Uncovered: The Hard Truth about OTel's Vendor Neutrality

Adriana Villela (Dynatrace)
Josh Lee (Altinity)

Cloud Native Days Austria 2025

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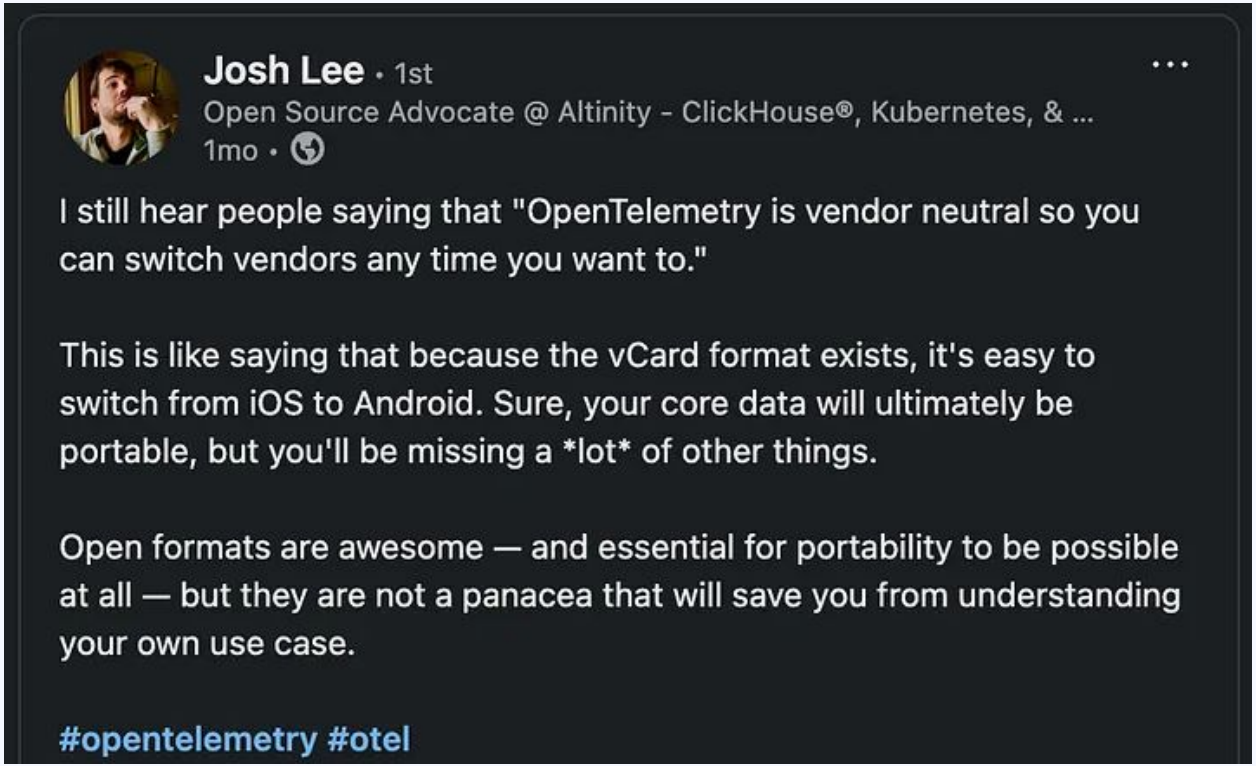
How did we get here??



Josh Lee · 1st
Open Source Advocate @ Altinity - ClickHouse®, Kubernetes, & ...
1mo ·

I still hear people saying that "OpenTelemetry is vendor neutral so you can switch vendors any time you want to."

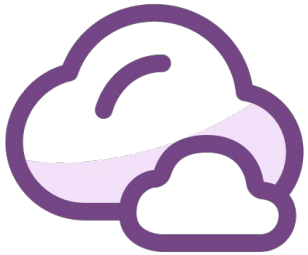
This is like saying that because the vCard format exists, it's easy to switch from iOS to Android. Sure, your core data will ultimately be portable, but you'll be missing a *lot* of other things.

Open formats are awesome — and essential for portability to be possible at all — but they are not a panacea that will save you from understanding your own use case.

#opentelemetry #otel

Standardization is GOOD

Do not edit
How to change the design



What are some of the standards that you're grateful for?

Presenting with animations, GIFs or speaker notes? Enable our Chrome extension

slido

OpenTelemetry
NET 12 FL. OZ. (355 ml)

Servus!

Adriana Villela

Principal Dev Advocate, Dynatrace
OTel End User SIG Maintainer

Josh Lee

Open Source Advocate, Altinity
ClickHouse®, K8s, & OTel

01
Why does OpenTelemetry exist?

02
What's neutral?

03
The beauty of interoperability

04
What isn't neutral?

05
Living up to the promise...

OpenTelemetry exists because of distributed tracing

OpenTelemetry exists because of distributed tracing...

Open data formats
Observability & monitoring beg to be open.

Distributed computing
Microservices changed the game for monitoring.

Vendor neutrality
OpenTelemetry solves the vendor-neutrality challenge.

What makes OpenTelemetry vendor neutral?

OpenTelemetry components

01

Semantic Conventions

02

API & SDK

03

OTLP

04

Collector

Semantic Conventions

Naming conventions for various resources (entities) and metadata.

The key enabler of interoperability and standardization.

OTel API

Defines the methods used to instrument applications, and serves as the entry point for instrumentation.

Enables applications and libraries to be instrumented “agnostically”.

OTel SDK

Implements the API and determines *how* the telemetry is generated and correlated.

Typically used to translate between API calls and OTLP, but can be used for customization.

OTLP

Specification for encoding, transmitting and delivering OpenTelemetry data.

Enables interoperable pipelines and multicasting.

OTel Collector

A vendor-neutral binary used to ingest, transform, and export data to one or more Observability back-ends.

Think of it as data pipeline swiss-army knife.

The beauty of interoperability

Interoperability means...

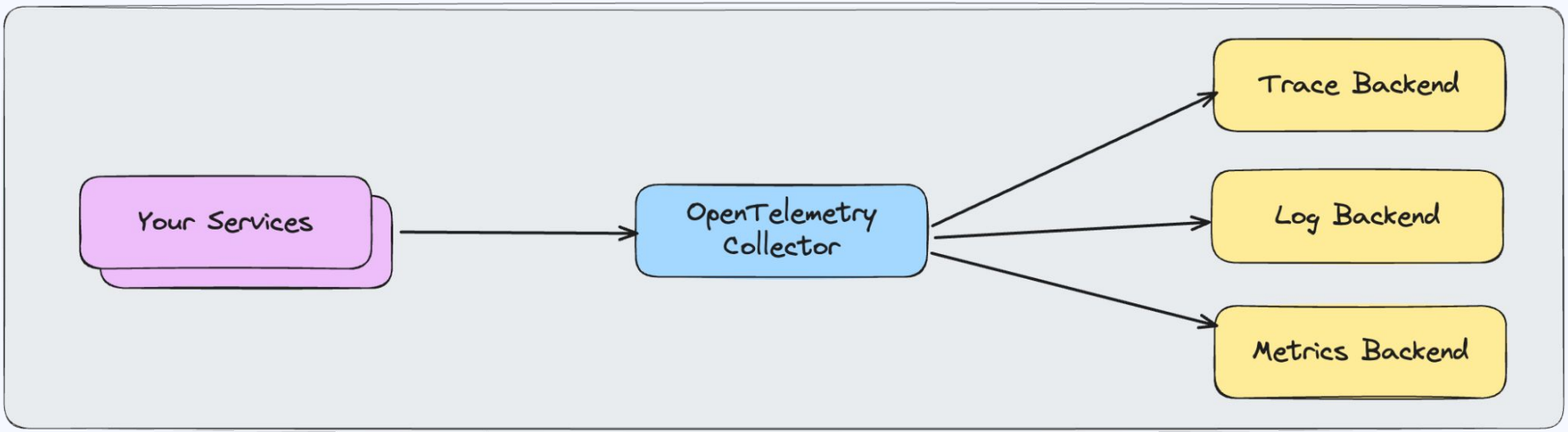
Having choices

OTel's open formats mean that interoperable tools can be used alongside each other all the time.

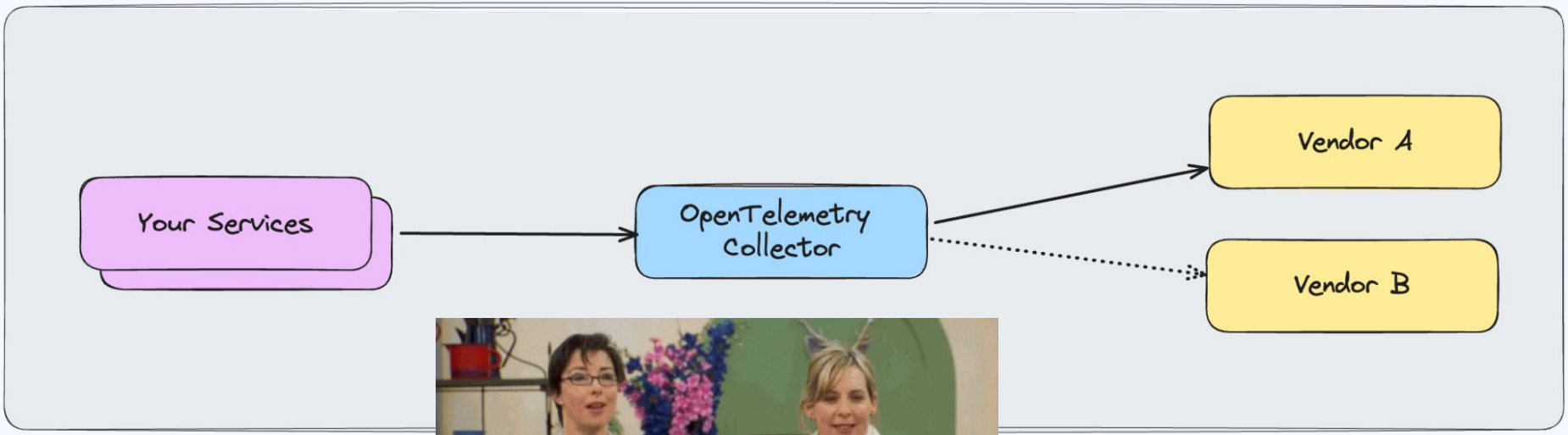
Interoperability means...

Having having your cake and eating it too

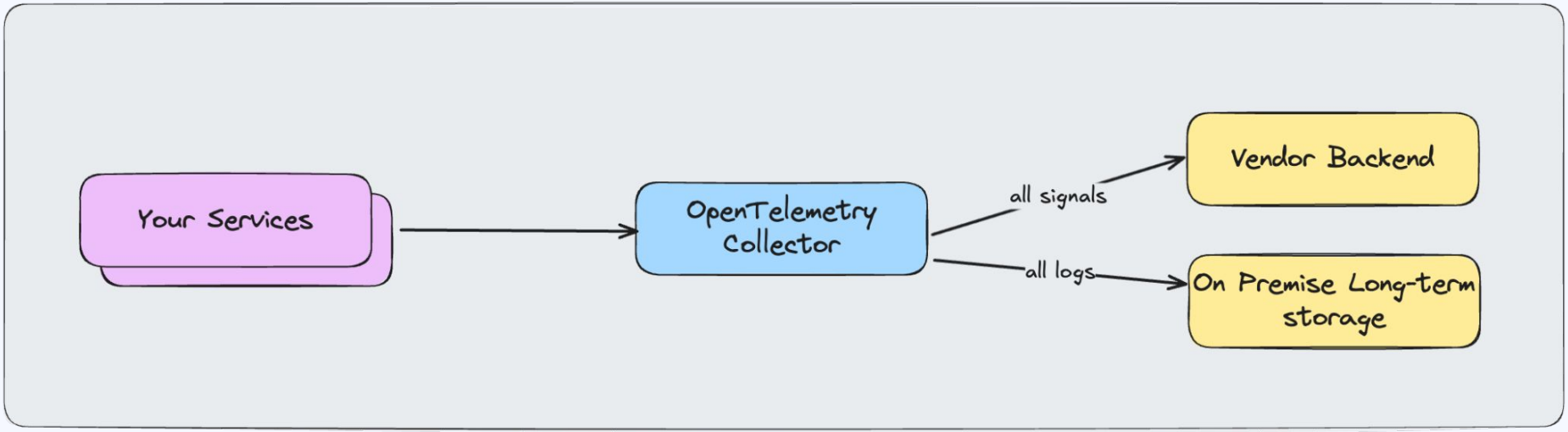
One tool for each signal



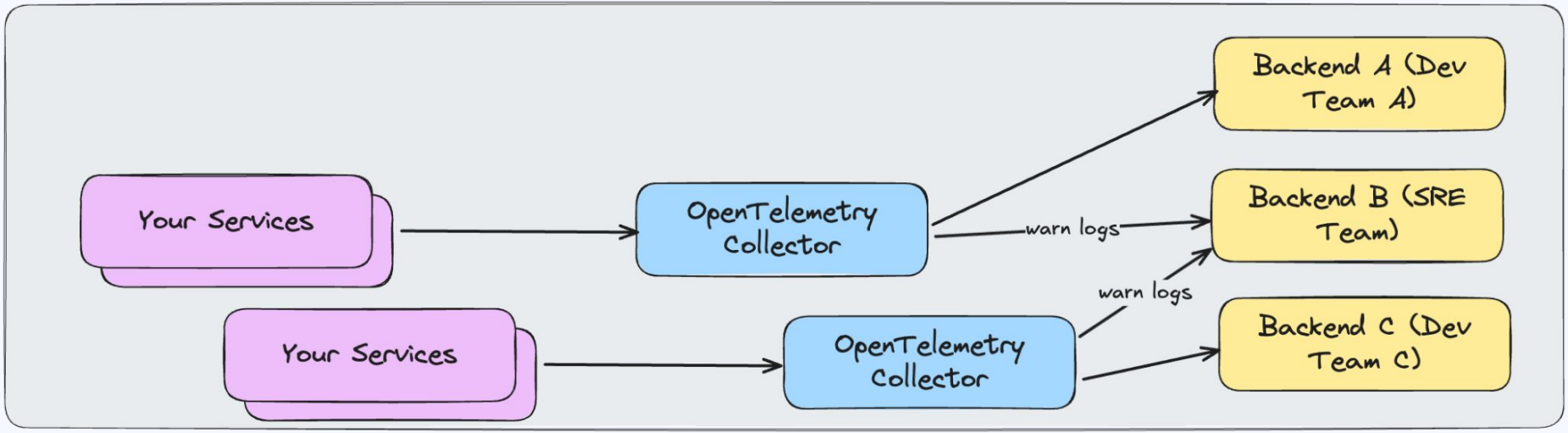
One (or more) tools for all signals



One tool for everything, and a specific tool for something else



Specific pipelines for specific teams



The not-so-vendor-neutral bits of OpenTelemetry

Not-so-neutral means...

Look & feel
Getting used to a new UI

Storage & historical data
Can't easily export historical data (if at all)

Queries & dashboards
Redoing dashboards and learning query languages sucks

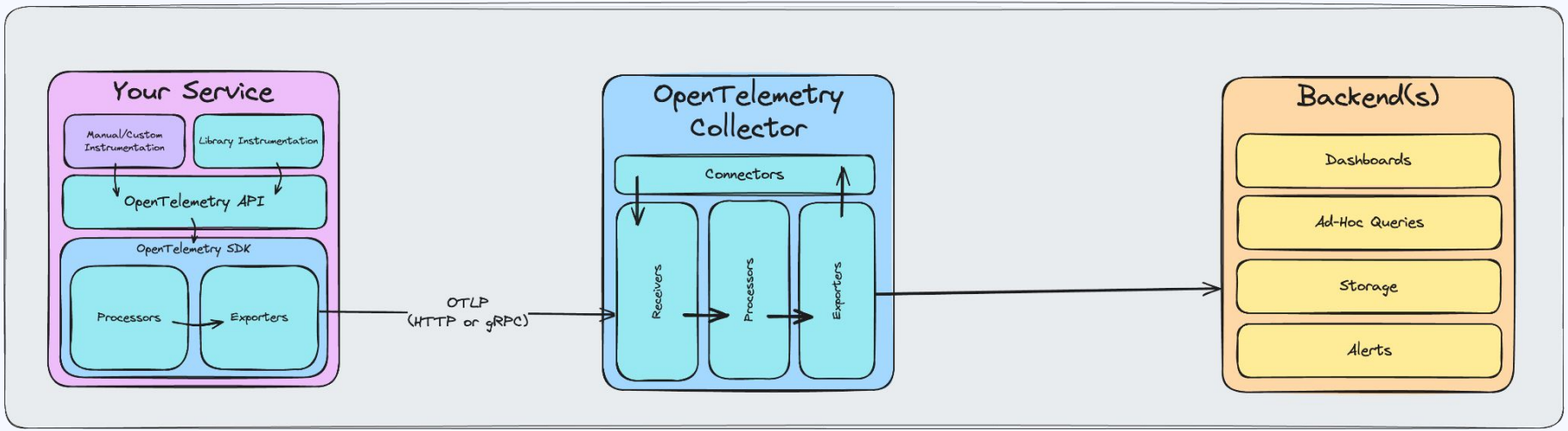
Not-so-neutral means...

Alerts & SLOs
Creating new alerts and SLOs...if they're supported

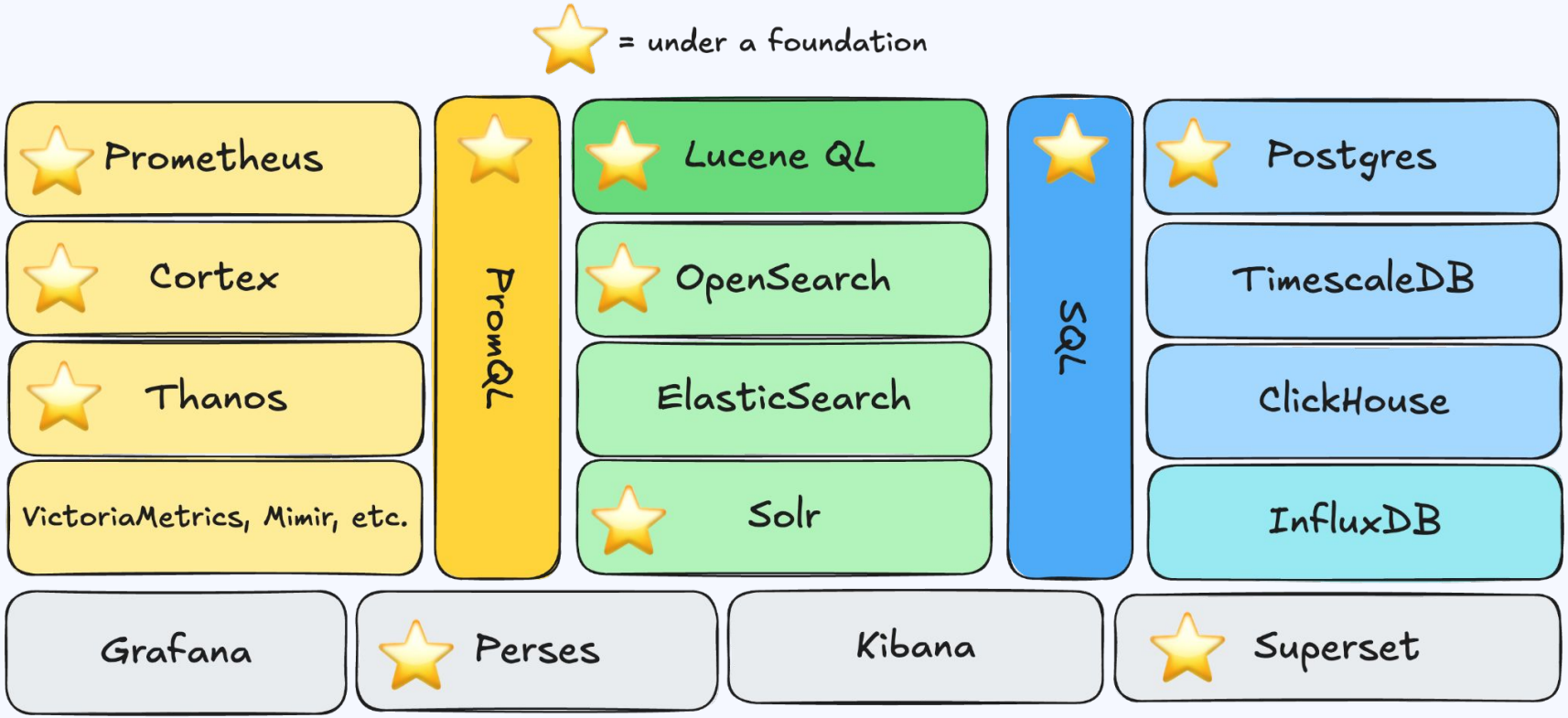
IaC
Different vendors use different Terraform providers

Vendor-neutral backends: a look forward

Putting it all together...



Open-source storage, query, and UI



Living up to the promise...

Why is OTel successful?

Openness
Observability begs to be open!

Co-operation
Supported by multiple vendors, with no single vendor taking the spotlight.

Stewardship
As a CNCF project, everyone works towards a common goal!

How this benefits YOU!

Portability

Change tools if you want to!

+

Interoperability

Work with multiple tools if you want to.

=

Choice

As OTel continues to evolve, so will your options!

Ask meaningful questions

Get useful answers

Take action!

References & shameless self-promos

Josh's LinkedIn post on vendor neutrality

Geeking Out Podcast

Adriana's blog post on vendor neutrality

Unevenly Distributed

Danke!

Adriana Villela

Principal Dev Advocate, Dynatrace
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ClickHouse®, K8s, & OTel

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01

Theory lesson

You can enter a subtitle here if you need it

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Thanks slide	You must keep it so that proper credits for our design are given
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Introduction

Mercury is the closest planet to the Sun and the smallest one in the entire Solar System. **This planet's name has nothing to do with the liquid metal,** since Mercury was named after the Roman messenger god. Mercury's surface is filled with craters

Mercury takes a little more than 58 days to complete its rotation, so try to imagine how long days must be there! **Since the temperatures are so extreme, albeit not as extreme** as on Venus, Mercury has been deemed to be non-habitable for humans

“This is a quote, words full of wisdom that someone important said and can make the reader get inspired”

—Someone Famous

Concepts

Mercury

Mercury is the closest planet to the Sun and **the smallest one** in the Solar System—it’s only a bit larger than the Moon

Venus

Venus has a beautiful name and is the **second planet from the Sun.** It’s hot and has a poisonous atmosphere

What is this topic about?

Mercury

It’s the closest planet to the Sun and the **smallest** in the Solar System

Venus

Venus has a beautiful name and is the second planet from the Sun

Mars

Despite being red, Mars is actually a **cold place.** It’s full of iron oxide dust

Features of the topic

Mars

Despite **being red**, Mars is very cold

Neptune

It’s the farthest planet from the Sun

Jupiter

Jupiter is the biggest planet of them all

Saturn

Saturn is a **gas giant** and has several rings

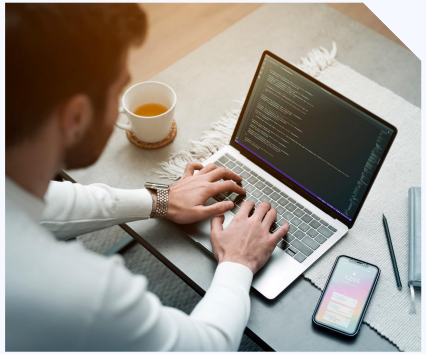
Examples

Mercury

It’s the closest planet to the Sun and the **smallest** in the Solar System

Venus

Venus has a beautiful name and is the second planet from the Sun



Mars

Despite being red, Mars is actually a **cold place.** It’s full of iron oxide dust

Recommendations

Mars

Despite being red, Mars is very cold

Venus

Venus is the second planet from the Sun

Neptune

Neptune is the farthest planet from the Sun

Mercury

Mercury is the closest planet to the Sun

Saturn

Saturn is a gas giant and has several rings

Jupiter

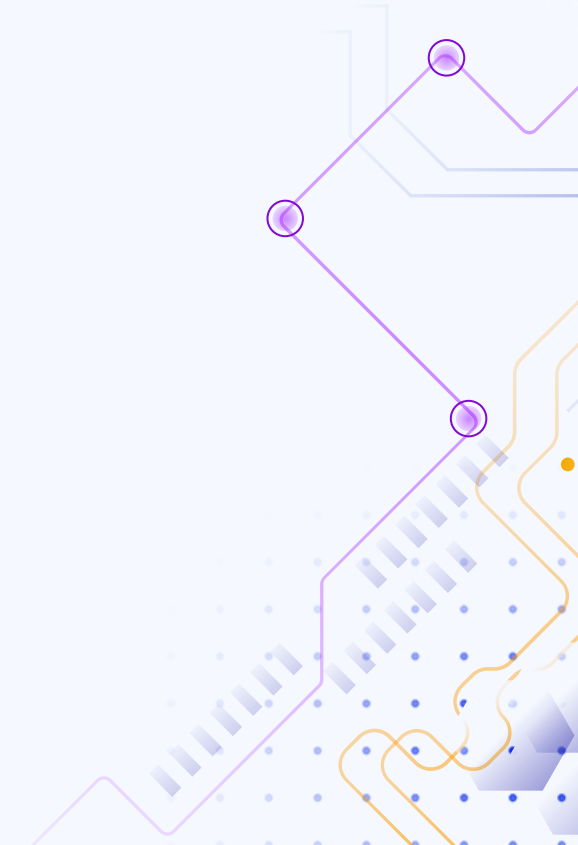
Jupiter is the biggest planet of them all

Image always reinforce the concept

You can give a brief description of the topic you want to talk about here. For example, if you want to talk about Mercury, you can say that it’s the smallest planet in the entire Solar System

4,498,300,000

Big numbers catch your audience’s attention



9h 55m 23s

Jupiter’s rotation period

333,000

The Sun’s mass compared to Earth’s

386,000 km

Distance between the Earth and the Moon

Awesome words

A picture is worth a thousand words

Practical exercise - calculator

Objective:

Introduce participants to basic coding concepts by building a **simple calculator**

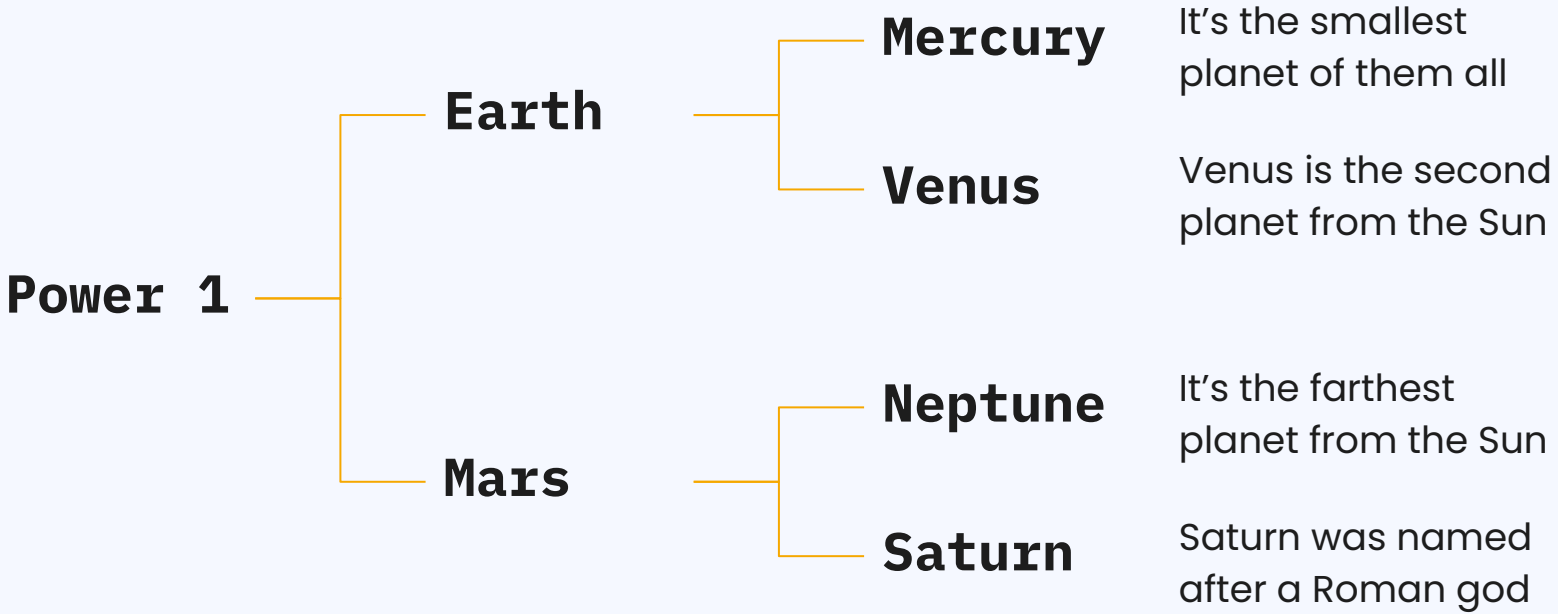
Instructions:

1. Open a Python development environment and write the following code:

```
# Simple Calculator
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
print("Sum:", num1 + num2)
print("Difference:", num1 - num2)
print("Product:", num1 * num2)
print("Quotient:", num1 / num2)
```

2. Run the program and experiment with different numbers
3. Observe the output

Brainstorm and idea generation



Main topic and details

Mars

Despite being red, Mars is **very cold**

Neptune

It’s the farthest planet from the Sun

Jupiter

Jupiter is the biggest planet of them all

Saturn

It’s a gas giant and has **several rings**

Popular programming languages

01 — **Neptune** — Mercury is the closest planet to the Sun and the **smallest** of them all

02 — **Venus** — Venus has a beautiful name and is the **second planet from the Sun**

03 — **Earth** — Earth is the third planet from the Sun and the only one that harbors life in the Solar System

04 — **Saturn** — Saturn is a gas giant and has several rings. It’s composed mostly of hydrogen and helium

Sequences

Saturn is composed of **hydrogen and helium**

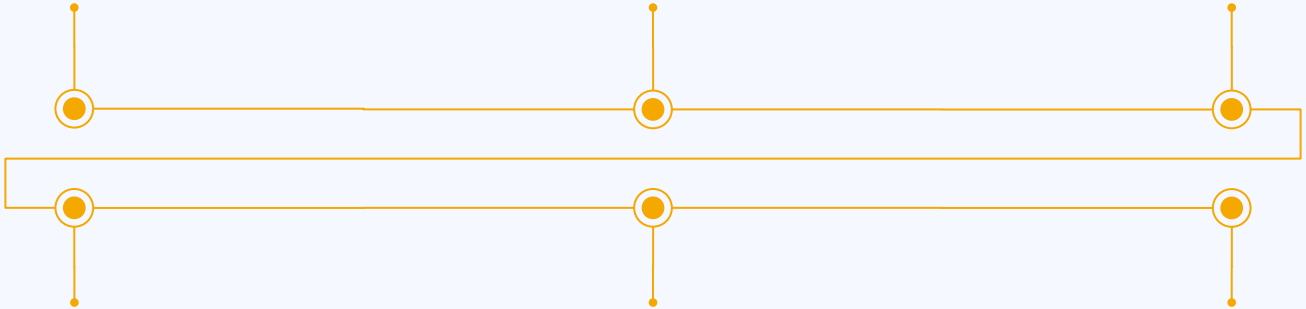
First

Mercury is the **closest** planet to the Sun

Next

Jupiter was named after a Roman god

Next



Next

Despite being red, Mars is **very cold**

Next

Earth is the third planet from the Sun

Last

Venus has extremely high temperatures

Classification

Mars	Venus	Mercury	Jupiter
• Small • Red • Cold • Rocky	• Small • Hot • Dry • Volcanic	• Small • Hot • Rocky • Cratered	• Large • Cold • Gassy • Striped
Mars is full of iron oxide dust	Venus has high temperatures	Mercury is quite a small planet	Jupiter is a huge gas giant

Cause and effect

Problem

Mars

Despite being red, Mars is very cold

Venus

Venus is the second planet from the Sun

Solution

Mercury

Mercury is the closest planet to the Sun

Saturn

Saturn is a gas giant and has several rings

Question and answer

Question

Is Mercury the closest planet to the Sun and the smallest one in the Solar System? **Note that it’s a bit larger than the Moon**

Answer

Venus has a beautiful name and is **the second planet from the Sun.** It’s hot and has a poisonous atmosphere

Step-by-step coding

01

Earth

It’s the only planet known to **harbor life**

02

Mercury

Mercury is the closest planet to the Sun

03

Jupiter

Jupiter is the **biggest** planet of them all

04

Saturn

Saturn was named after a Roman god

Parts and whole

The whole objective

Mercury is the closest planet to the Sun and the smallest one in the entire Solar System

Parts of the object

- Mercury
- Jupiter
- Venus
- Mars
- Earth
- Saturn
- Mercury

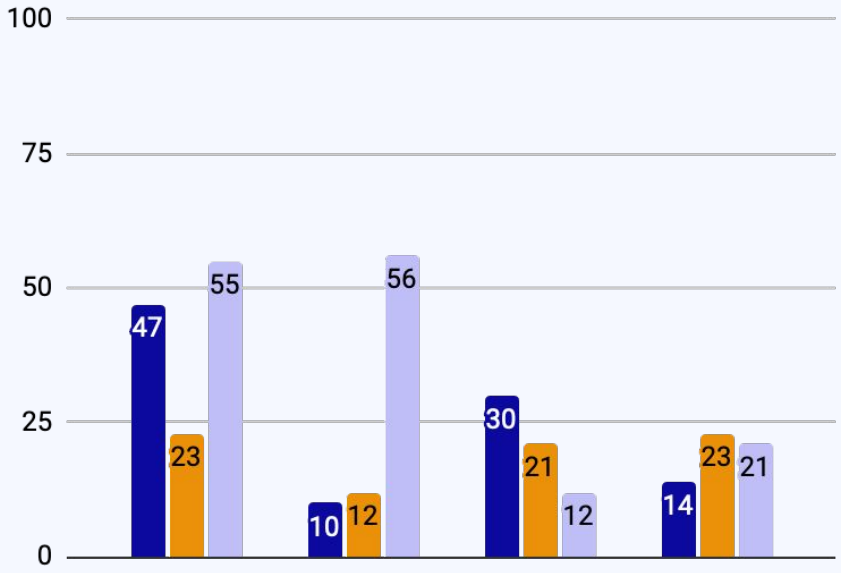
What happens if the parts are missing?

Earth is the third planet from the Sun and the **only one that harbors life in the Solar System**

What's the function of the parts?

Jupiter is a gas giant and the biggest planet in the Solar System

You can use this graph



Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**

Mercury

Mercury is the closest planet to the Sun

Jupiter

Jupiter is the biggest planet of them all

Saturn

Saturn was named after a Roman god

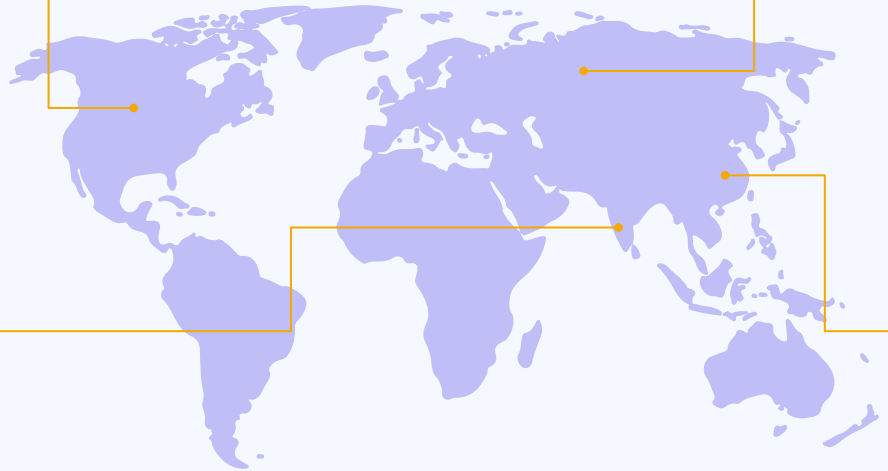
This is a map

USA

Despite being red, Mars is **very cold**

India

Jupiter is the biggest planet of them all



Russia

Neptune is the farthest planet from the Sun

China

Saturn is **a gas giant** and has several rings

Mockups

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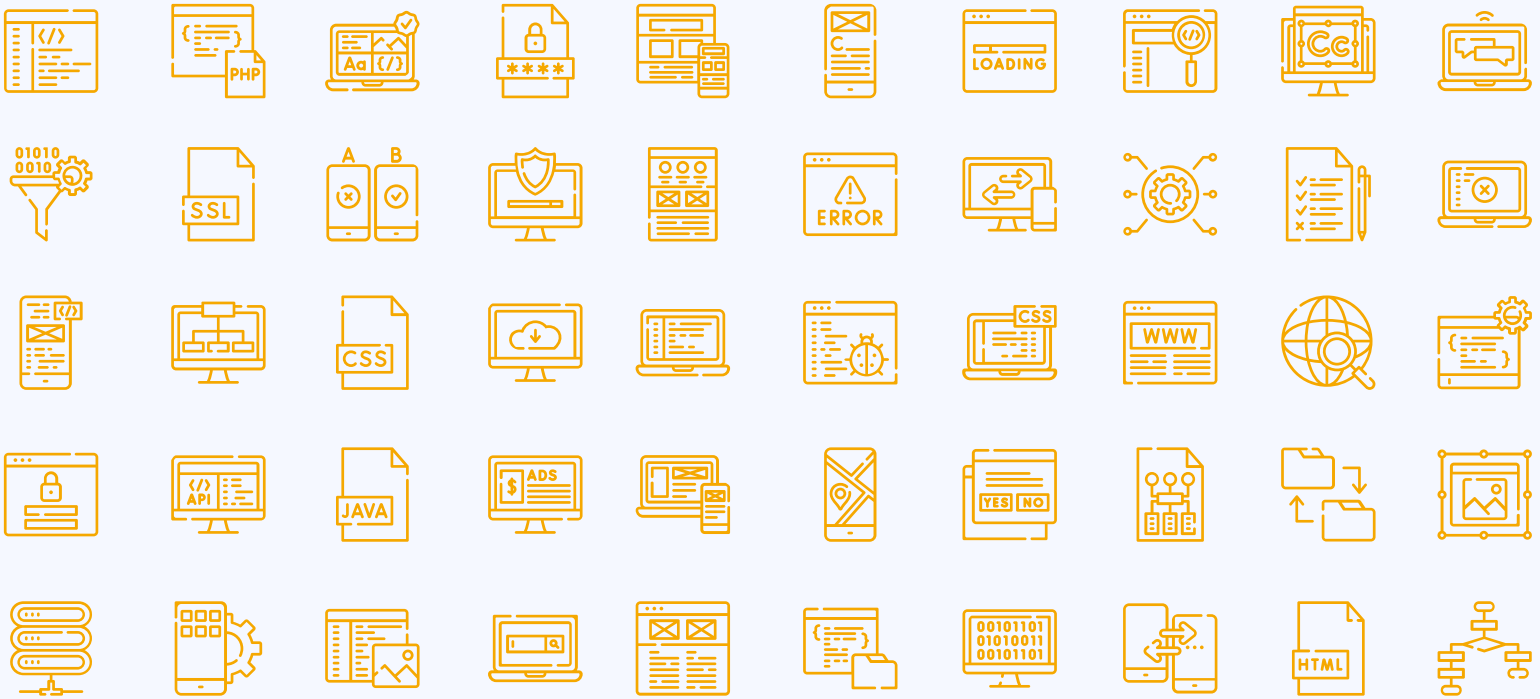
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- Group of friends planning a trip in a cafe
- Medium shot man working on laptop
- Side view of men working on laptops at the office
- Lifestyle of woman in the office
- Secretary working on laptop

Vectors:

- Abstract gradient circuit board background

Icon pack:

- Icon Pack: Coding | Lineal

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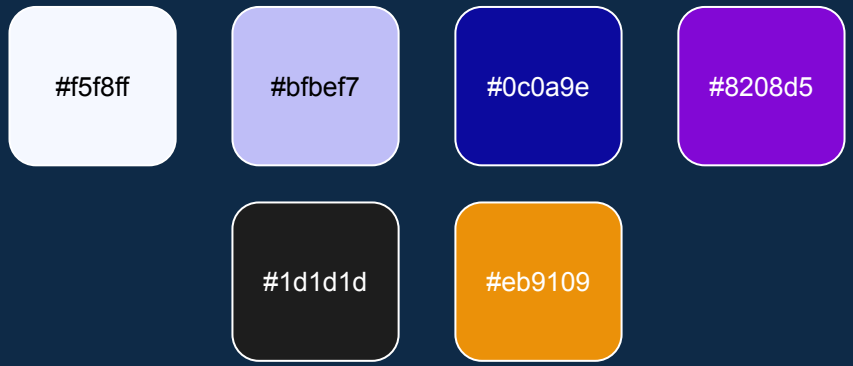

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Pana

Amico

Bro

Rafiki

Cuate

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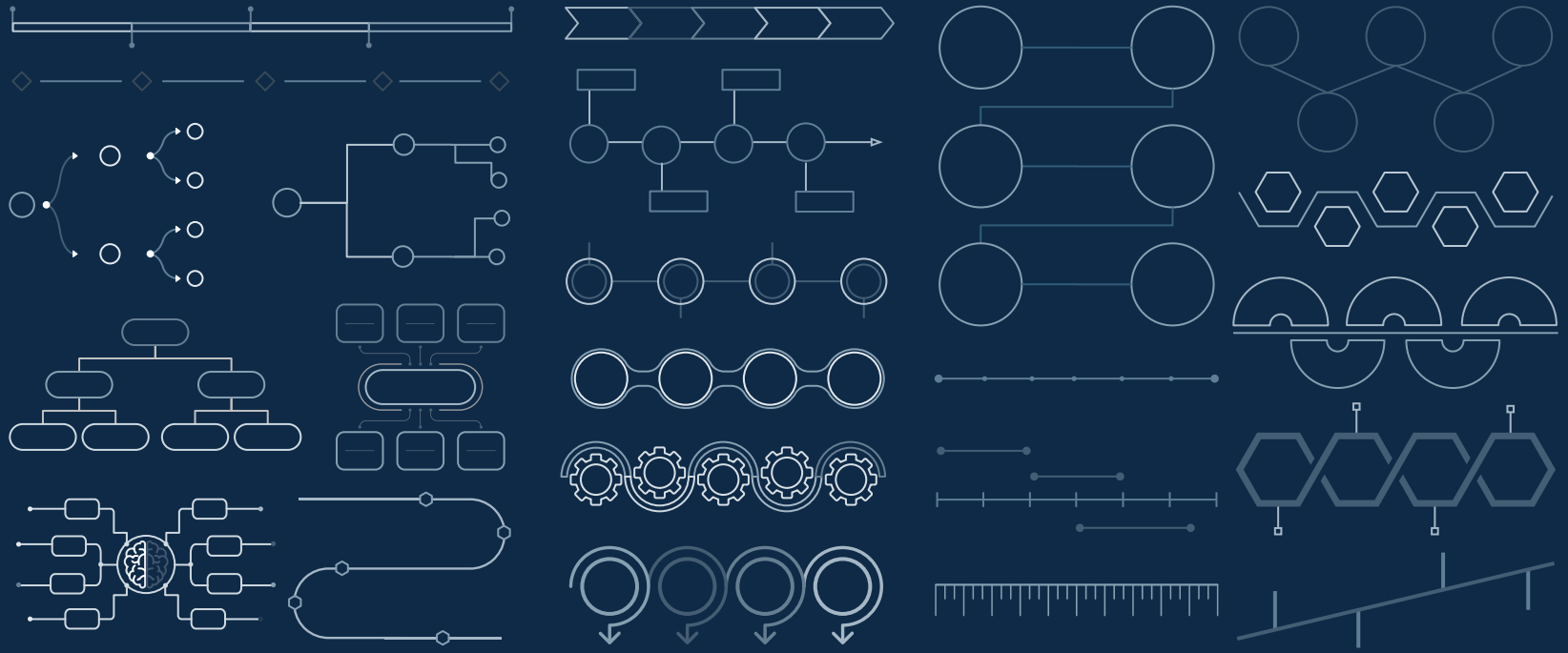

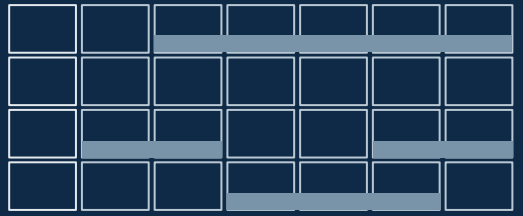

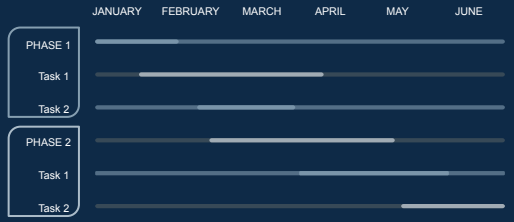
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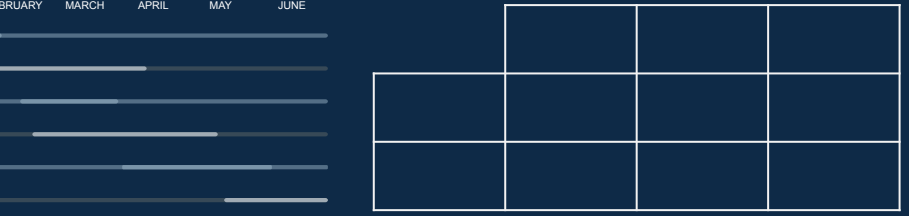

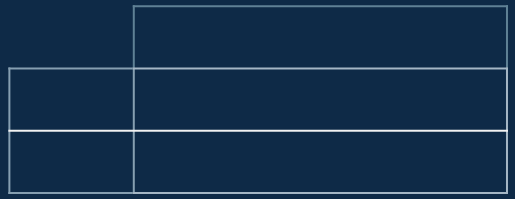

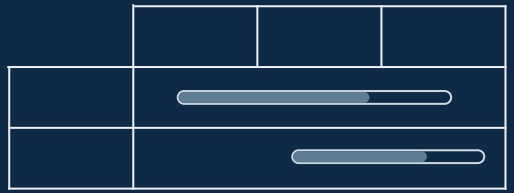

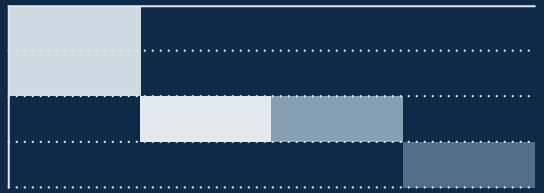

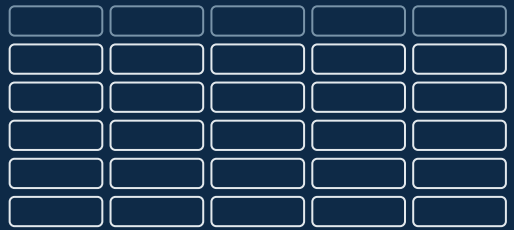

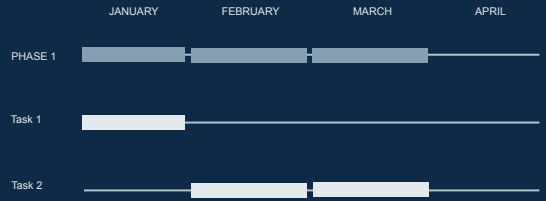
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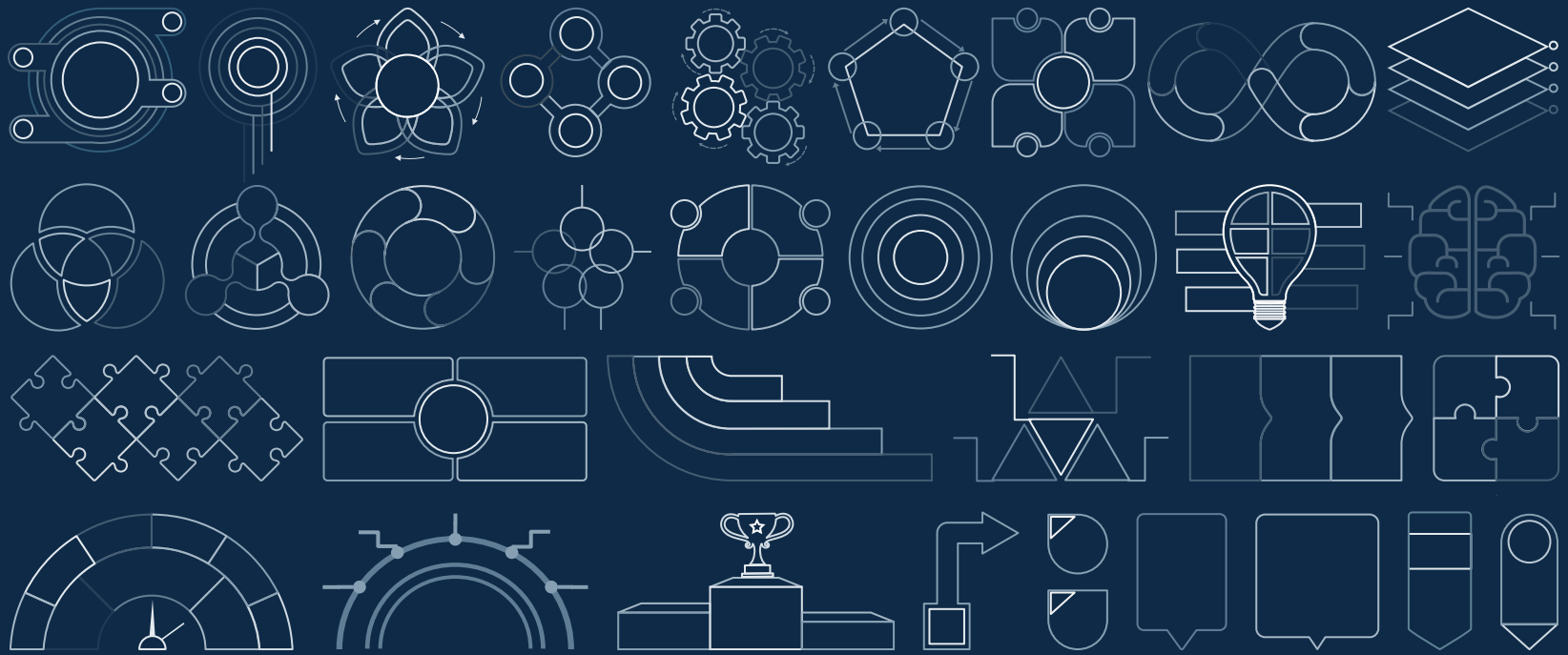
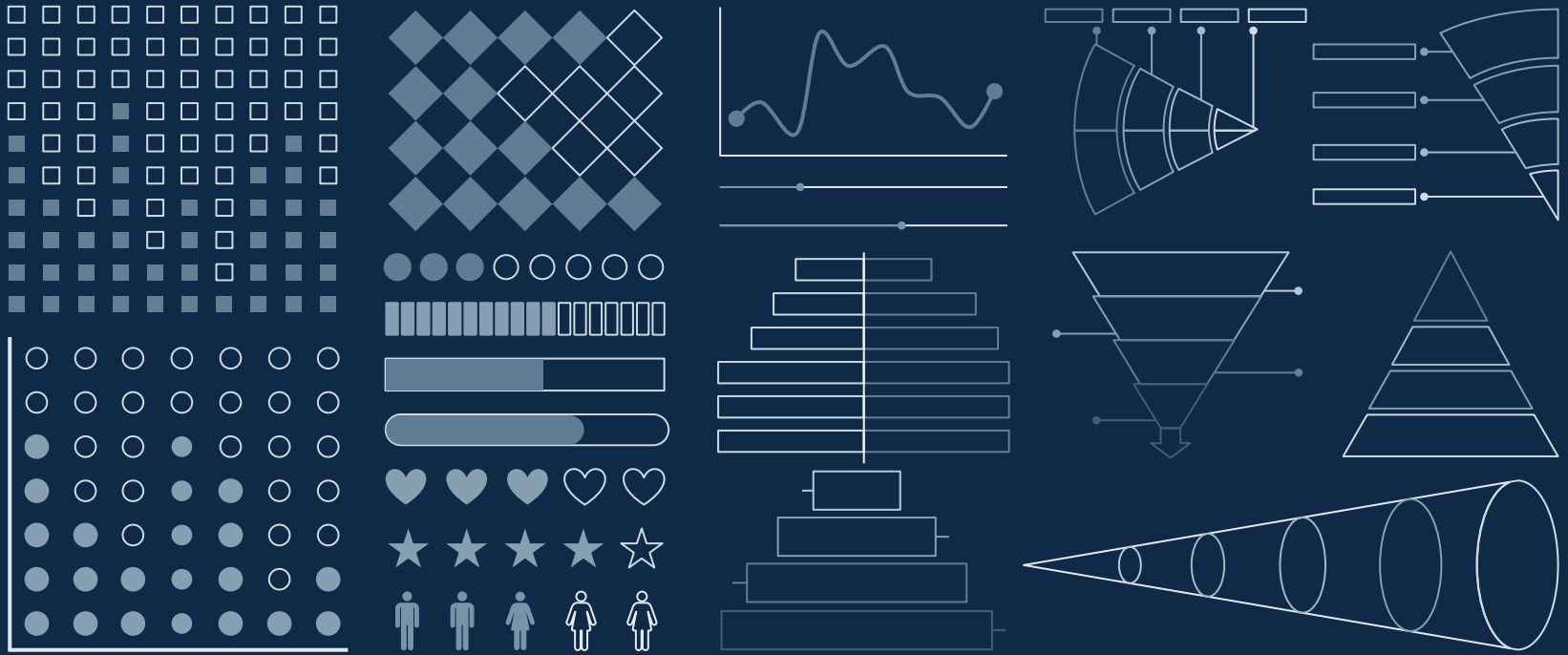
Task 2





...and our sets of editable icons

You can **resize** these icons without losing quality.
You can **change the stroke and fill color**; just select the icon and click on the **paint bucket/pen**.
In Google Slides, you can also use **Flaticon's extension**, allowing you to customize and add even more icons.

Educational Icons

Medical Icons

Business Icons

Teamwork Icons

Help & Support Icons

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Nature Icons

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