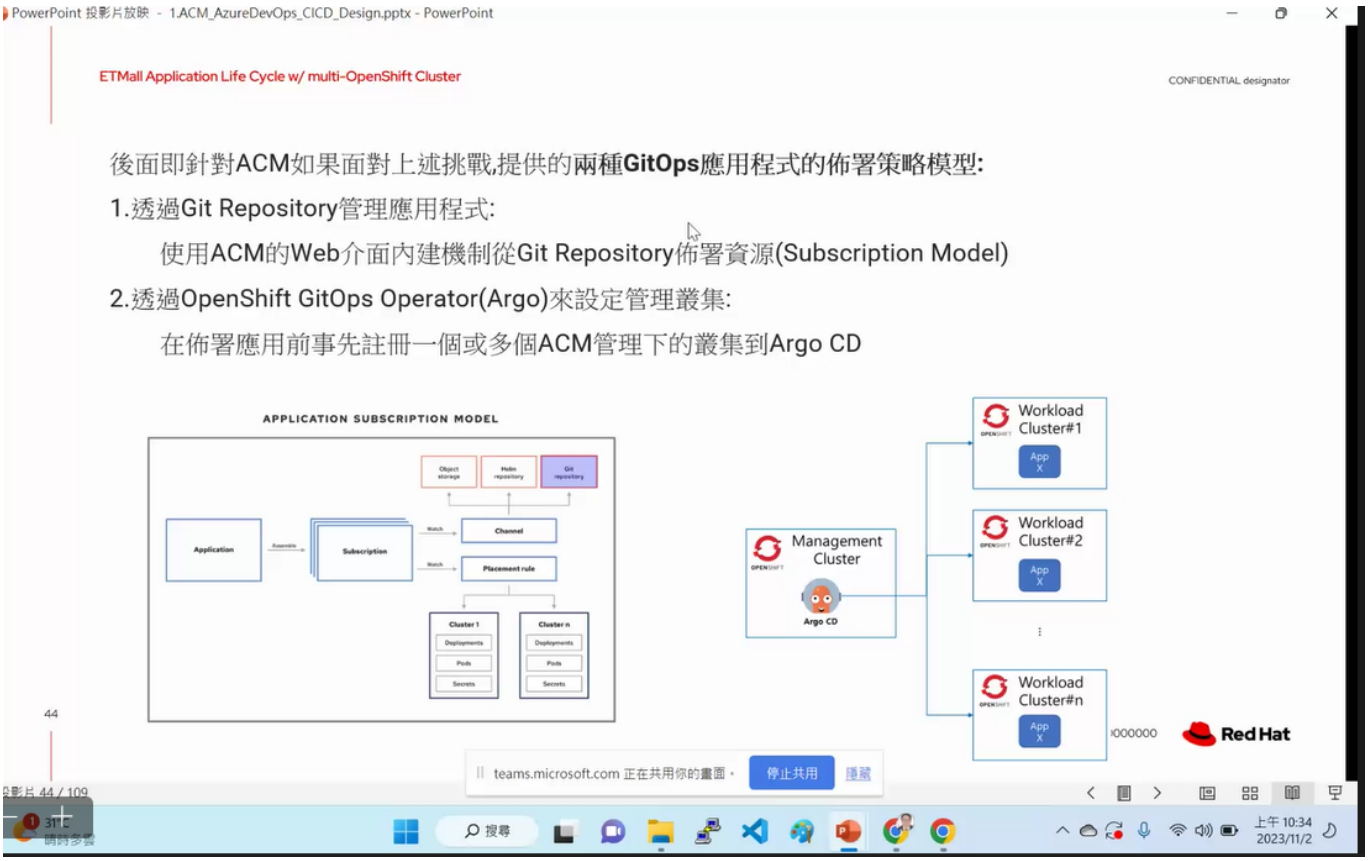
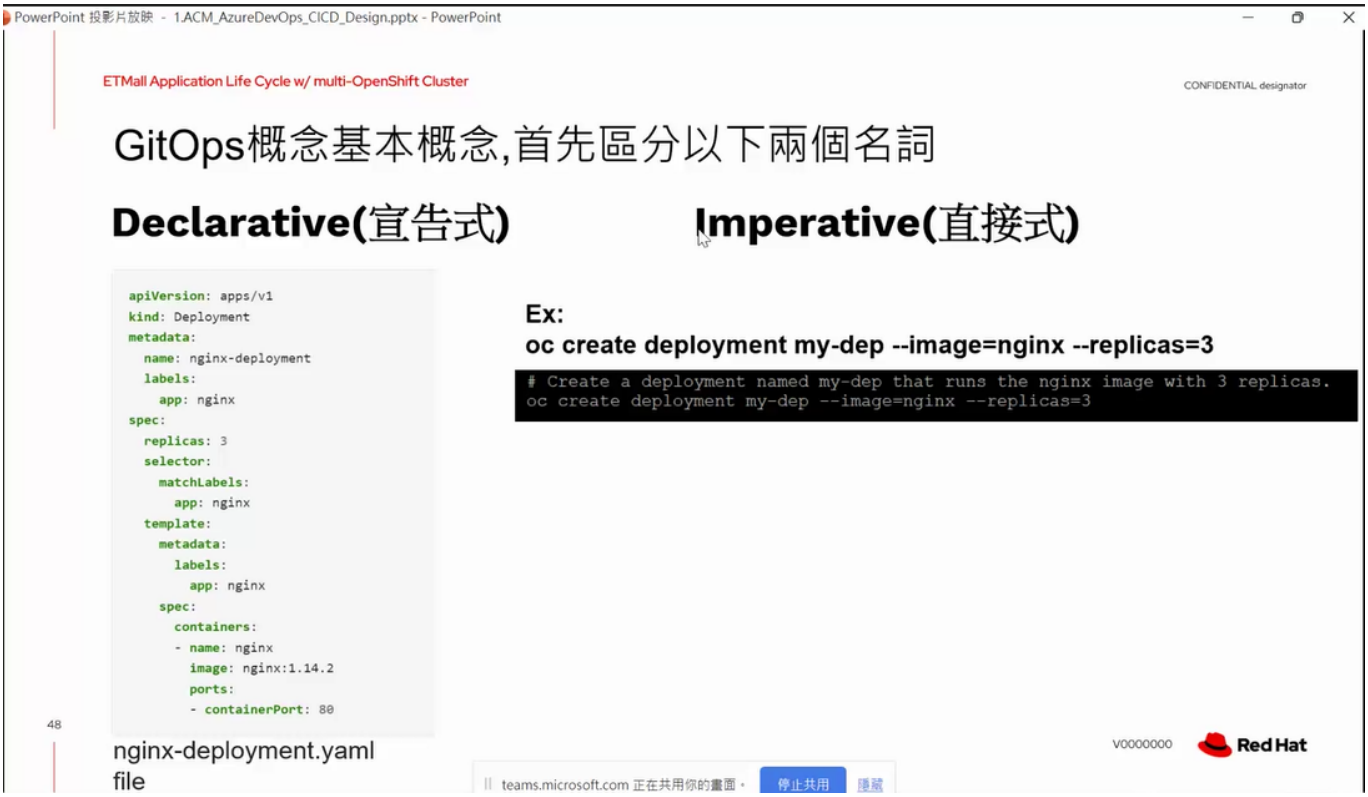


- ACM 有自有的subscription model



- imperative 直接式 直接用cli建立
- declarative 宣告式 透過yaml檔案建立 可做版控


PowerPoint 投影片放映 - 1.ACM_AzureDevOps_CICD_Design.pptx - PowerPoint
ETMall Application Life Cycle w/ multi-OpenShift Cluster
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GitOps概念基本概念
GitOps : Infrastructure as Code Done Right
Infrastructure as Code or X as Code
•Infrastructure as Code
•Policy as Code
•Networking as Code
•Security as Code
•Configuration as Code
•...etc
50
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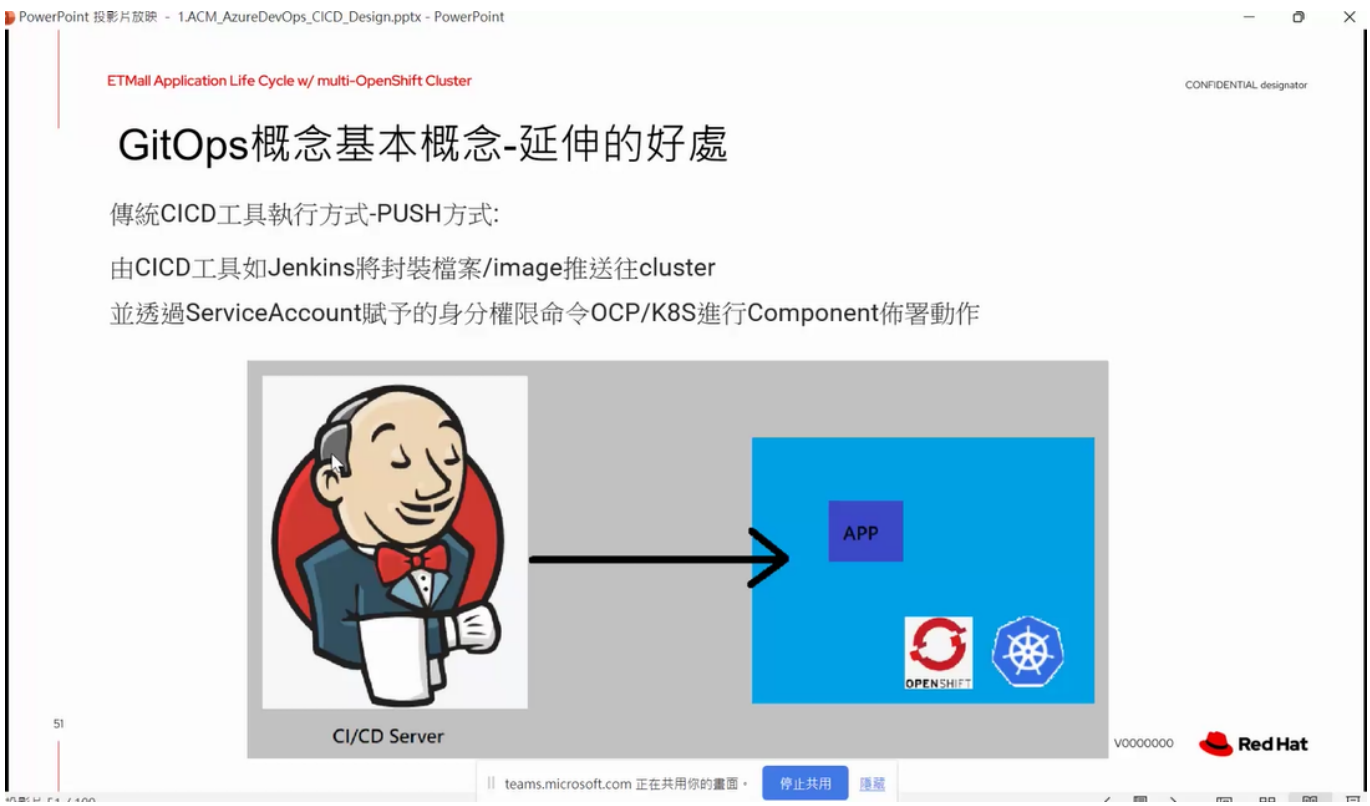
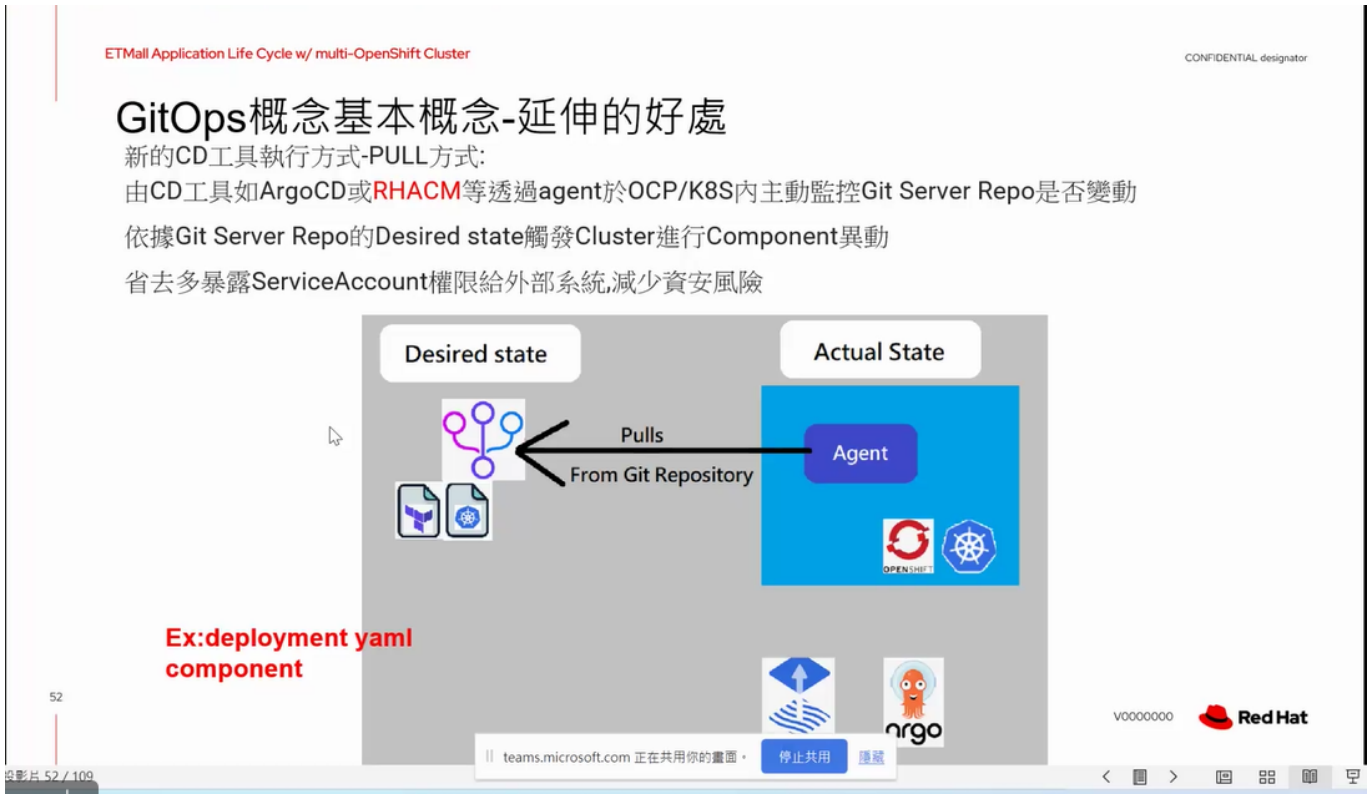
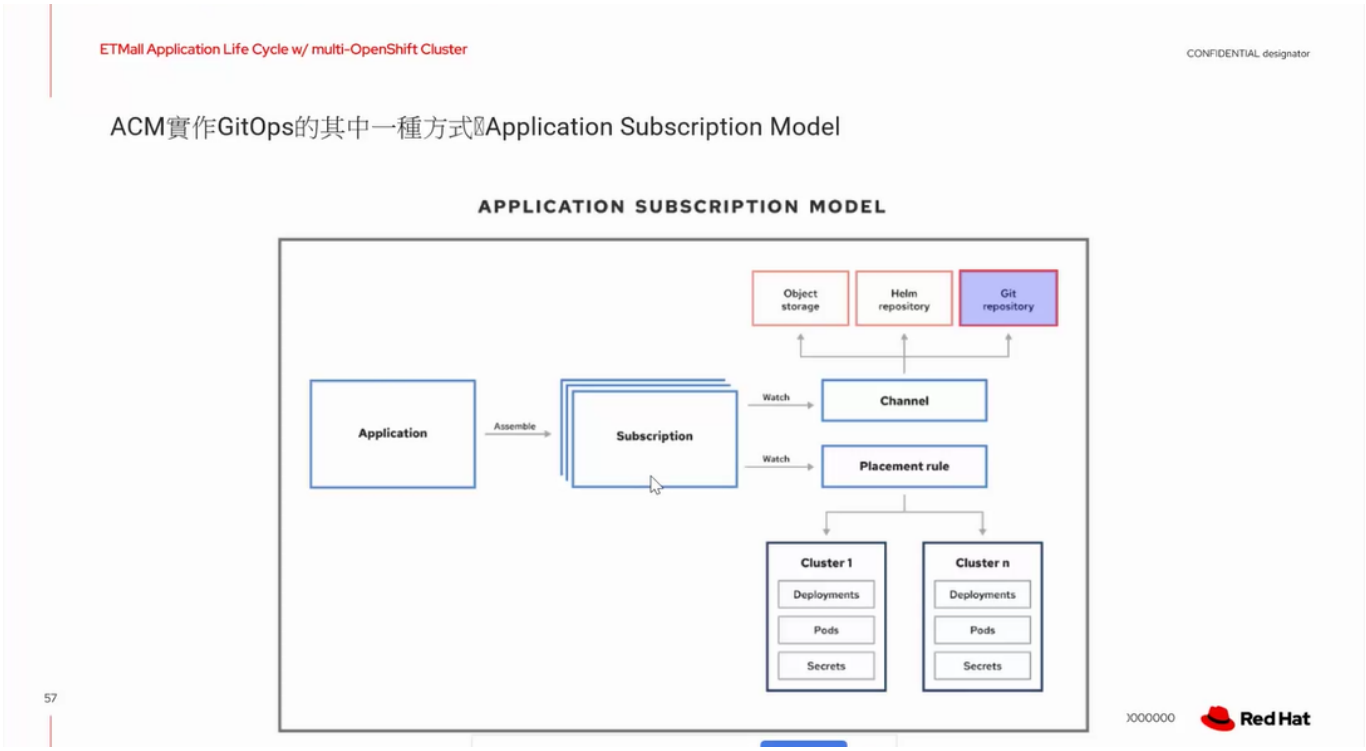
上午 10:38
2023/11/2



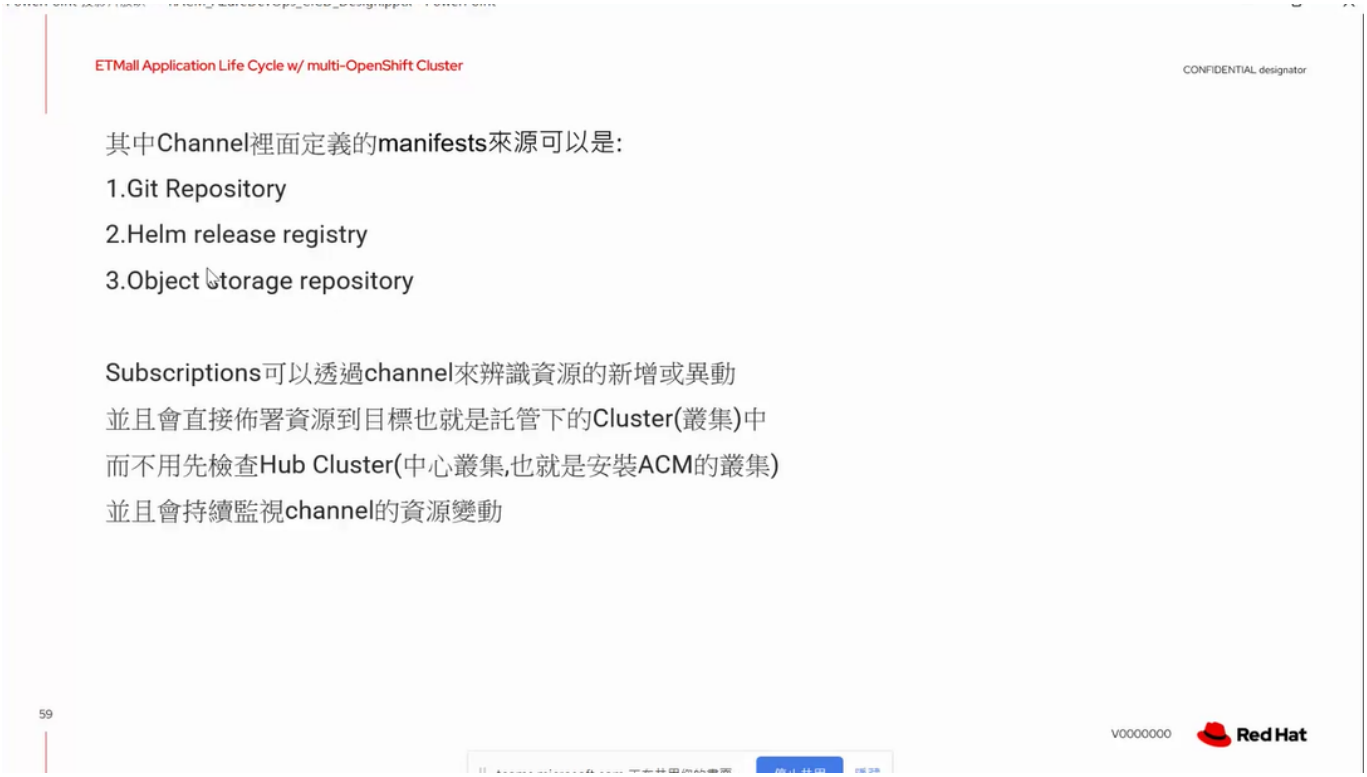


- push式 賦予權限給k8s
- pull式 k8s自己去取得權限

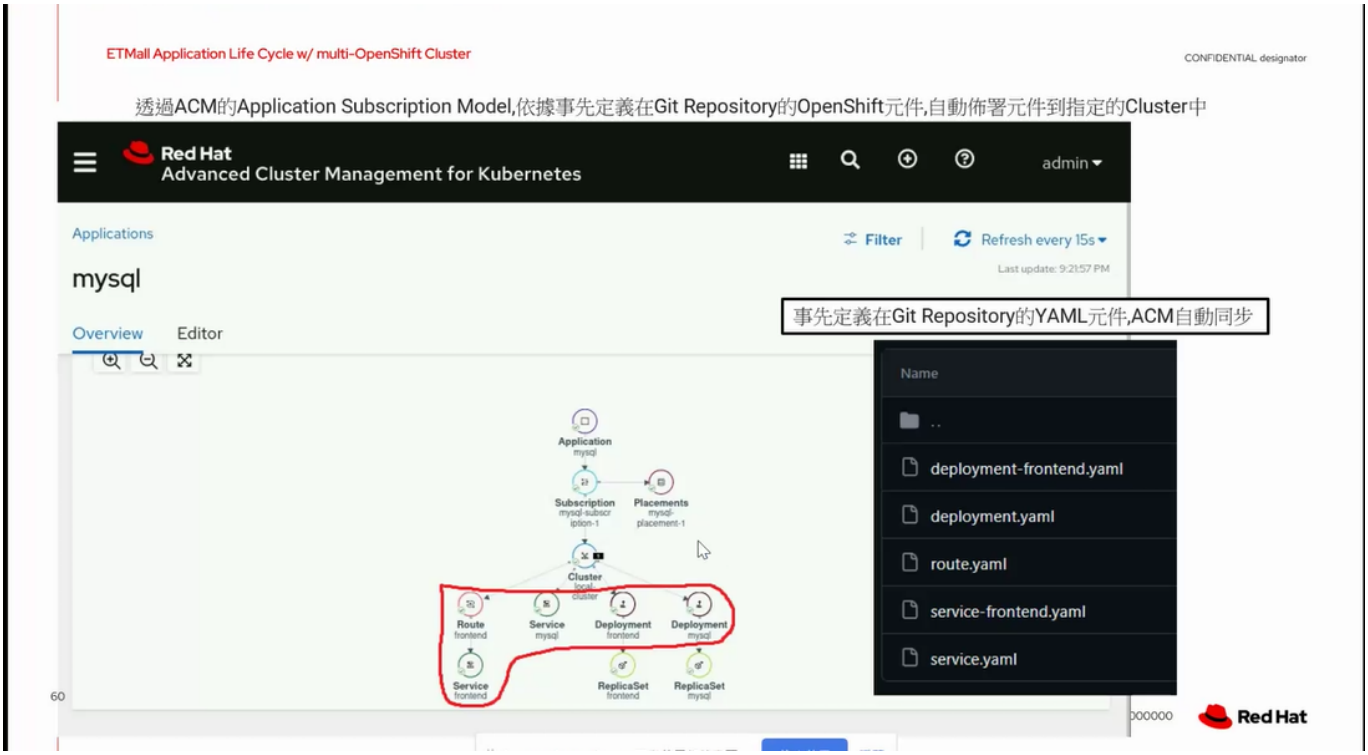
- 須嚴格遵守single source of truth
- 透過gitops來達成
- ACM Application Subscription Model



- 在創建時需要指定要sync的 repo 位置
- repo 帳號暴露給 k8s, 讓k8s可以去pull
- plcaement rule 紀錄要部屬到哪個cluster
- channel 紀錄要部屬到哪個namespace
- subscription 紀錄要部屬到哪個application



ACM subscrition model 範例



- kustomization.yaml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之後在overlays/sit-cluster目錄下新增route YAML檔,並調整該目錄下kustomization.yaml
[student@workstation DO480-apps]$ vim overlays/apac/route.yaml
apiVersion: route.openshift.io/v1
kind: Route
metadata:
labels:
app: todonodejs
name: frontend
name: frontend
spec:
host: todo.apps.ocp4.example.com
path: "/todo"
to:
kind: Service
name: frontend-apac
weight: 100
wildcardPolicy: None
新增整份
route.yaml
[student@workstation DO480-apps]$ vim overlays/apac/kustomization.yaml
apiVersion: kustomize.config.k8s.io/v1beta1
kind: Kustomization
bases:
- ../../base
nameSuffix: -apac
images:
- name: mysql
newName: registry.redhat.io/rhel8/mysql-80
newTag: 1-152
apiVersion: kustomize.config.k8s.io/v1beta1
kind: Kustomization
bases:
- ../../base
nameSuffix: -apac
images:
- name: mysql
newName: registry.redhat.io/rhel8/mysql-80
newTag: 1-152
resources:
- route.yaml
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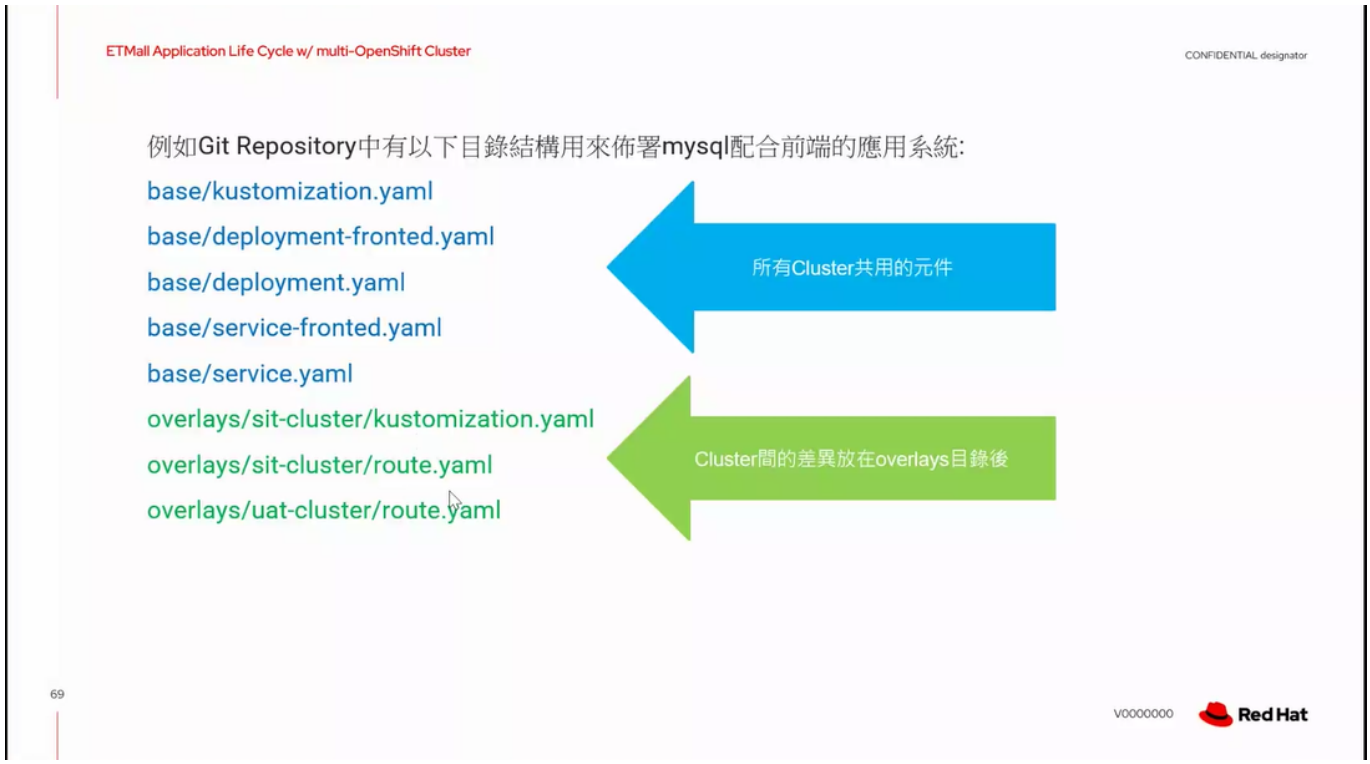
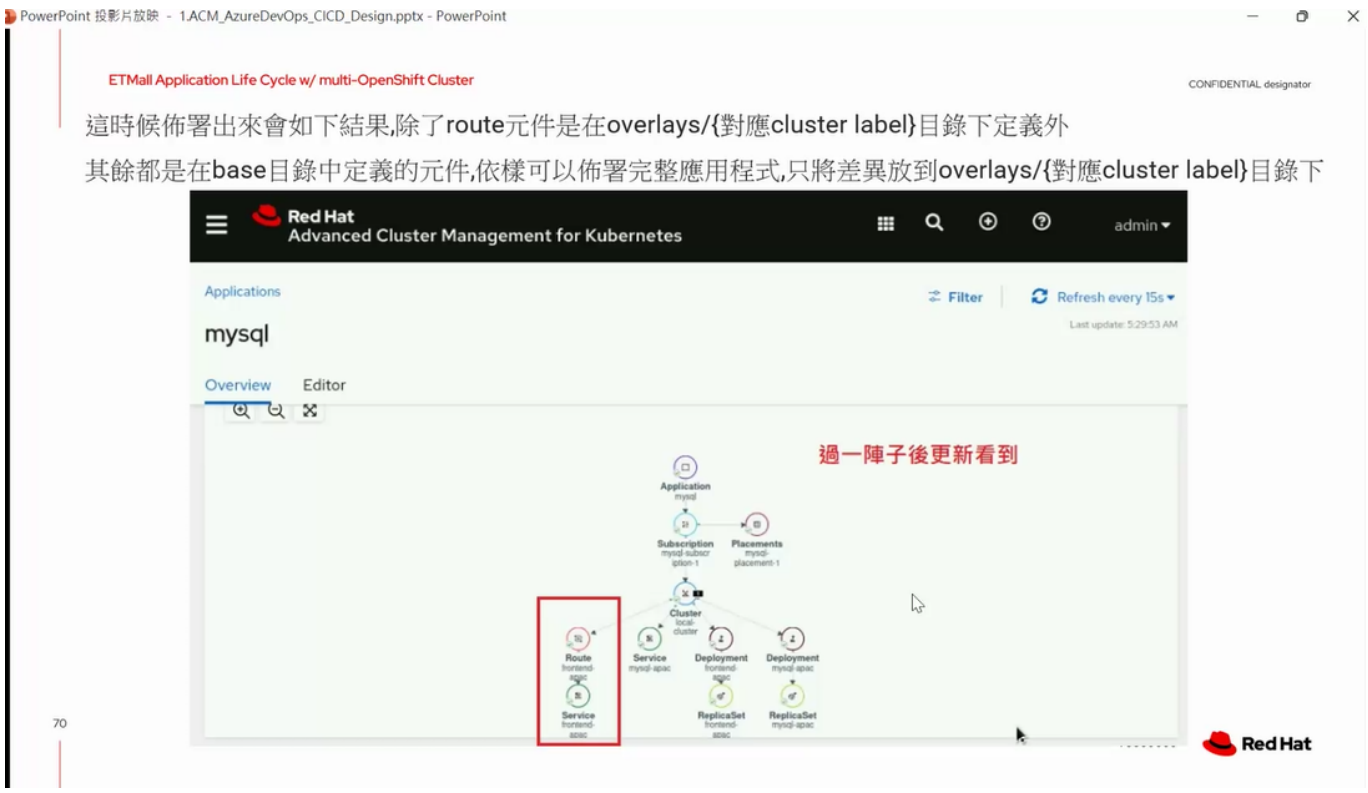
參考





- kustomize 會將所有的yaml檔案合併成一個

經由上面介紹ACM的Subscription Model及進階透過Kustomize結構目錄佈署,做以下整理:

該方式有遵守GitOps原則,並有以下好處:

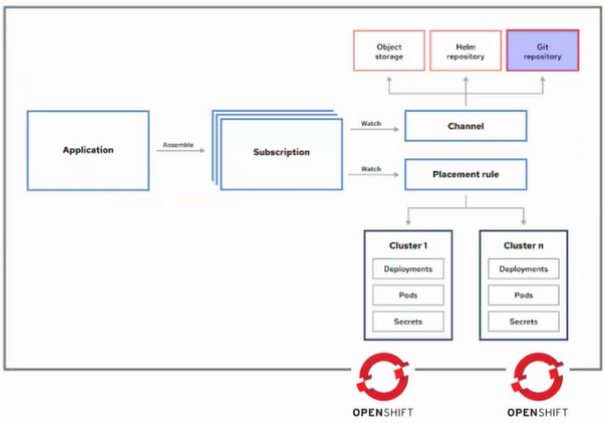
- Declarative desired state : Git Repository上即儲存了佈署的元件狀態都記錄在YAML檔案內
- Immutable desired state : 佈署後所有元件狀態都不可透過Git以外方式異動,並歷史異動同Git歷史
- Infrastructure as code : 所有運行有關的OpenShift元件基礎設施都儲存在Git Repository內
- Merge requests : 異動過程可配合Git審核機制
- Continuous integration (CI) : 如同程式碼常態異動一樣,持續整合佈署的OpenShift元件
- 減少暴露ServiceAccount到Cluster之外的風險

(注意,上述的CI指的是OpenShift/Kubernates元件的CI,而非單指應用程式)

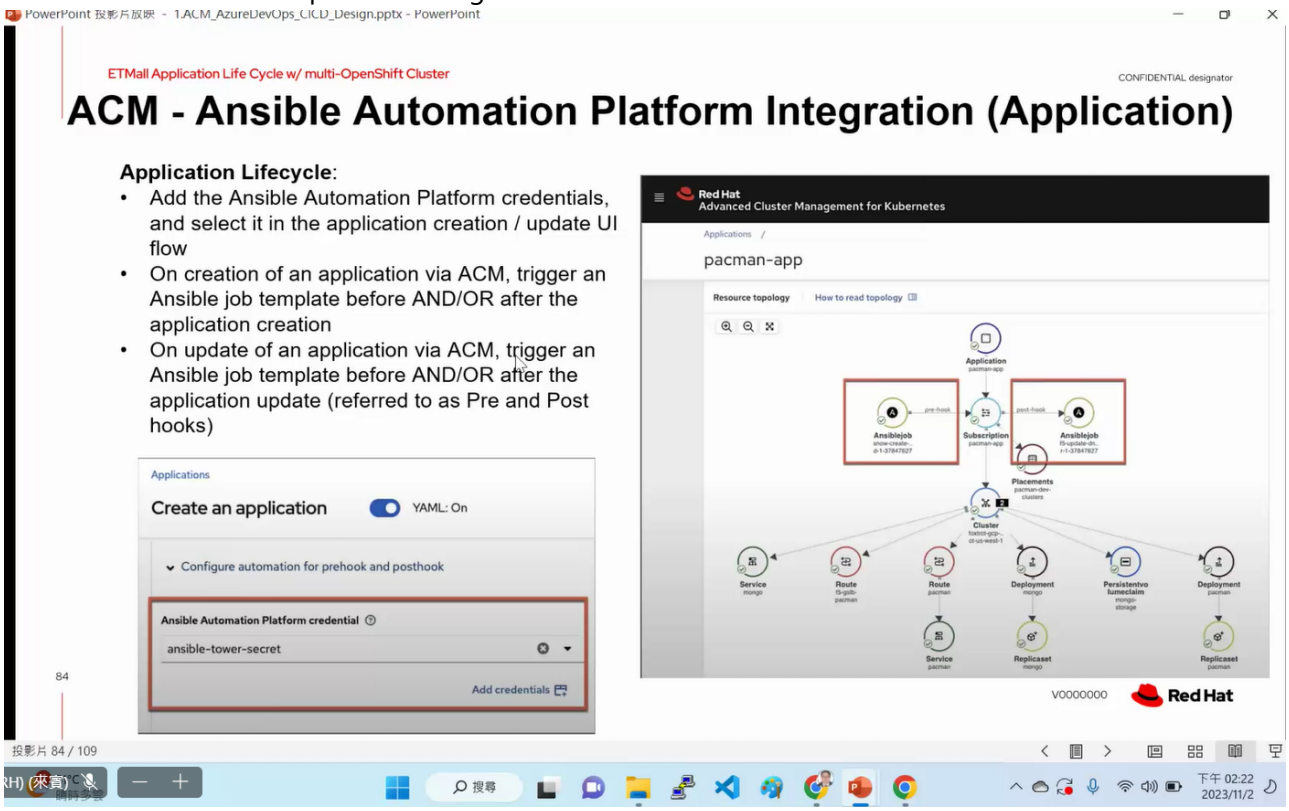
且透過Kustomize將不同叢集佈署的OpenShift元件簡化,不用重複撰寫

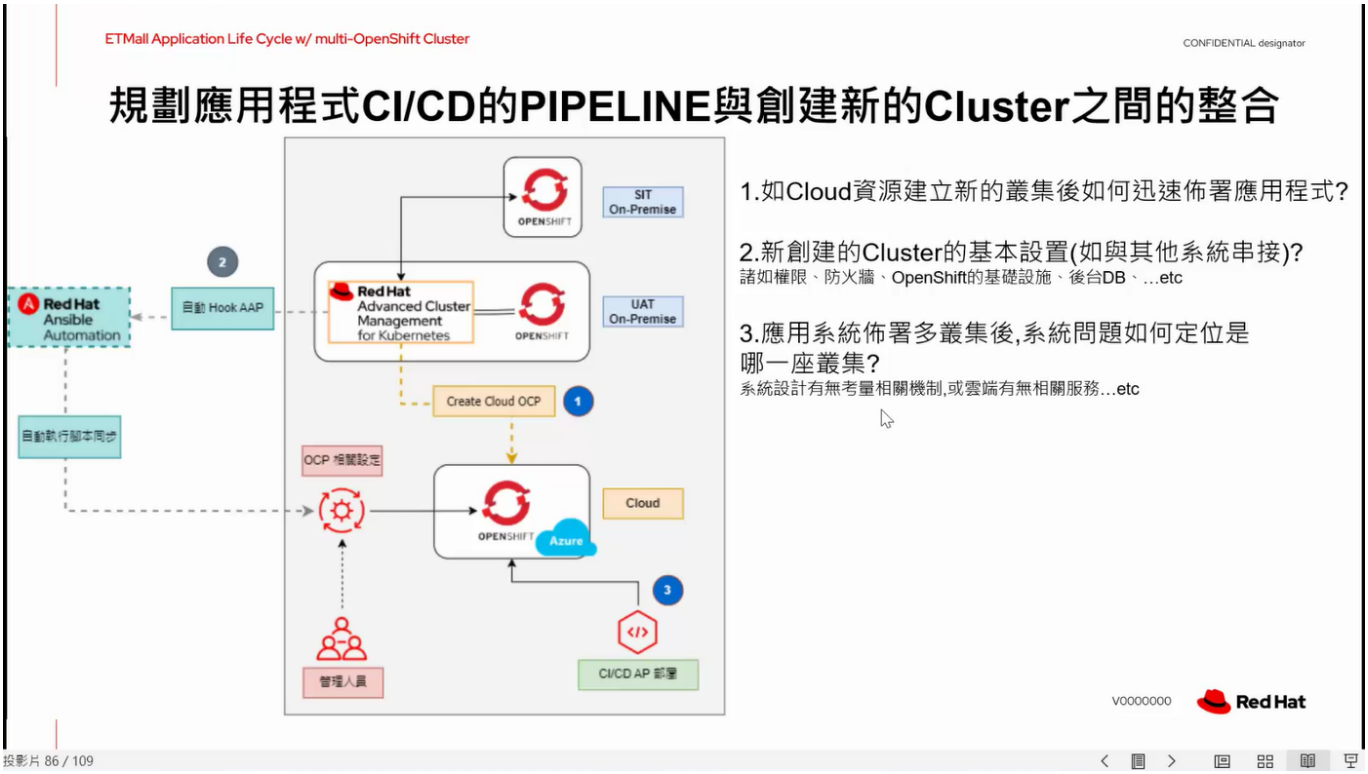
但是ACM的Subscription Model在佈署前若無法管理被管的Cluster或甚至與Git同步有問題
在佈署前就發現並處理完問題

APPLICATION SUBSCRIPTION MODEL

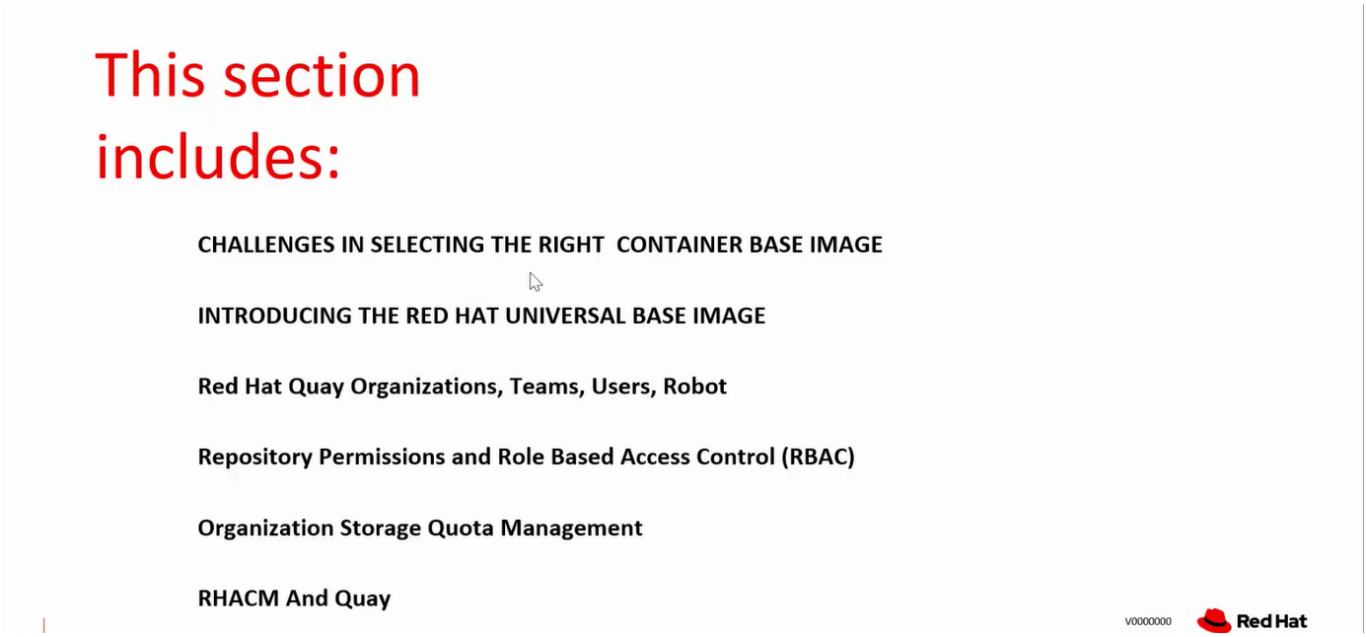


- 整合ansible Automation platform integration





Universal Base Image & Quay



- 挑選適合的base image
- Red UBI 介紹
- Quay for org
- RBAC

There is some standard criteria that can help

Architecture

- C Library
- Core Utilities
- Size
- Life Cycle
- Compatibility
- Troubleshooting
- Technical Support
- ISV Support
- Distributability

Security

- Updates
- Tracking
- Security Response Team

Performance

- Automated
- Performance Engineering

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挑選base image 的考量

- 架構
- 安全性
- 效能

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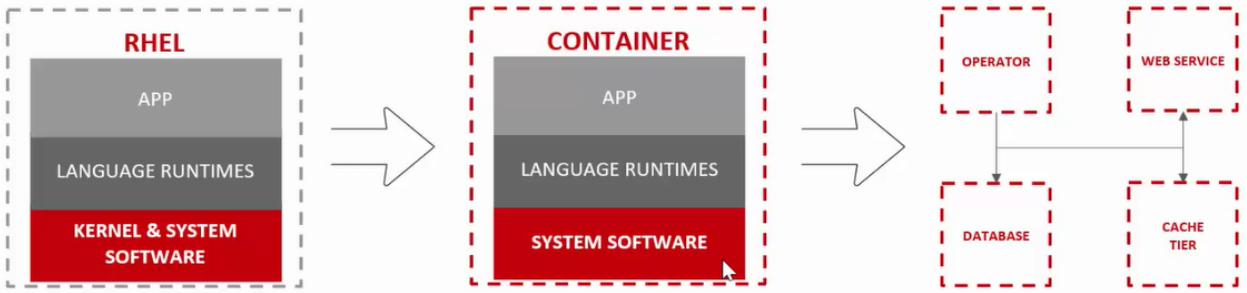
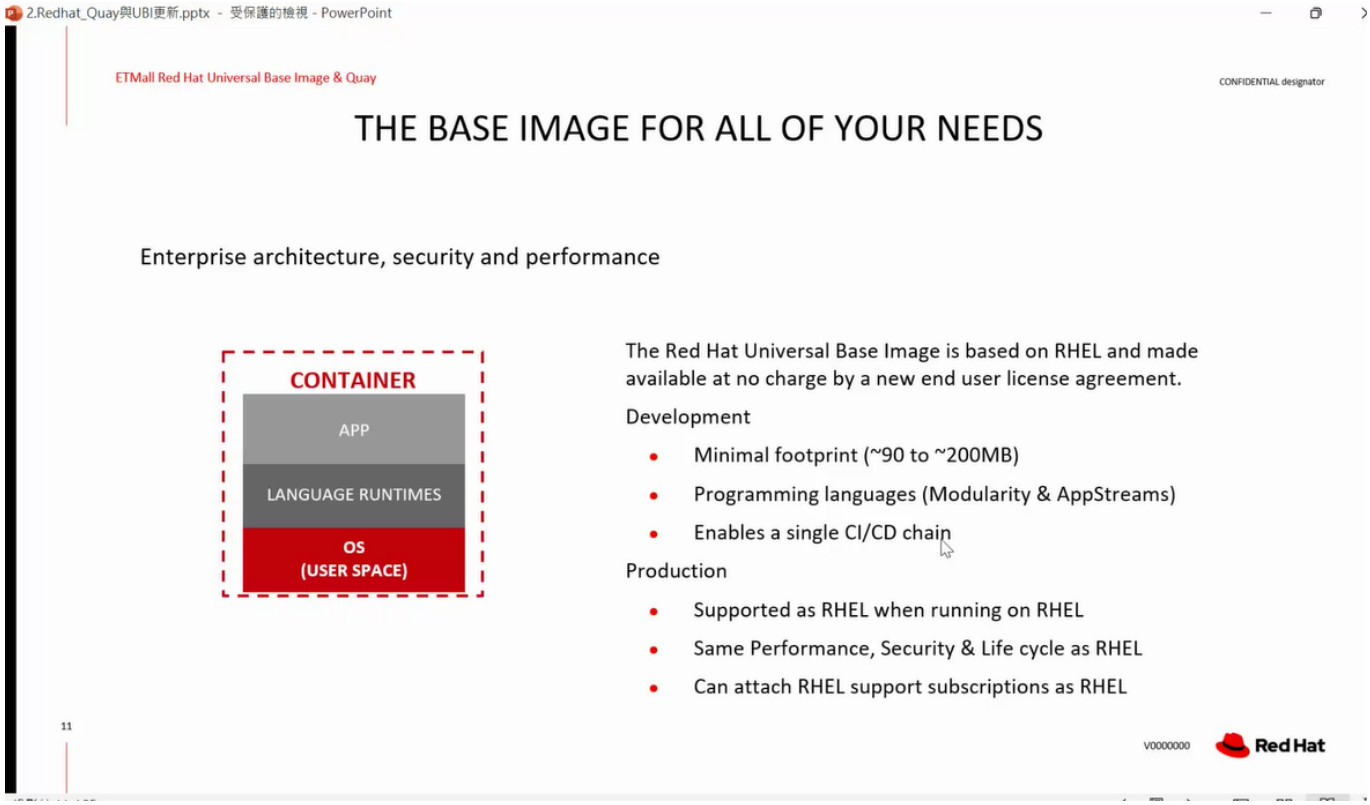
THE BASE IMAGE FOR ALL OF YOUR NEEDS

Bringing the value of RHEL to cloud native applications



Traditional Applications | Containerized Applications | Cloud Native Applications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CONTAINER
APP
LANGUAGE RUNTIMES
OS
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The Red Hat Universal Base Image is based on RHEL and made available at no charge by a new end user license agreement.
Development
Minimal footprint (~90 to ~200MB)
Programming languages (Modularity & AppStreams)
Enables a single CI/CD chain
Production
Supported as RHEL when running on RHEL
Same Performance, Security & Life cycle as RHEL
Can attach RHEL support subscriptions as RHEL
11
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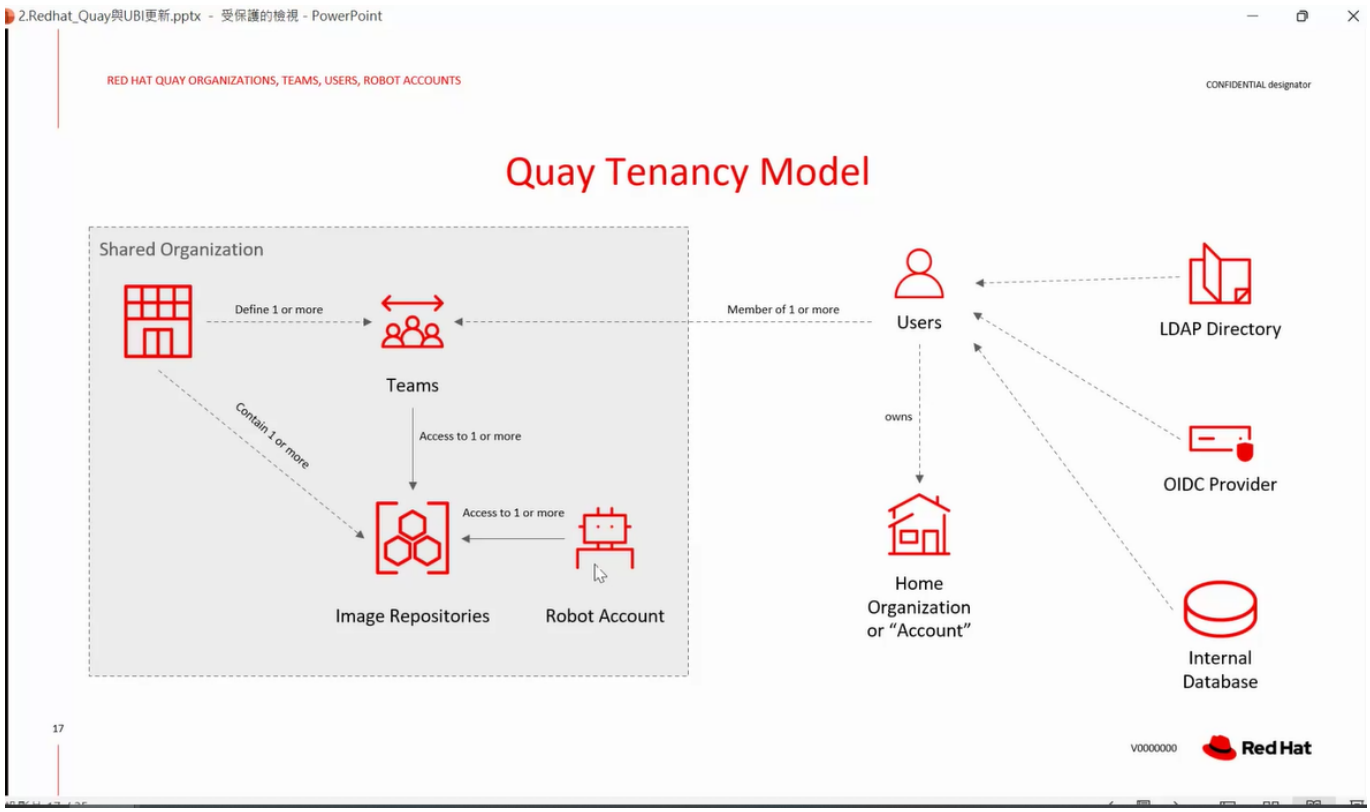
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RED HAT QUAY ORGANIZATIONS, TEAMS, USERS, ROBOT ACCOUNTS
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Quay Tenancy Model
Shared Organization
Define 1 or more
Teams
Contain 1 or more
Access to 1 or more
Access to 1 or more
Image Repositories
Robot Account
Member of 1 or more
Users
owns
Home
Organization
or "Account"
LDAP Directory
OIDC Provider
Internal
Database
17
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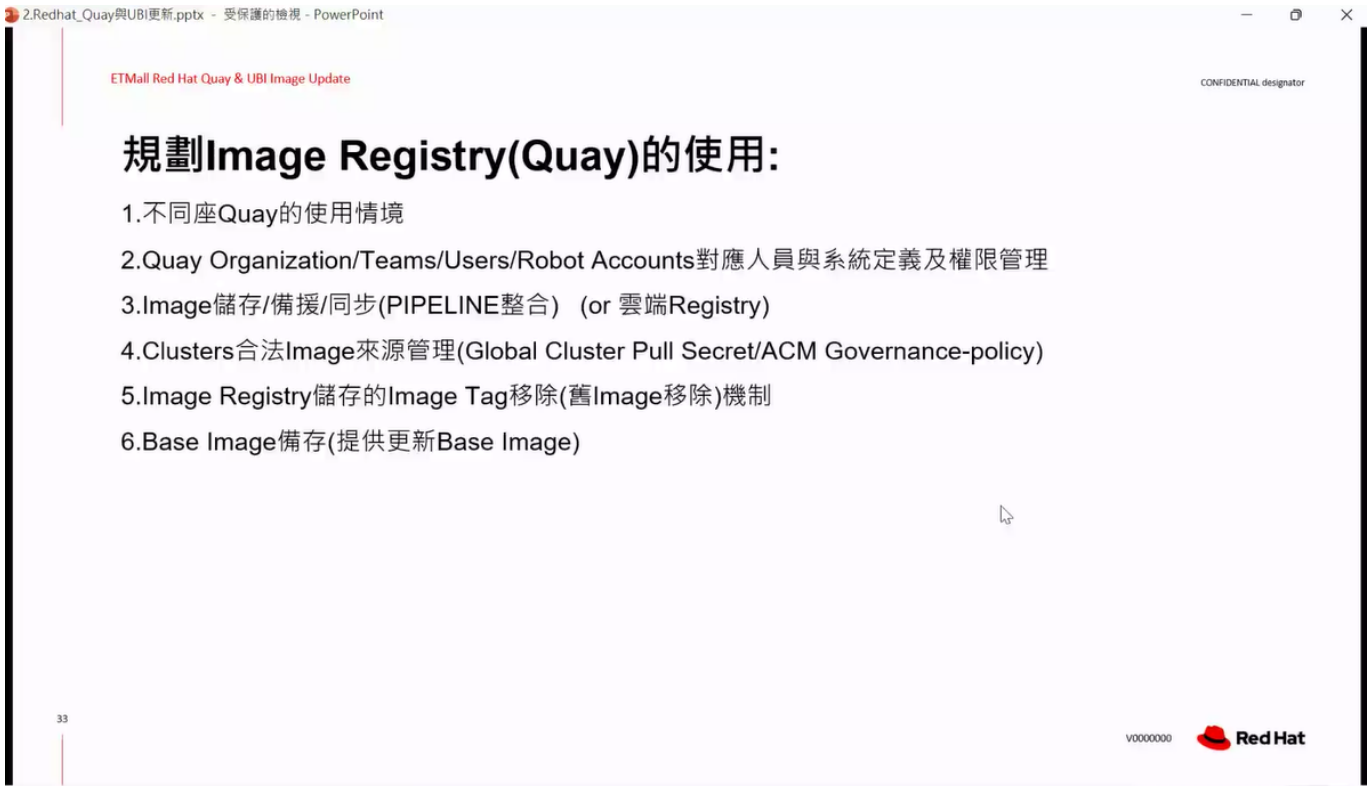
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ETMall Red Hat Quay & UBI Image Update
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規劃Image Registry(Quay)的使用:
1.不同座Quay的使用情境
2.Quay Organization/Teams/Users/Robot Accounts對應人員與系統定義及權限管理
3.Image儲存/備援/同步(PIPELINE整合) (or 雲端Registry)
4.Clusters合法Image來源管理(Global Cluster Pull Secret/ACM Governance-policy)
5.Image Registry儲存的Image Tag移除(舊Image移除)機制
6.Base Image備存(提供更新Base Image)
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