

Guide-1

Techwars 2025-2026

Overview

Choose a topic, be it sports, video games or the weather. Now, imagine a hall full of people waiting for you to explain that topic. The catch is that you only have a few seconds.

Over here, a lengthy explanation will take too long. So, what could you do?
The answer might well be to show a picture, or, a graph of data.

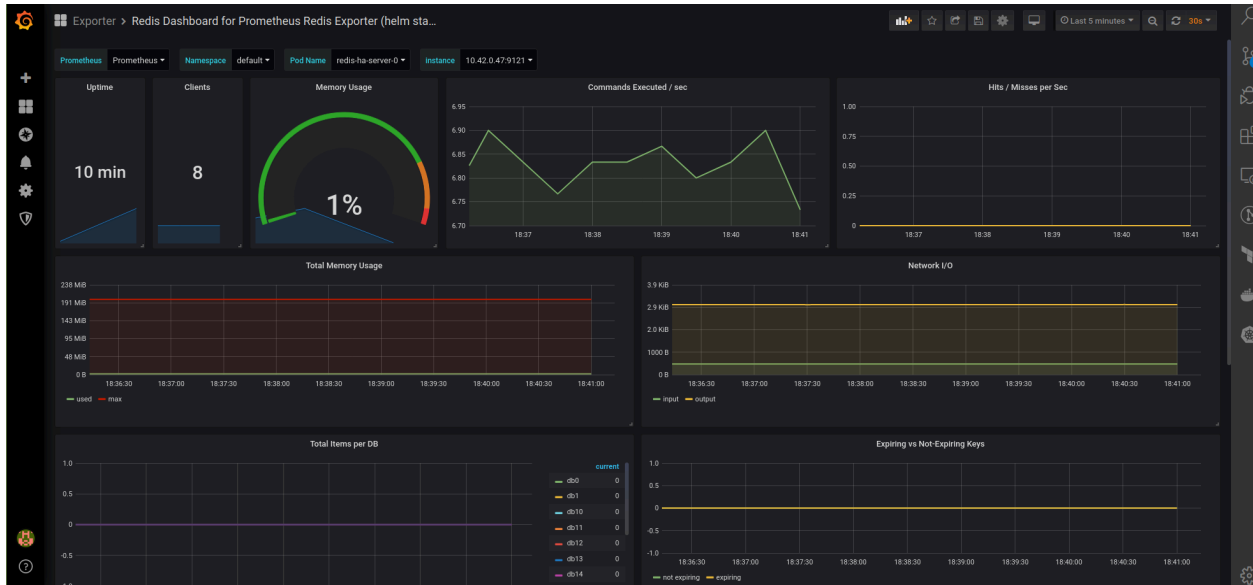
For instance,

Team 1	Team 2	Winner	Margin	Ground	Match Date	Scorecard
Pakistan	England	Pakistan	6 wickets	Rawalpindi	Oct 30, 2000	ODI # 1653
Pakistan	England	Pakistan	8 wickets	Lahore	Oct 27, 2000	ODI # 1649
Pakistan	England	England	5 wickets	Karachi	Oct 24, 2000	ODI # 1645

This simple table is capable of immediately telling you some of Pakistan's ODI match results against England in 2000.

However, what if you wanted more?

That is where Grafana comes in.



Source: grafana.com

Grafana is a tool used to make highly detailed visual displays of many types.

In Techwars Round 3, you will be pulling data from online APIs through an IoT tool called NodeRED, which will pass your data to Google Sheets. Grafana will then read this data off Google Sheets and plot it.

Task

Your task is to set up a fully working Grafana Dashboard that you can use to explain or give live updates on a topic of your choice.

You will then have to present this dashboard to us tomorrow - with a twist!

Examples:

- Weather Forecast



Credits: logit.io

- Sports Information
 - E.g. A Dashboard to highlight the feats of your favourite footballer
- Sports Updates
- Pokemon statistics
 - E.g. A Dashboard to compare different Pokemon
- Video Game Stats
- Cryptocurrency Stats
- Hollywood
 - E.g. data comparisons between Marvel and DC
- Powerscaling
 - E.g. hypothetical comparisons between different movie/TV show/anime characters, in terms of their powers or skills

In short, anything goes, as long as you can design it well.

Detailed Walkthrough

This round will be done on delegates' personal laptops.

You will find detailed walkthroughs on the installation, setup, and usage of all necessary applications in the following guides:

- Guide 2: [Techwars - Round 3 Guide 2](#)
- Guide 3: [Round 3 Guide-3](#)

Requirements

It is **compulsory** to implement the following applications in your workflow:

NodeRED
Grafana

It is **highly recommended** to use the following to store data:

Google Sheets

You may use other databases, but you will have to justify their use in terms of functionality and complexity.

Your workflow may look like this:

API -> NodeRED -> Google Sheets -> Grafana
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Of these steps, only NodeRED and Grafana are **compulsory**. You may choose not to use an API (explained in guide 3) or Google Sheets, but you will have to counter by increasing the complexity of your workflow otherwise, as not using either of these may simplify your workflow, resulting in a loss of marks for complexity.

Data Sources


You may use the following data sources to get data for your Dashboard:

APIs	Recommended due to high complexity and real-time updates
Online databases	Recommended , because at least it's real data
Simulated data	Optionally available , in case you choose a topic for which not much data exists or is free

Simulated data can include data made by random number generators, or fake data created by you for the purposes of simulation. This option is available to you in case you choose a topic for which data is either paywalled or completely unavailable.

However, while you can freely choose where to get data from, you should remember that you are being graded on complexity and accuracy. If you genuinely cannot find any real data source, make sure your fabricated data is complex and detailed enough such that it gives an in-depth overview of the topic you have chosen.

Here is a list of easily available data sources:

 TechWars - Round 3 Data Source List

Grading

Your final Dashboard will be graded on these criteria:

Criterion	Explanation	Overall Percentage
Functionality	Your Dashboard should work as described, with no errors or unnecessary delays.	40%
Complexity in data	Your Dashboard should show enough and different kinds of data to get an in-depth idea of the topic. E.g. in a weather forecast, it is not enough to just show the temperature, you must show the humidity & feels-like temperature as well.	20%
Complexity in design	Your workflow (all the code running your Dashboard) should carry a sufficient level of complexity, be it through multiple data sources, or through the use of APIs.	20%
Design	Your Dashboard should be well structured, titled and color-coded, such that it looks nice and feels intuitive for a viewer.	20%

Useful Links

Node Red Essentials Playlist	https://www.youtube.com/watch?v=ksGeUD26Mw0&list=PLyNB9VCLmo1hyO-4fIZ08gqFcXBkHy-6
Understanding Dashboards in Grafana	https://youtu.be/vTilkDwT-0?si=BYZ8Kdqx7faoELgN
Most Commonly Used Visualisations in Grafana	https://www.youtube.com/watch?v=JwF6FgeotaU
Getting Started with Google Sheets Data Source Plugin	https://www.youtube.com/watch?v=hqegeQFrtSA