



# Quarkus

supersonic subatomic java



# AGENDA

Introducción  
Que es quarkus  
Ejemplo de uso

# INTRODUCCIÓN

## ARQUITECTURA DE MICROSERVICIOS

**VERSATILIDAD**  
Varios lenguajes

**ESCALABILIDAD**

**SIMPLE**  
mantenimiento

**REUTILIZACIÓN**  
de servicios

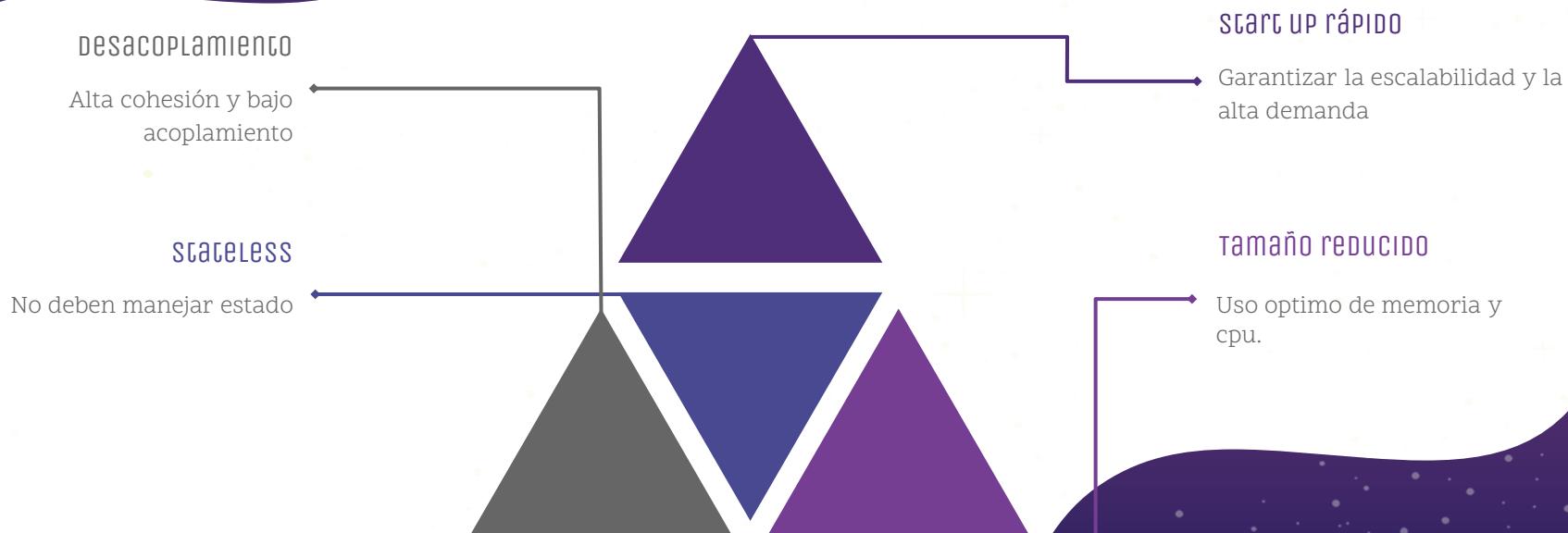
**OPTIMIZACIÓN**  
de tiempos y  
recursos

**INDEPENDENCIA**  
DEL FRONT END

**APROVECHAR EL**  
CLOUD

**AGILIDAD**

# Premisas de nuestra APLICACIÓN





NODE JS ?





Quarkus es un microframework, cloud native, container first optimizado para kubernetes basado en estándares, optimizado para GraalVM, que optimiza el arranque y el consumo de memoria de las aplicaciones

<https://quarkus.io/>



# características

## USO OPTIMO de memoria

Plataforma optimizada para el desarrollo de aplicaciones java

300X

300 veces mas rápido que un microservicio normal

## RÁPIDA INICIALIZACIÓN

Start up de la app en milisegundos

## DEVELOPER FRIENDLY

Live reloading y zero configuration

## CATALOGO DE LIBRERIAS

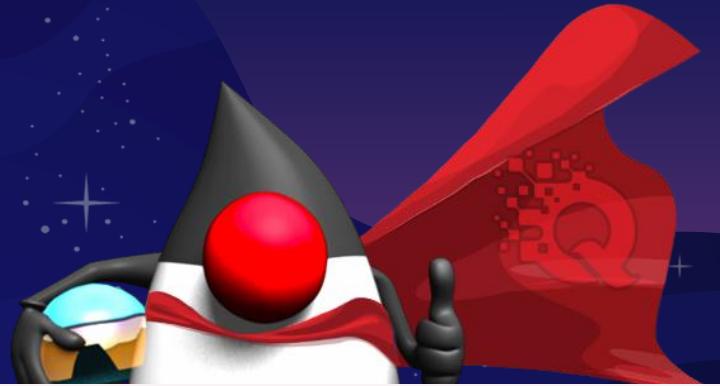
Integrado con varios frameworks

## JVM REDUCIDA

10 veces mas pequeño en relación a un microservicio con springboot

## PROGRAMACIÓN REACTIVA

Soporta programación reactiva e imperativa



### Memory (RSS) in Megabytes



Quarkus with GraalVM

Quarkus with OpenJDK

Traditional cloud-native stack

### Boot + First Response Time in Seconds



### MEMORY & BOOT + FIRST RESPONSE TIME



## COMO LO HACE?

### PROCESAMIENTO DE METADATOS EN TIEMPO DE COMPILACIÓN

Facilita el start up del proyecto y las deducciones en tiempo de ejecución

### BAJO USO DEL PROCESO DE REFLEXIÓN

Optimización del running del programa

GraalVM

**GraalVM™**

Totalmente compatible con la nueva VM nativa



# Manos a La OBra !

Práctica

Primer proyecto  
API REST  
JSON  
ORM  
HEALTHCHECKS  
OPEN API  
OPENSHIFT



# PRIMERO PROYECTO

Cuenta con soporte por maven para facilitar la creación y mantenimiento de proyectos quarkus

--creación del proyecto

```
mvn io.quarkus:quarkus-maven-plugin:1.4.2.Final:create -  
DprojectGroupId=com.example -DprojectArtifactId=quarkus-example -  
DprojectVersion=1.0 -DclassName="com.jugbsas.controller.GreetingResource"
```

--compilación y ejecución

```
mvn compile quarkus:dev
```

<https://code.quarkus.io/>



# EXTENSIONES

Librerías optimizadas para performar según estándares de quarkus

```
mvn quarkus:list-extensions
```

```
[INFO] --- quarkus-maven-plugin:1.4.2.Final:list-extensions (default-cli)
```

```
Current Quarkus extensions available:
```

```
Debezium Quarkus Outbox
```

```
debezium-quarkus-outbox
```

```
Quarkus - Core
```

```
quarkus-core
```

```
JAXB
```

```
quarkus-jaxb
```

```
quarkus-mongodb-panache
```



# REST API

Por defecto el proyecto usa rest-easy como proveedor de apis rest.

```
import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.Produces;
import javax.ws.rs.core.MediaType;

@Path("/hello")
public class GreetingResource {

    @GET
    @Produces(MediaType.TEXT_PLAIN)
    public String hello() {
        return "hello";
    }
}
```



## REST API - POST

Para pasar una entidad JSON debemos agregar un plugin de parseo

```
mvn quarkus:add-extension -Dextensions="quarkus-resteasy-jsonb,quarkus-hibernate-validator"
```

```
@POST  
@Path("/meetup")  
@Consumes(MediaType.APPLICATION_JSON)  
public Response meetup(@Valid Meetup meetup) {  
    logger.info(meetup);  
    return Response.ok().build();  
}
```

## DATOS & ORM

Proporciona un framework llamado **Panache** basado en hibernate que se basa en patrones de persistencia abstrayendo lógica común de manejo de datos:

- Active record
- DAO

Tenemos que definir el uso de un jdbc de acuerdo a la BBDD y la extensión de panache

```
mvn quarkus:add-extension -Dextensions="quarkus-jdbc-h2,quarkus-hibernate-orm-panache"
```

## Configuración de application properties

```
quarkus.datasource.db-kind=h2
quarkus.datasource.jdbc.url =jdbc:h2:mem:meetup
quarkus.datasource.username=jugbsas
quarkus.datasource.password=
quarkus.hibernate-orm.dialect = org.hibernate.dialect.H2Dialect
quarkus.hibernate-orm.database.generation=drop-and-create
quarkus.hibernate-orm.log.sql=true
```

Implementando una interfaz del framework se puede implementar un DAO sencillamente

```
@ApplicationScoped
public class MeetupDAO implements PanacheRepository<Meetup> {

    @Transactional
    public void create(Meetup meetup) {
        persist(meetup);
    }

    @Transactional
    public List<Meetup> find(String name) {
        return findAll().list();
    }

}
```

# Panache ACTIVE record

Podemos tener un objeto que persista su estado

```
@Entity(name = "MEETUP")
public class Meetup extends PanacheEntity implements Serializable {

    @Id
    private Long id;

}
```

## Ejemplo de uso en un servicio rest

```
@POST  
@Path("/meetup")  
@Consumes(MediaType.APPLICATION_JSON)  
public Response meetup(@Valid Meetup meetup) {  
    logger.info(meetup);  
    //meetupDAO.create(meetup);  
    meetup.persist();  
    return Response.ok().build();  
}  
}
```

```
@GET  
@Path("/meetup")  
@Consumes(MediaType.APPLICATION_JSON)  
@Produces(MediaType.APPLICATION_JSON)  
public List<Meetup> meetup() {  
    return Meetup.findAll().list();  
    //return meetupDAO.find();  
} }
```

# Inyección de Dependencias

Implementa la inyección de dependencias según el standard de CDI.

```
@ApplicationScoped  
@RequestScoped  
@Inject
```



## HEALTH CHECKS

Checks que se realizan para saber si un servicio está vivo y/o saber si está sano.

- Liveness checks: validación de estado interno del microservicio.
- Readiness checks: disponibilidad del servicio para recibir request

```
mvn quarkus:add-extension -Dextensions="quarkus-smallrye-health"
```



# OPEN API

## Documentación de nuestras API Rest

```
mvn quarkus:add-extension -Dextensions="quarkus-smallrye-openapi"
```

The screenshot shows a "Generated API" documentation page. At the top, it says "Generated API 1.0 OAS3" and has a "/swagger" link. Below that, there's a section for "default". It lists three endpoints:

- A blue "GET" button next to the URL "/hello".
- A blue "GET" button next to the URL "/meetup".
- A green "POST" button next to the URL "/meetup".

# OPENSHIFT DEPLOYMENT

Proporciona una abstracción del proceso de deploy al PaaS

```
#application.properties
```

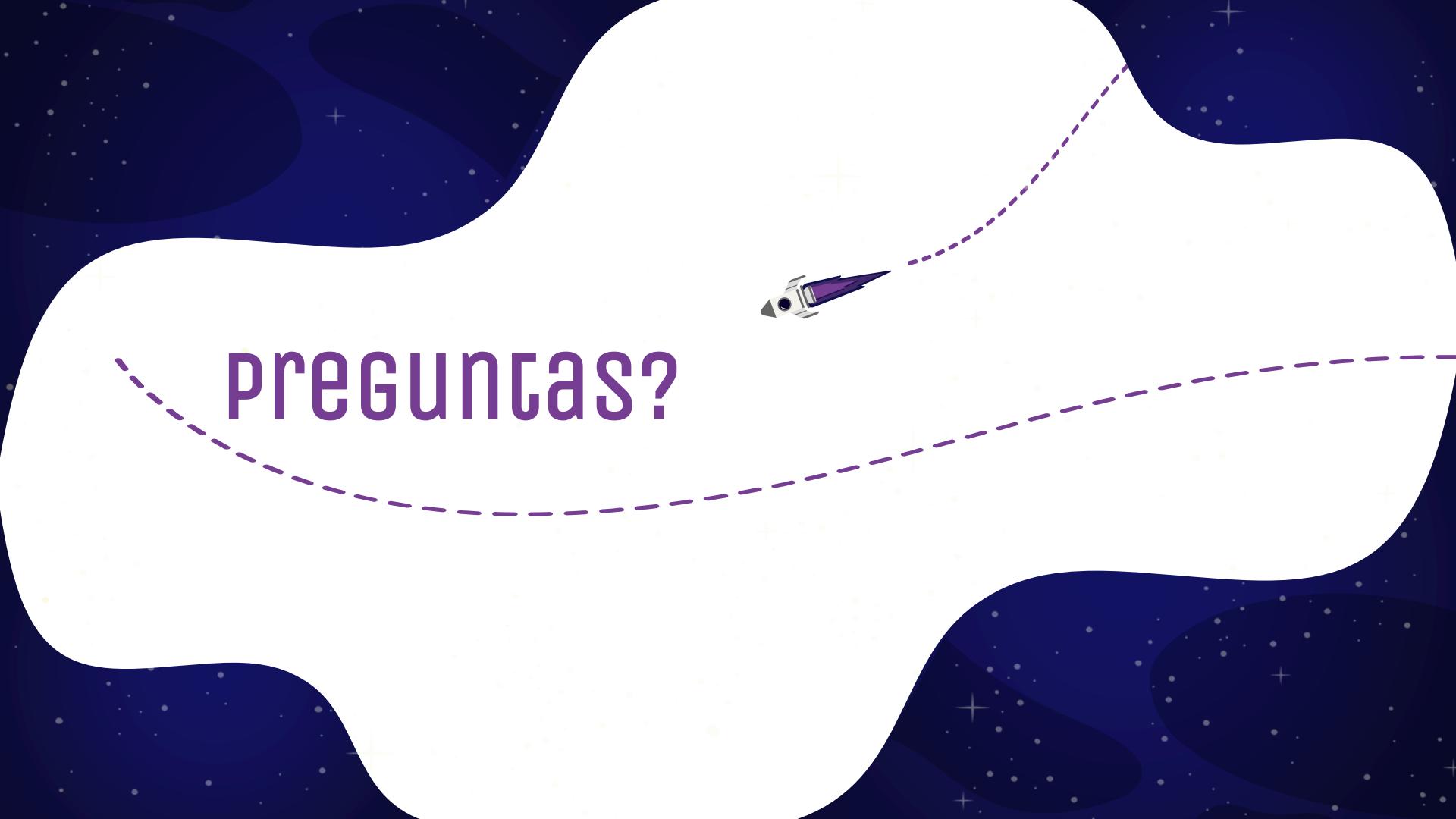
```
quarkus.openshift.expose=true
```

```
quarkus.s2i.base-jvm-image=registry.access.redhat.com/openjdk/openjdk-11-rhel7
```

```
--Necesitamos estar logeados en la consola de openshift
```

```
mvn quarkus:add-extension -Dextensions="openshift"
```

```
mvn clean package -Dquarkus.kubernetes.deploy=true
```



# Preguntas?



# QUIZ TÉCNICO



[menti.com](https://menti.com) 33 10 21

# Gracias!



# ABOUT US

It could be the part of the presentation where you can introduce yourself, write your email...

# TABLE OF CONTENTS

## 01 INTRODUCTION

Here you could describe the topic of the section

## 02 PRESENTATION

Here you could describe the topic of the section

## 03 CONCLUSION

Here you could describe the topic of the section



01

## THIS IS a Great HEADLINE

And this is the subtitle that makes it  
comprehensible

# THE SLIDE TITLE GOES HERE!

Do you know what helps you make your point clear?

Lists like this one:

- Because they're simple
- You can organize your ideas clearly
- And because you'll never forget to buy milk!

And the most important thing: the audience won't miss the point of your presentation



# MAYBE YOU NEED TO DIVIDE THE CONTENT



## Mercury

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than our Moon. The planet's name has nothing to do with the liquid metal since it was named after the Roman messenger god, Mercury



## Venus

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot—even hotter than Mercury—and its atmosphere is extremely poisonous. It's the second-brightest natural object in the night sky after the Moon

# YOU COULD USE THREE COLUMNS, WHY NOT?



## Mars

Despite being red, Mars is a cold place, not hot. It's full of iron oxide dust, which gives the planet its reddish cast



## Jupiter

It's the biggest planet in our Solar System and the fourth-brightest object in the sky



## Saturn

Yes, this is the ringed one. It's a gas giant, composed mostly of hydrogen and helium



02

## A PICTURE ALWAYS REINFORCES THE CONCEPT

Images reveal large amounts of data quickly, so remember: use an image instead of long texts. Your audience will appreciate that



A photograph of a person's face and hair completely covered in vibrant, multi-colored powder, likely from a Holi celebration. The person has a joyful expression, with their mouth open. A white rectangular text box is overlaid on the center of the image, containing the text "A PICTURE IS WORTH A THOUSAND WORDS".

A PICTURE IS WORTH A  
THOUSAND WORDS

# Awesome words



03

## section 03

This is the subtitle that makes it  
comprehensible

# REINFORCE THE CONCEPT USING INFOGRAPHICS!

## JUPITER

It's a gas giant and the biggest planet in our Solar System

## MERCURY

Mercury is the closest planet to the Sun and is only a bit larger than our Moon

## VENUS

Venus has a beautiful name, but it's terribly hot, even hotter than Mercury

## MARS

Despite being red, Mars is a cold place, not hot. It's full of iron oxide dust



# INFOGRAPHICS make your IDEA UNDERSTANDABLE ...

## MERCURY

Is the closest planet to the Sun and is only a bit larger than our Moon

## JUPITER

It's a gas giant and the biggest planet in our Solar System

## VENUS

Venus has a beautiful name, but it's terribly hot, even hotter than Mercury

## MARS

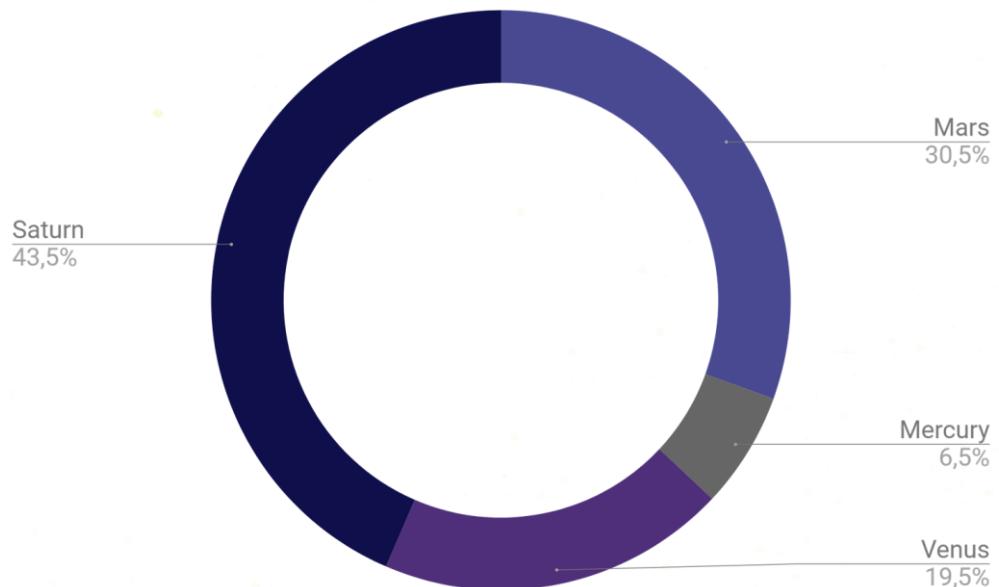
Despite being red, Mars is a cold place. It's full of iron oxide dust



... and the same goes for tables

	MASS (earths)	DIAMETER (earths)	SURFACE GRAVITY (earths)
MERCURY	0,06	0,38	0,38
MARS	0,11	0,53	0,38
SATURN	95,2	9,4	1,16

IF YOU WANT TO MODIFY THIS GRAPH, CLICK  
ON IT, FOLLOW THE LINK, CHANGE THE DATA  
AND REPLACE IT



# THIS IS a map



## JUPITER

It's a gas giant and the biggest planet in our Solar System

## MERCURY

Mercury is the closest planet to the Sun and is only a bit larger than our Moon

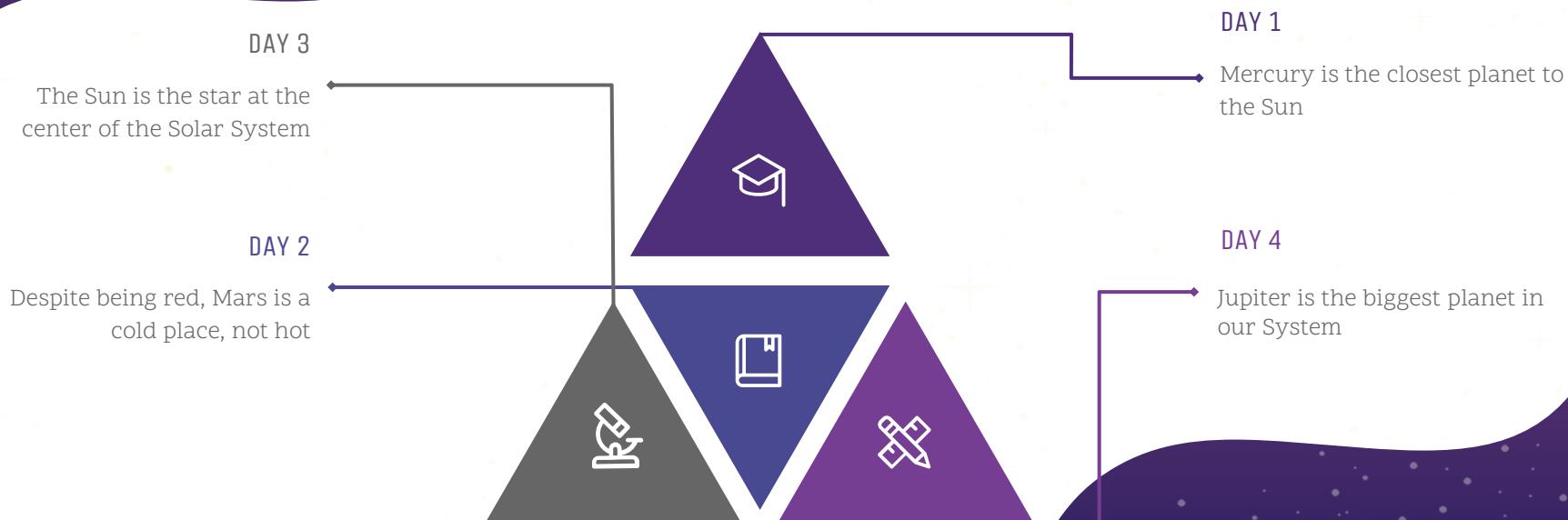
## VENUS

Venus has a beautiful name, but it's terribly hot, even hotter than Mercury

## MARS

Despite being red, Mars is a cold place, not hot. It's full of iron oxide dust

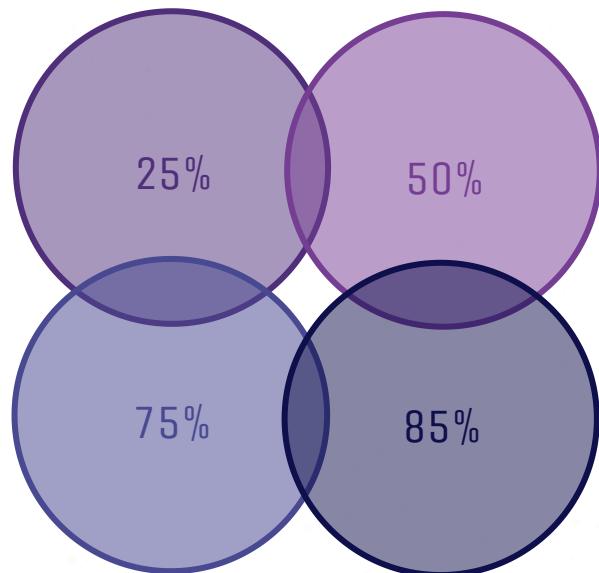
# A TIMELINE ALWAYS WORKS FINE



# HOW ABOUT THE Percentages?

**MARS**  
Despite being red,  
Mars is a cold place,  
not hot

**VENUS**  
Venus has a  
beautiful name, but  
it's terribly hot



**JUPITER**  
It's a gas giant and  
the biggest planet in  
our Solar System

**MERCURY**  
Mercury is the  
smallest planet in our  
Solar System

# 4,498,300,000

Big numbers catch your audience's attention

**333,000.000**

earths is the Sun's mass

**24H 37M 23S**

is Jupiter's rotation period

**386,000 km**

is the distance between the Earth and the Moon

# SOMETIMES, REVIEWING CONCEPTS IS A GOOD IDEA

## MARS

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



## VENUS

Venus has a beautiful name, but it's terribly hot, even hotter than Mercury



## SATURN

Saturn is, composed mostly of hydrogen and helium



## JUPITER

It's a gas giant and the biggest planet in our Solar System

# our services



\$35

You can explain  
your product or  
your service

Characteristic  
Characteristic

BASIC



\$60

You can explain  
your product or  
your service

Characteristic  
Characteristic

medium

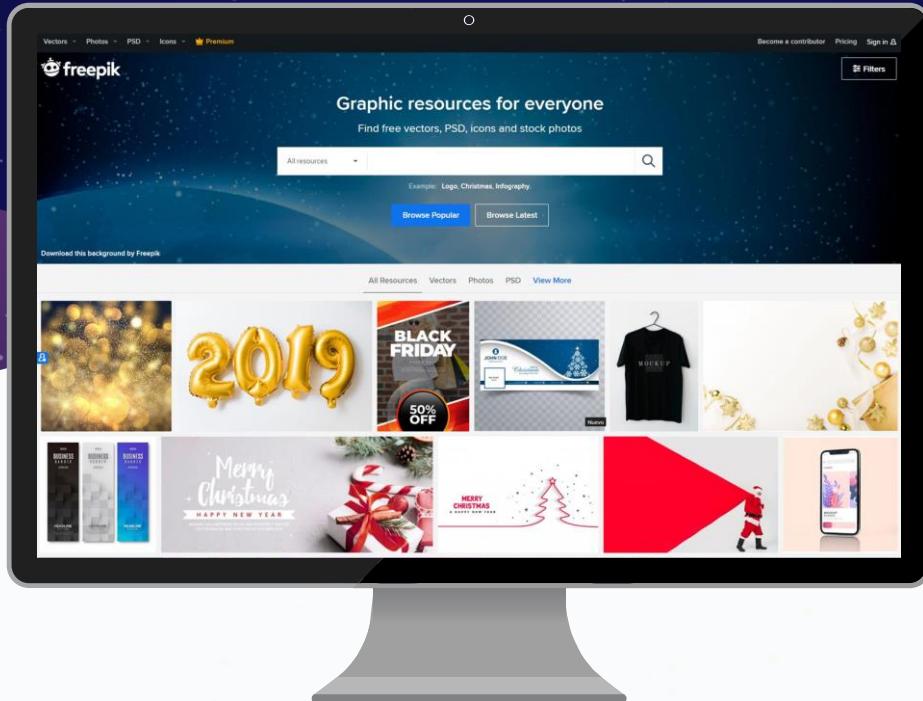


\$85

You can explain  
your product or  
your service

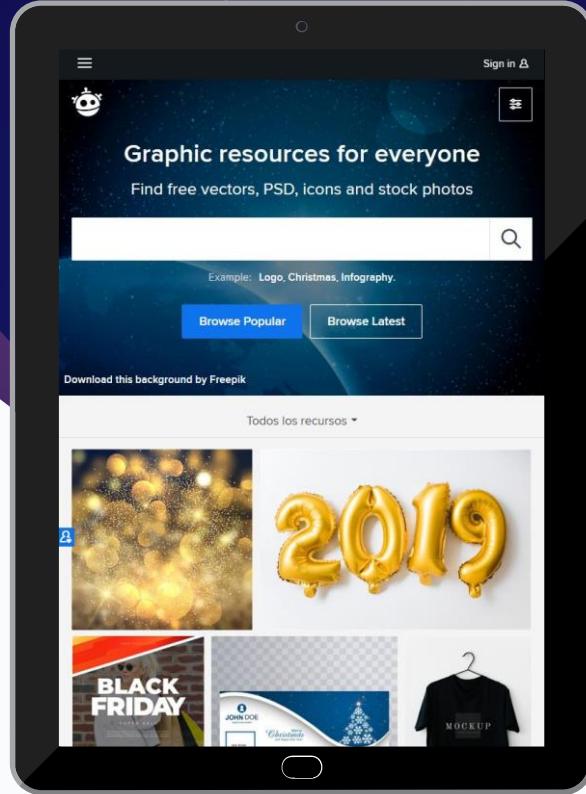
Characteristic  
Characteristic

pro



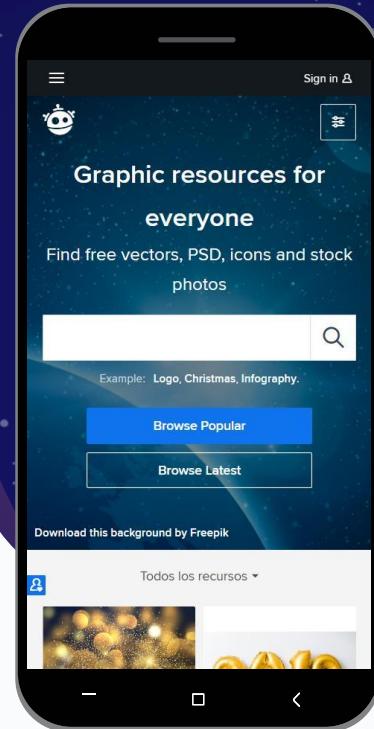
## DESKTOP SOFTWARE

You can replace the image on the screen with your own work. Just delete this one, add yours and send it to the back



## TABLET APP

You can replace the image on the screen with your own work. Just delete this one, add yours and send it to the back



## MOBILE WEB

You can replace the image on the screen with your own work. Just delete this one, add yours and send it to the back

# our team



JOHN DOE

You can replace the  
image on the screen  
with your own



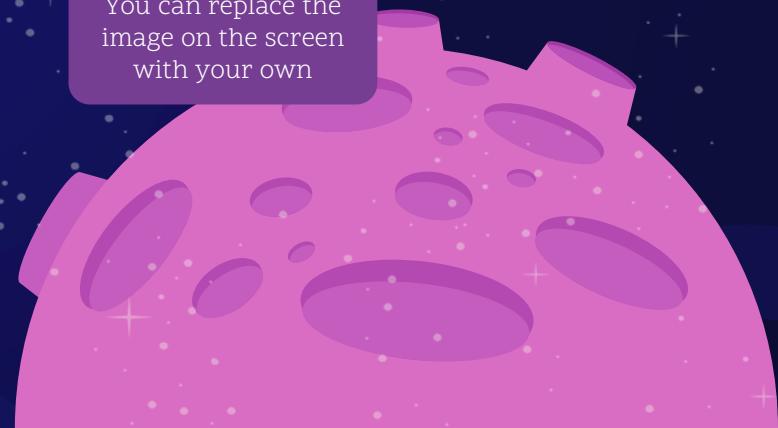
HELENA JAMES

You can replace the  
image on the screen  
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JAMES PATTERSON

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image on the screen  
with your own



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(<https://fonts.google.com/specimen/Scope+One>)

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#484991

#4f2f79

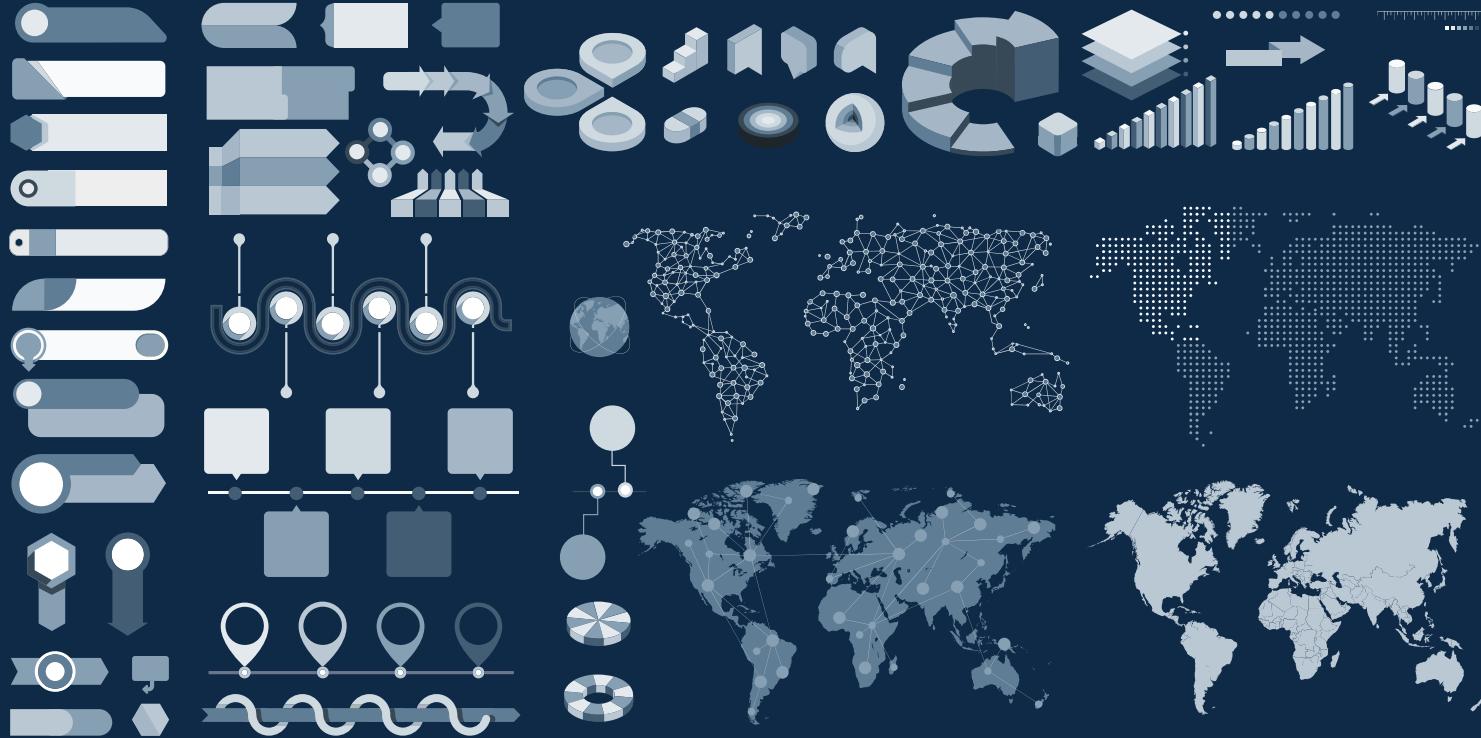
#753e93

#666666

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## ...and our set of editable icons

You can resize these icons keeping the quality.

You can change the stroke and fill color; just select the icon and click on the paint bucket/pen.



# Business Icons



# Avatar Icons



# Creative Process Icons



# Educational Process Icons



# Help & Support Icons



# Medical Icons



# Nature Icons



# Performing Arts Icons



# SEO & Marketing Icons



# Teamwork Icons





# Inyección de Dependencias

Implementa la inyección de dependencias según el standard de CDI.

```
@ApplicationScoped  
@RequestScoped  
@Inject
```

```
@ConfigProperty(name = "greetings.message", defaultValue = "no greeting").
```

