# Developer Productivity Engineering

# Standard Operating Procedure

#### **Document Information**

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## 1. Introduction

### 1.1 Purpose of Document

The purpose of this document is to provide a comprehensive guide for the DPE Team's daily activities. It outlines detailed procedures for managing tools like Gondor, Sauron and developer environment – Cloud Dev for DCP and HRIS. The document also includes other responsibilities that the DPE team holds like Harness pipelines for DCP Python apps.

### 2. DPE Team Roles

The DPE team oversees the development environment Cloud Dev for HRIS and DCP. Also, the tool Gondor is for running HRIS test cases and the tool Sauron takes care of approvals PRs and merges the PR to the main branch. Along with these, there are a couple of Jenkins jobs that build images for the above tools and for applications from the DCP platform. Most of the DCP apps that are in the Python tech stack fall under the DPE team’s scope to create Harness pipelines.

### 2. 1 DPE Team Tools

Gondor, Sauron, Jenkins (DCP & Zenefits), Harness, Cloud Dev (DCP & HRIS), PagerDuty etc.

### 2. 2 Jenkins Jobs used by the DPE Team

There are multiple Jenkins jobs that the team owns :

[Dashboard [Jenkins] (zncloud.net)](https://jenkins.zncloud.net/)

## 3. Cloud Dev

Cloud Dev Env is a container based solution that can be used by developers to test their code changes. Cloud Dev Env runs containers on AWS.

Reason for Cloud Dev - If the image size is huge it is not possible to use local machines for development. Cloud Dev Env offers out of the box configurations, and clean environments every time you want to work on something without having to set it manually.

A shared host running docker containers with the code on the container synced to your local. We have a command called "dev" in the root of Customer-Platform that lets you connect/manage the containers. 

[Cloud Dev Onboarding - Developer Productivity - Confluence (trinet-devops.com)](https://confluence.trinet-devops.com/display/CDT/Cloud+Dev+Onboarding)

## 4. Sauron

Sauron is the all-seeing eye of the infrastructure team. It's meant to help our team coordinate changes flowing from dev to production, and make sure we know what all those crazy engineers are doing. I see it as composed of two parts:

### ****4.1 Sauron Merge Bot****

You'll hear us refer to this as 'Sauron Core', 'Sauron State Machine' - it's all the same thing. This is an event-driven system that processes PR, CI, and deployment events. It flows PRs from code review to production, triggering whatever activities are needed to make the PR progress through the pipeline.

Long term, our ambition is that the PR state machine will be configurable through a UI or configuration file, such that each team can set up their own stages and approval workflows, without writing any code.

### ****4.2 Sauron UI****

Also known as Sauron Hub, this is the web app that serves as a front end for all of infra's internal tools and services. Long term, it will be more than a UI: we will also expose a REST API, and release a CLI tool, Sauron-shell.

Sauron Hub has two primary users: product engineers and infra engineers. Infra engineers should have access to privileged views and APIs.

## 5. Gondor

Gondor is a Django Web App with a React Frontend. It stores:

* Plans (a CI run for a SHA)
* Test Definitions (a unique test definition which is used in many CI runs)
* Steps (a specific test run in a plan)
* Test Coverage Data
* and more

Gondor plan is usually triggered by users ([CLI](https://github.com/zenefits/yourPeople3/blob/master/ci/bin/trigger-build.py), [CI Bot](https://git.zncloud.net/zenefits/zbot/blob/master/zcore/clients/gondor.py#L56)) and through automated workflows by [Sauron](https://github.com/zenefits/sauron/blob/master/sauron/activities/gondor.py).

Gondor has a coordinator to manage the [CI cluster](https://us-west-2.console.aws.amazon.com/ecs/home?region=us-west-2#/clusters/yp-ci-testing/tasks) (e.g. auto-scaling, start/stop CI containers...). It receives notifications from the CI containers via a single SQS Event Queue. These notifications give information about test outcomes and CI node outcomes. Based on all of this, we have a bunch of business logic that tells us whether to retry a build automatically, mark it as successful, etc.

Gondor service is on duplo dev account (tenant D-GONDOR).

## 6. Code Repos

GitHub Zenefits Repos - <https://github.com/zenefits>

GitHub TriNet Repos - <https://github.com/trinet>

## 7. Daily Tasks of DPE Team

* DPE Team supports Development Environments for HRIS and DCP applications. Any issues posted by developers in public channels are something that the DPE team looks into.

Cloud Dev DCP - [Developer Productivity Engineering | DCP - Dev Testing System - CloudDev | Microsoft Teams](https://teams.microsoft.com/l/channel/19%3A621b7a56c5ef43b2940fb7b5816df462%40thread.tacv2/DCP%20-%20Dev%20Testing%20System%20-%20CloudDev?groupId=a39b5c47-cc97-4e51-b3ba-d2ac8227763a&tenantId=)

Cloud Dev HRIS - [Developer Productivity Engineering | HRIS - CloudDev Version 2.0 | Microsoft Teams](https://teams.microsoft.com/l/channel/19%3Ad9bc4d6db71947a783b5213cf00265d0%40thread.tacv2/HRIS%20-%20CloudDev%20Version%202.0?groupId=a39b5c47-cc97-4e51-b3ba-d2ac8227763a&tenantId=)

* Gondor - <https://gondor-dev.trinet.internal/g2/plan/11133> is a tool that runs all unit tests that run as part of CI process. Any issues that developers face with these test executions on Gondor are also posted into the team’s public channel and are also part of the DPE team’s responsibilities.
* Sauron – Sauron is a GitHub bot that takes care of PRs and triggering builds accordingly. Ay development activity or fixes related to Sauron activity also in DPE bucket.

[Developer Productivity Engineering | CI System - Gondor, Sauron, Jenkins, Harness POC | Microsoft Teams](https://teams.microsoft.com/l/channel/19%3A22273806c24b4f9982db84ecf84d411a%40thread.tacv2/CI%20System%20-%20Gondor%2C%20Sauron%2C%20Jenkins%2C%20Harness%20POC?groupId=a39b5c47-cc97-4e51-b3ba-d2ac8227763a&tenantId=)

* Along with the above support activities, there are development activities that teams take like CloudDev enhancements, Any work intake from development teams, Migrations etc. are in the DPE team’s bucket.