



adaptTo()

APACHE SLING & FRIENDS TECH MEETUP
10-12 SEPTEMBER 2018

Upgrading an AEM cluster using Docker
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Agenda

- Challenges with AEM clusters
- Docker and AEM
- Cluster maintenance and OAK CNS
- AEM Upgrades in the cloud

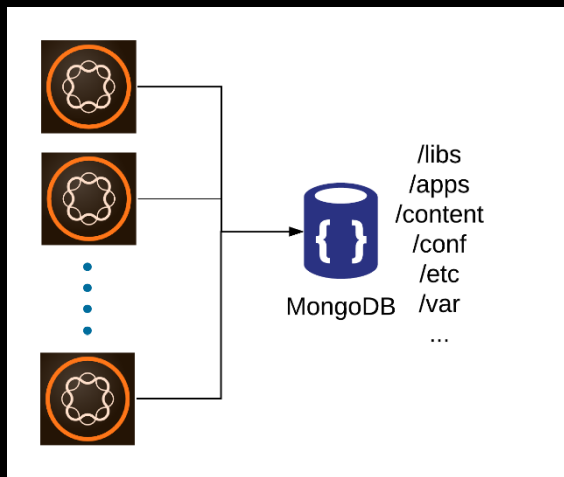
AEM cluster - challenges

Challenges with AEM clusters

- Large, monolithic application
- Whole repository is shared
- Data integrity during upgrade difficult
- Zero downtime (almost) impossible

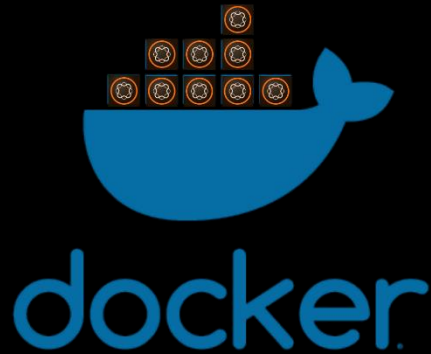
AEM Author cluster example

- External storage service
- Same (shared) repository



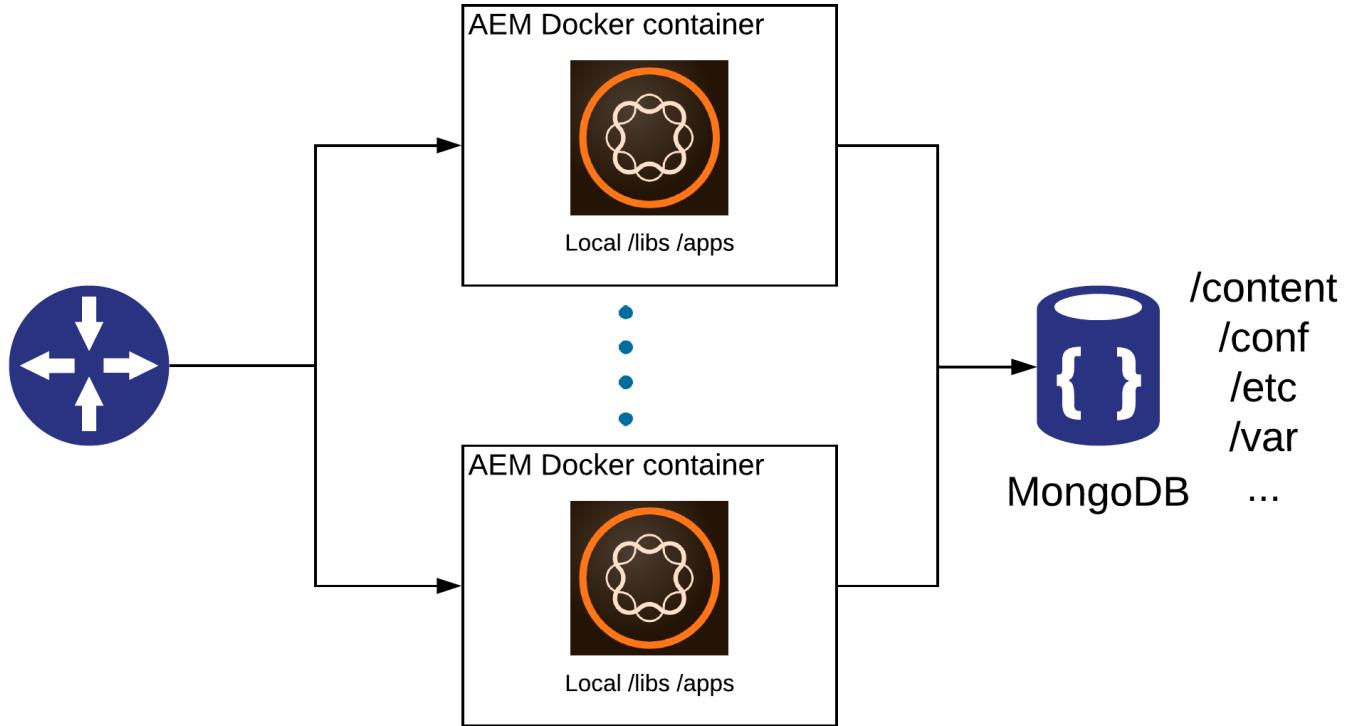
AEM and Docker

AEM and Docker



- AEM in a Docker container
 - Cloud friendly
 - Faster development pipeline
 - Cont. deployment friendly

AEM Docker Author cluster



AEM Docker Author cluster - details

- Still using an external storage system
- Repository using CNS
 - Local private: /libs,/apps
 - External shared: everything else
- Some restrictions apply to the local repo

Local repository restrictions

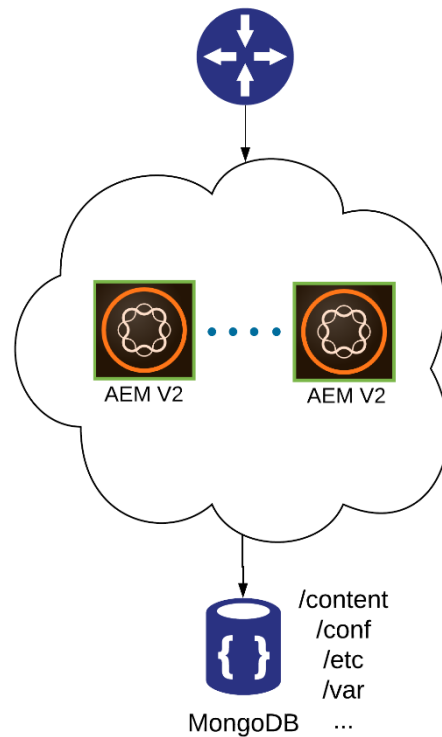
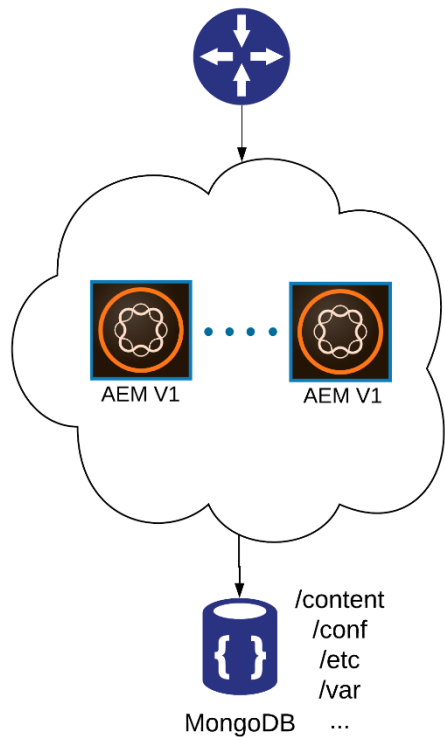
- Can't write to /libs & /apps at runtime
- No re-indexing at runtime
- No repository eventing

OAK CNS essential for cluster maintenance

- Allows repository split into multiple parts
- Different AEM instances can have different private repositories
- Upgrading -> replacing the container

Upgrading an AEM Docker cluster

Cluster upgrade



Cluster upgrade - challenges

- Can't use the “normal” upgrade mode
- Upgrading the shared repository content
- Compatibility of the shared repository
- Rollback

Cluster upgrade – no explicit Upgrade mode

- No UpgradeTasks
- Local repository automatically updated
- Deferred upgrade tasks for the shared repo

Cluster upgrade – shared repository

- Use content packages for new content
- Deferred approach for existing content
- Backward & forward compatibility

Cluster upgrade – rollback

- Private repository automatically rolled back
- Challenging for the shared contents
 - Avoid reverting, rely on fwd. compatibility
 - Rollback to revision
 - Restore from backup

Guidelines

Guidelines – Content & code adaption

- Private, read-only /libs and /apps
 - Only deploy time changes possible
 - Code needs to avoid runtime updates
- Shared – all rest
 - Avoid upgrade tasks
- Clear separation of application and content

Guidelines – Upgrades in the cloud

- Choose deployment type wisely
- Avoid backwards incompatible content changes
- Incremental, asynchronous content updates
- Avoid shared content repo rollback/revert

AEM Docker beta program access

- What's available
 - AEM 6.4SP1 Docker image
 - Dockerfile
 - Documentation/Samples
- Reach out to me to request access
 - iordache@adobe.com

- OAK CNS documentation

<https://jackrabbit.apache.org/oak/docs/nodestore/compositens.html>