

Development – Continuous Integration and Continuous Delivery Standard

Introduction

Continuous integration and either continuous delivery or continuous deployment are important pieces of the modern development workflow.

Purpose

The purpose of this document is to establish a standard for OMES development around the testing and deployment of applications and to establish the tools and products used for this part of the development workflow.

Definitions

Continuous delivery – Continuous delivery automatically deploys all code changes that have passed continuous integration into a testing and/or production environment after the build stage. Typically, these changes are grouped together and then released as a standard release every two weeks.

Continuous deployment – A more advanced concept where all changes in the code repository are automatically moved to production without going to a testing environment first. Instead of code being released during release days, every code change results in a corresponding release.

Continuous integration – The step during the development process where tests are run (typically automatically) as code is checked into a code repository.

Standard

Any tool that has been approved for CI/CD on the OMES reference architecture is allowed. If there is no specific tool listed on the reference architecture, it is expected that the development group should use either GitHub Enterprise or Azure DevOps tools for CI/CD in their development.

All new applications created after the establishment of this standard must implement at least the most basic form of CI/CD in that they must:

- Keep their code in a Git repository in GitHub Enterprise.
 - Owners of repositories for any code in Azure DevOps should begin to create a plan for migration to GitHub Enterprise. A future mandate will require migration of all Azure DevOps Repos to GitHub Enterprise.
- Add at least a basic build test for CI purposes to make sure that the app can build before it can be deployed.
- Connect the Git repository to the deployment space with a code pipeline using the available CD tools so that code that has passed approval and testing can be deployed.

It is acceptable for code that has been tested and passed automated approval to be “gated” or held for deployment approval until a pipeline approver has approved it to be deployed. It is also acceptable for code to be deployed from development to test to production or any other branching standard set by the repository admin.

Compliance

This standard shall take effect upon publication and is made pursuant to Title 62 O.S. §§ 34.11.1 and 34.12 and Title 62 O.S. § 35.8. OMES IS may amend and publish the amended standards policies and standards at any time. Compliance is expected with all published policies and standards, and any published amendments thereof. Employees found in violation of this standard may be subject to disciplinary action, up to and including termination.

Rationale

To coordinate and require central approval of state agency information technology purchases and projects to enable the chief information officer to assess the needs and capabilities of state agencies as well as streamline and consolidate systems to ensure that the state delivers essential public services to its citizens in the most efficient manner at the lowest possible cost to taxpayers.

Revision history

This standard is subject to periodic review to ensure relevancy.

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Approved by: Dan Cronin, Chief Information Officer	