**Introduction to Hygieia:**

Hygieia is a single, configurable, easy to use dashboard to visualize near real-time status of the entire delivery pipeline.

A typical project deals with Agile Project Management tool, Source Control, Continuous Integration (CI) tool, Testing tools, Static Code Analysis and Security Scanning tools, Deployment and Monitoring tools to name a few.

Large enterprises and complex systems sometimes use multiple CI, Testing and Scanning tools. Each of these has nice dashboards to present key information stored in it. But what is lacking is a single, comprehensive end-to-end view of the state of a delivery pipeline in near real time.

Hygieia is the solution & provides One Dashboard for the Entire CI/CD Pipeline

**Features**

* **Team Dashboard**: Monitor things like workitems, code repo, builds, quality items (unit tests, security, coverage, etc.), and deployments in one dashboard.
* **Real-time Status**: Monitor quality, productivity, and work in process on a real-time basis within the dashboard.
* **Configurable** View: Set up the dashboard to display the widgets that matter most to your project, which helps amplify and shorten the feedback loop.
* **Open Source**:Hygieia is open source and free for everyone to use. We also encourage external users to commit to the project.

**Layers**

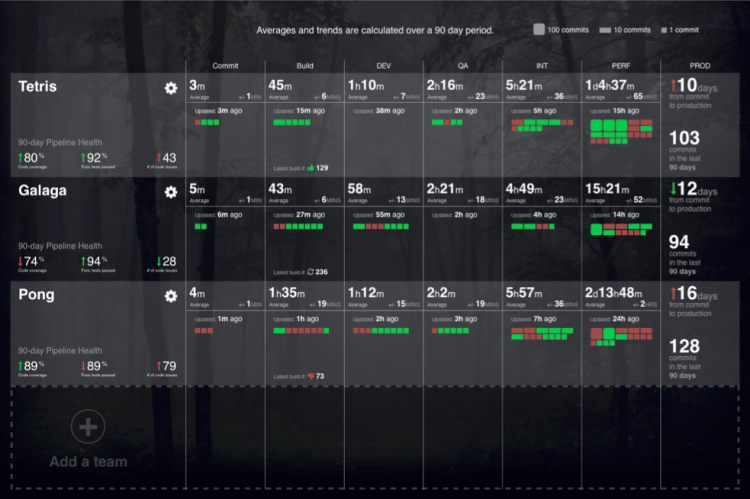
There are 3 main Layers of Hygieia Dashboard

1. UI Layer
2. API Layer
3. Collectors Layer

**UI Layer:**

This layer is view level layer & displays the Daaashboard content to user.there are two types of Dashboards

**a.Team Level Dashboard­­**

**b.Product Level Dashboard**

**API Layer:**

API is work as an Interface between Collector and UI.It contains the Controller classes, which helps to UI which Collector logic has to be executed whenever request comes from UI.

API module contains following major packages

* **Request**: this package classes are used to store Request details
* **Rest** :           this package classes contains Controller classes
* **Service** : this package classes are used for send response to UI

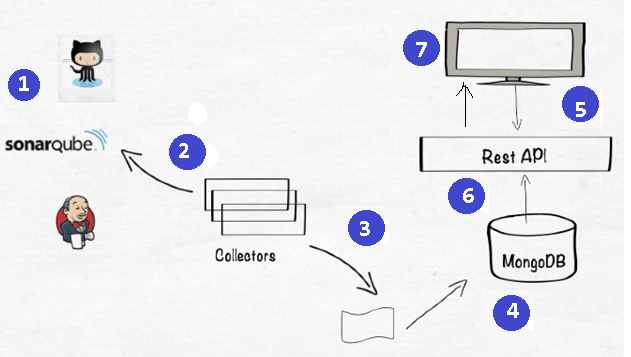
**Collector Layer:**

Each and every DevOps Tool having their own collector. For example Jenkins tool having its own collector call it as Jenkins Build Collector.The main job of the collector is, it will collects the Data from DevOps tool and save that data into the MongoDB

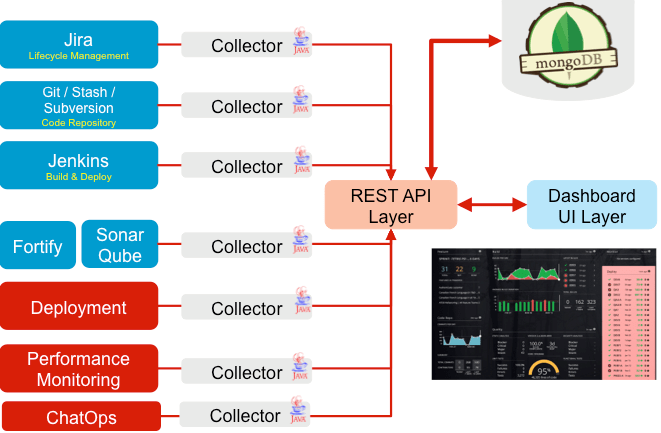
We have following Collectors in the latest version of Hygieia(2.0.4)

* **Build Collectors:**
  + [Bamboo](https://github.com/capitalone/Hygieia/blob/master/collectors/build/bamboo)
  + [Jenkins](https://github.com/capitalone/Hygieia/blob/master/collectors/build/jenkins)
  + [Jenkins Cucumber](https://github.com/capitalone/Hygieia/blob/master/collectors/build/jenkins-cucumber)
  + [Sonar](https://github.com/capitalone/Hygieia/blob/master/collectors/build/sonar)
* **Cloud Collectors:**
  + [AWS](https://github.com/capitalone/Hygieia/blob/master/collectors/cloud/aws)
* **Deploy Collectors:**
  + [uDeploy](https://github.com/capitalone/Hygieia/blob/master/collectors/deploy/udeploy)
  + [XLDeploy](https://github.com/capitalone/Hygieia/blob/master/collectors/deploy/xldeploy)
* **Feature Collectors:**
  + [Jira](https://github.com/capitalone/Hygieia/blob/master/collectors/feature/jira)
  + [VersionOne](https://github.com/capitalone/Hygieia/blob/master/collectors/feature/versionone)
* **Misc Collectors:**
  + [Chat Ops](https://github.com/capitalone/Hygieia/blob/master/collectors/misc/chat-ops)
* **SCM Collectors:**
  + [Bitbucket](https://github.com/capitalone/Hygieia/blob/master/collectors/scm/bitbucket)
  + [Github](https://github.com/capitalone/Hygieia/blob/master/collectors/scm/github)
  + [Gitlab](https://github.com/capitalone/Hygieia/blob/master/collectors/scm/gitlab)
  + [Subversio](https://github.com/capitalone/Hygieia/blob/master/collectors/scm/subversion)

**How Hygieia dashboard works:**



1. Install & Congigure DevOps Tools in Hygiea Dashboard
2. Collectors will collect the data from the DevOps tool based on the configuration
3. Collector will convert the collected data into MongoDB data format
4. Saves the converted data into MongoDB Collector
5. UI calls the RestAPI call to get the Data from the Database
6. RestAPI get the data from database and returns to UI
7. UI will Displays the collected data in the Dashboard



| Layer | Description |
| --- | --- |
| UI Layer | The UI layer (User Interface) is Hygieia’s front- end and contains all the Graphical User Interface (GUI) elements for users to view. It is here where users are also able to configure the dashboard. |
| API Layer | The Hygieia API layer contains Hygieia APIs and Audit APIs. Hygieia APIs contain all the typical REST API services that work with the source system data (collected by service tasks) and the Internet. Hygieia audit APIs are a collection of API endpoints that serve to audit CI/CD data gathered by Hygieia collectors. This layer is an abstraction of the local data layer and the source system data layer. |
| DevOps Tools | This layer entails the multitude of DevOps tools in a CI/CD pipeline. In the diagram, Jira, Git, Sonar, and XLDeploy are listed as examples. |
| Collectors’ Layer | The Collectors’ Layer fetches data from your DevOps tools. In turn, this data then appears on your Hygieia Dashboard. You can choose to install the collectors applicable to your DevOps tool set from the Hygieia Collectors Inventory. |
| Database Layer | Hygieia uses MongoDB as the database for storage and retrieval of data |

**Command to start each component:**

API Layer :

cd ~/Hygieia/api/target

java -jar api.jar --sprig.config.location=../dashboard.properties -Djasypt.encryptor.password=hygieiasecret

UI Layer :

cd ~/Hygieia/UI

gulp serve

Jenkins Collector Layer :

cd ~/Hygieia/collectors/build/jenkins/target

java -jar jenkins-build-collector-3.0.2-SNAPSHOT.jar --spring.config.name=jenkins --spring.config.location=application.properties

Source: <https://hygieia.github.io/Hygieia/getting_started.html>