

DOCKER

Manage Sensitive Data: Docker Swarm

Docker : Docker Swarm

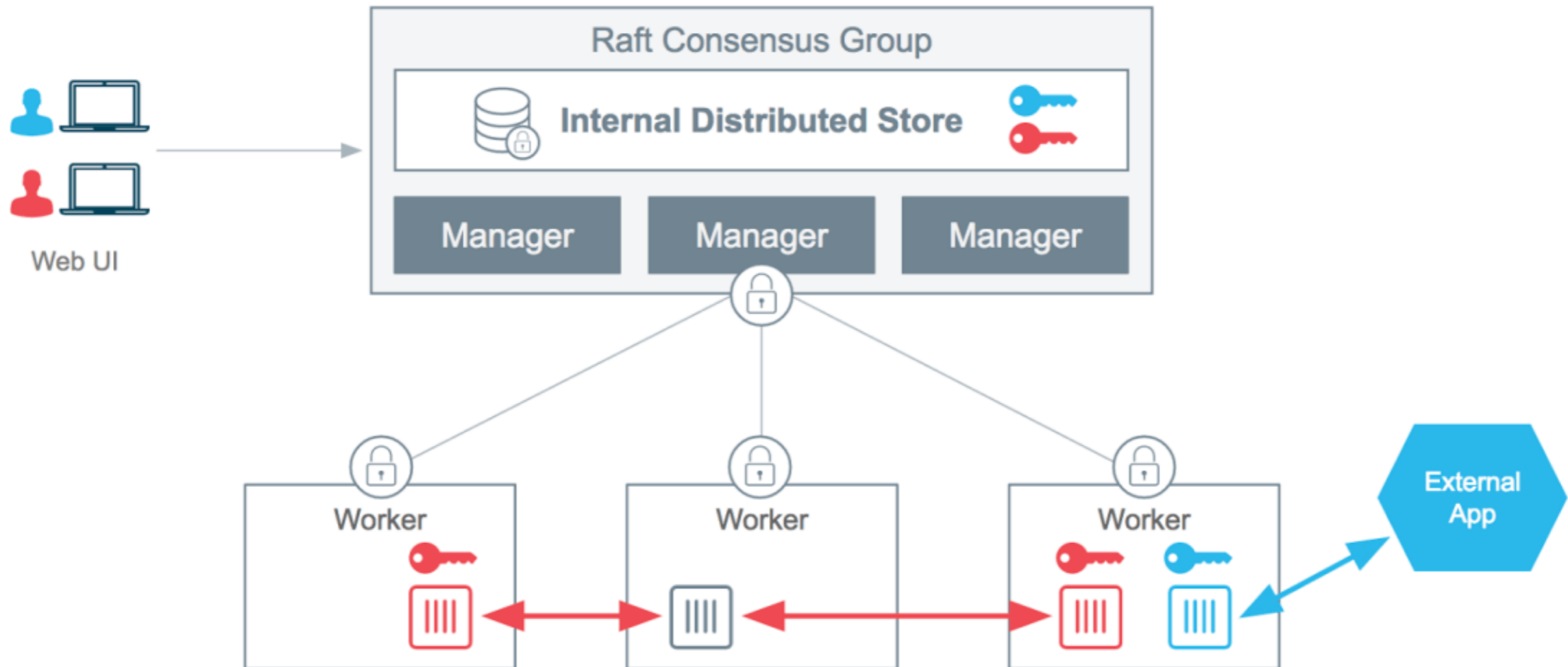
- Manage Docker Secrets.
- Secrets : A *secret* is a piece of data, such as a password, SSH private key, SSL certificate, or another piece of data that should not be transmitted over a network or stored unencrypted in a Dockerfile or in your application's source code.
- User can manage this sensitive Data with Docker Swarm Secrets
- Docker centrally Manage this Data and send to only container that need it.
- Docker Secrets is only available in the Swarm mode, so standalone containers can not use this feature.

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- Only Granted Service and Containers access the Secrets Data over the Network.
- Another use case for using secrets is to provide a layer of abstraction between the container and a set of credentials.

- How Swarm Manage the Secrets:
- When a user adds a new secret to a Swarm cluster, this secret is sent to a manager using a TLS connection.
- TLS is a cryptographic protocol that provides communications security over a network by providing communication encryption, privacy and data integrity.
- When we have multiple Managers, RAFT manage the secrets on all the managers.
- In order to make all managers up to date with a new secret, when one manager node receives the secret, it saves it to a Raft store with a 256-bit key.

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- Containers work on mounted decrypted secrets, which store at `/run/secrets/<secret_name>` in containers.
- User can update a service to grant it access to additional secrets or revoke its access to a given secret at any time.
- When container task stops running, the decrypted secrets shared to it are unmounted from the in-memory filesystem for that container and flushed from the node's memory.
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Will see you in Next Lecture...

Thank you!

A close-up photograph of a hand holding a black marker, writing the words 'Thank you!' in a cursive script on a white surface. The hand is positioned on the right side of the frame, with the fingers gripping the marker. The text is written in a dark, fluid cursive style. The background is plain white.

See you in next lecture ...