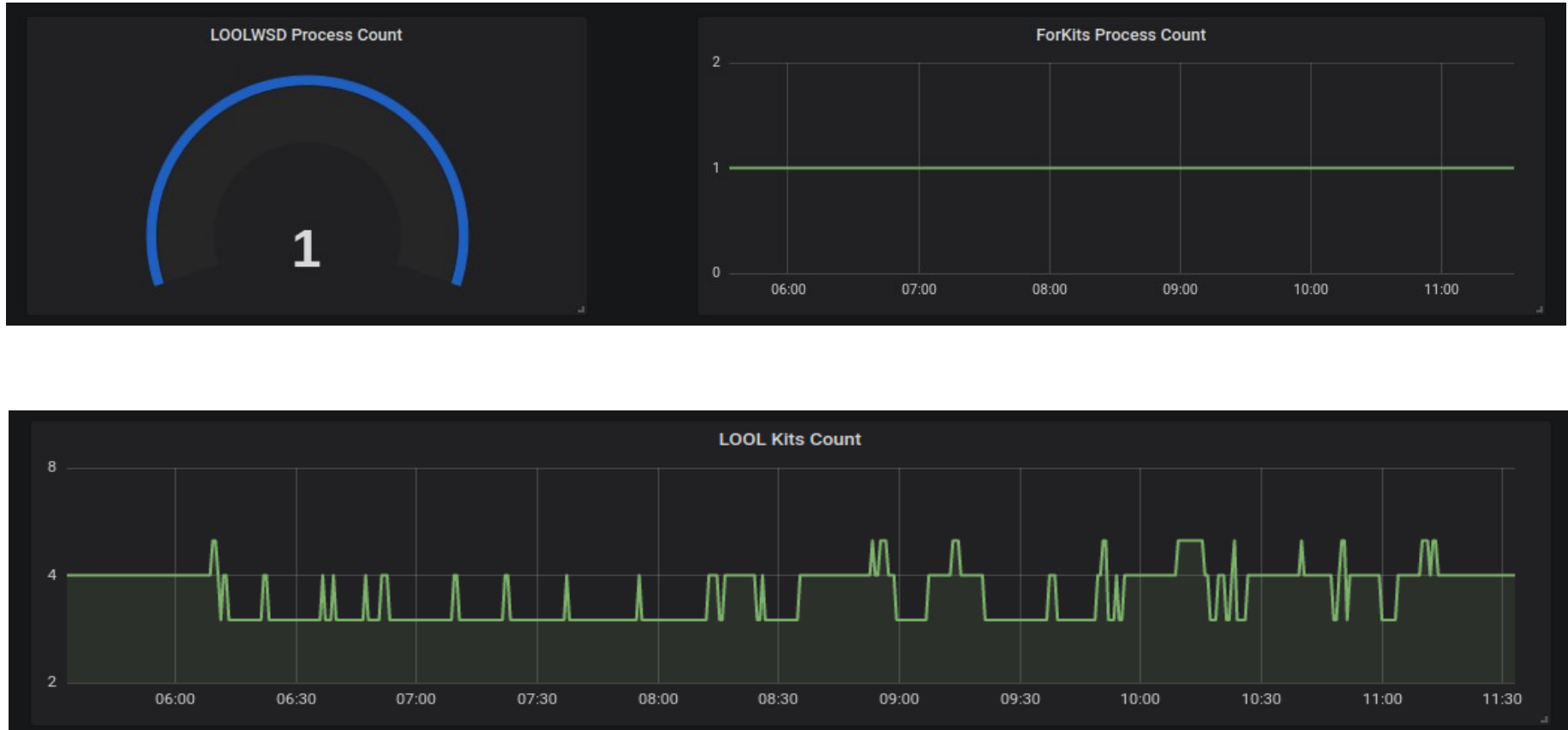
History



```

1 Below is the description of the metrics returned by 'getMetrics' REST endpoint.
2 The general format of the output is compliant with Prometheus text-based format
3 which can be found here: https://prometheus.io/docs/instrumenting/exposition_formats/#text-based-format
4
5 GLOBAL
6
7     global_host_system_memory_bytes - Total host system memory in bytes.
8     global_memory_available_bytes - Memory available to our application in bytes. This is equal to global_host_system_memory_byt
9     global_memory_used_bytes - Total memory usage: PSS(loolwsd) + RSS(forkit) + Private_Dirty(all assigned lookkits).
10    global_memory_free_bytes - global_memory_available_bytes - global_memory_used_bytes
11
12 LOOLWSD
13
14     loolwsd_count - number of running loolwsd processes.
15     loolwsd_thread_count - number of threads in the current loolwsd process.
16     loolwsd_cpu_time_seconds - the CPU usage by current loolwsd process.
17     loolwsd_memory_used_bytes - the memory used by current loolwsd process: PSS(loolwsd).
18
19 FORKIT
20
21     forkit_process_count - number of running forkit processes.
22     forkit_thread_count - number of threads in the current forkit process.
23     forkit_cpu_time_seconds - the CPU usage by the current forkit process.
24     forkit_memory_used_bytes - the memory used by the current forkit process: RSS(forkit).
```

Monitoring - Grafana Charts



Grafana charts monitoring current number of **WSD**, **FORKIT** and **KIT** processes

Summary

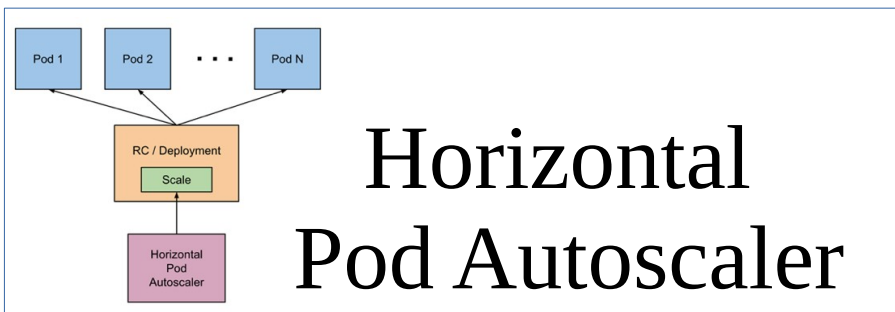


LibreOffice / online

<> Code Pull requests 0 Actions Projects 0 Security

Branch: master online / kubernetes / helm / libreoffice-online /

Kubernetes





Monitoring Prometheus / Grafana

Agenda

- ☐ Where and Why LibreOffice Online ?
- ☐ Architecture overview
- ☒ Contributions added by 1&1

Contributions added by 1&1

Coming soon ...

Websocket defragmentation

Change 68901:

Added support for defragmentation of incoming websocket fragmented messages

Loleaflet library updates

Change 71726:
Updating vex.js

Change 69878:
Updating shrinkpack

CVE discovered and reported

CVE-2019-9851
LibreLogo global-event script execution

TLS support for communication with Storage

Change 80373:

Allow the possibility to customize TLS communication between LibreOffice Online and WOPI Storage

Support for Kubernetes deployment via helm-chart

Adding support for deploying LibreOffice Online in Kubernetes via helm-chart

Monitoring segmentation fault crashes

Replace communication between loolwsd and forkit through UNIX sockets; Implement new **metric**: segmentation fault crash count

Password protected files

Change 72891:

Detecting password protected files while converting (convertTo REST API)

Small Fixes

Change 67782: Fix ControlMenuubar's delete slide for presentation files

Change 69424: SaveAs breaks when '%' character is used within filename

REST endpoint for admin metrics in Prometheus format

Change 82492:

Exposing monitoring metrics, compliant with Prometheus format, via REST endpoint ('getMetrics')

CDN integration

Allow the plug-in of a **CDN** (content delivery network) for serving Loleaflet static files

XSS fixes

Change 68548:
Displaying sheet name

Change 70113:
Check document hyperlink before open

Special Thanks to LibreOffice Community



Thank you for listening



Online Office