

# PagerDuty Customer Success Group

## Innovation Team

### Back End Take Home Exercise

#### Objective

Using the **[pdt-agonzalezlucena]** instance, demonstrate your ability to manage the everyday labor as a CSG Innovation Team Member and demonstrate the capacity to create and manage a successful backend app with the proper tools.

**As part of the interview process, a demonstration of the work performed and operational use of PagerDuty with the various integrations you implemented will be expected.**

#### Exercise

A senior executive at PagerDuty wants a dashboard to analyze the data contained in the above instance. To accomplish this, he must use the API Key: **[u+b4CCjDZsXfuxx-w\_fw]** to interact with the PagerDuty API endpoints and provide the necessary backend to feed the dashboard.

To accomplish this, you will need to extract data from the API and store it in a MySQL database for further analysis, being able to present the data as follows:

#### REQUIRED:

- The number of existing Services.
- Number of Incidents per Service.
- Number of Incidents by Service and Status.
- Number of Teams and their related Services.
- Number of Escalation Policies and their Relationship with Teams and Services.
- CSV report of each of the above points.
- Analysis of which Service has more Incidents and breakdown of Incidents by status.
- Graph reflecting the previous point.

#### DESIRED:

- Analysis of inactive users in Schedules.

### **Evaluation criteria:**

- Unit testing
- Integration testing
- Use of concurrency where applicable.
- Low cyclomatic complexity
- Application of clean code
- Application of design patterns
- Application of SOLID principles
- Application of Functional Programming
- Documentation of endpoints
- Respect of RESTFul
- README
- Database modeling

### **Stack for developing:**

- Python 3.10
- Flask
- Pytest
- PIP or Conda
- Docker
- Pandas
- MySql
- SQLAlchemy
- Asyncio`

### **Be prepared for the exercise!:**

- The Api Key / Api Token you need to access the original instance is [ **u+b4CCjDZsXfuxx-w\_fw** ].
- Remember that all your documentation must be in English.
- Once you finish your challenge, please push it to a GitHub repository for our review.
- Be ready for your interview: it will be in English!