Introducing PIP.Services, a new open-source framework for enterprise-level microservice creation

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Agenda

1 - Introduction
(3 minutes)
A brief explanation of what PIP.Services is.

2 - Demo
(17 minutes)
This demo will show how to build a simple microservice ("Hello World").

3 - Principles behind and architecture
(10 minutes)
Principles behind PIP.Services
A brief explanation of its architecture.
A brief explanation of a component's lifecycle
Advantages of this toolkit

Part 1: Introduction

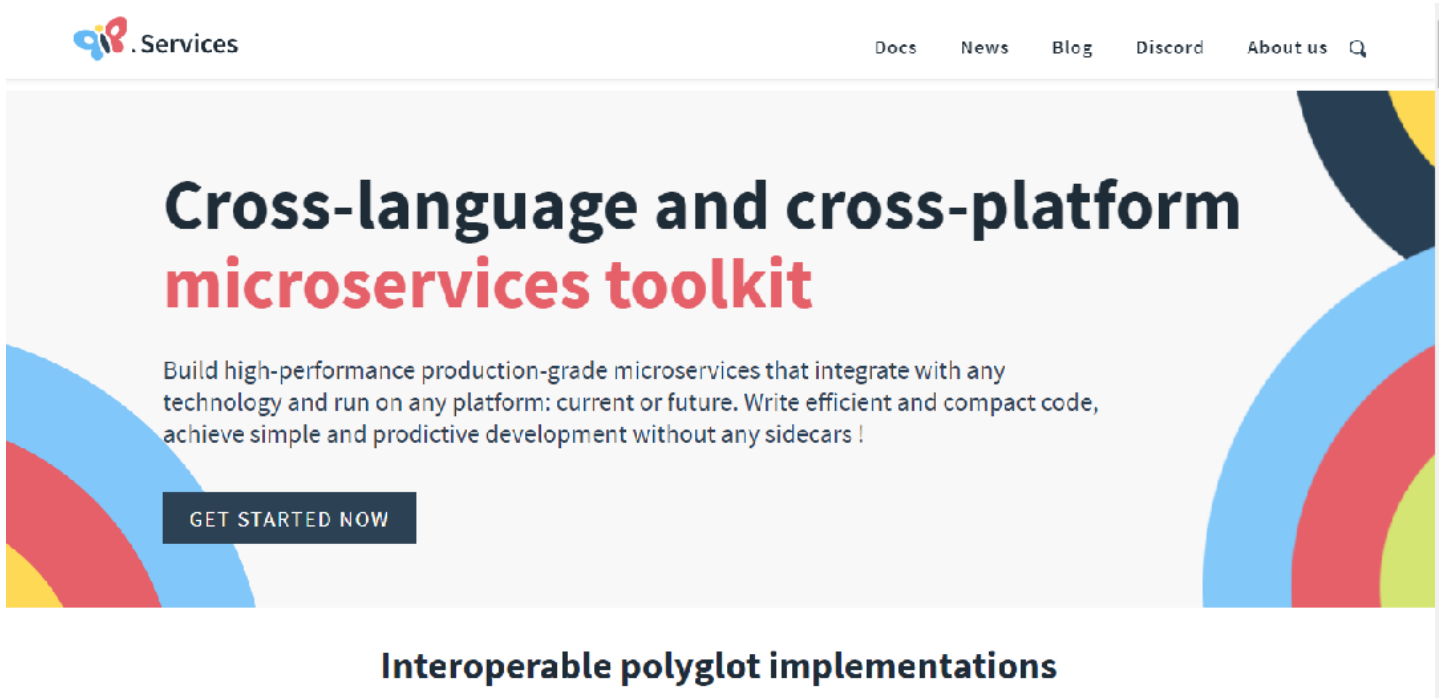
What is PIP.Services?

Pip.services is a toolkit that presents a collection of ready-to-use components used to build microservices.

- It has a large number of reusable components such as loggers, tracers, performance counters, distributed caches, distributed locks, credential stores, message queues, and configuration readers.

- At present, it supports six programming languages: .NET, Java, Node.js, Python, Golang, and Dart.

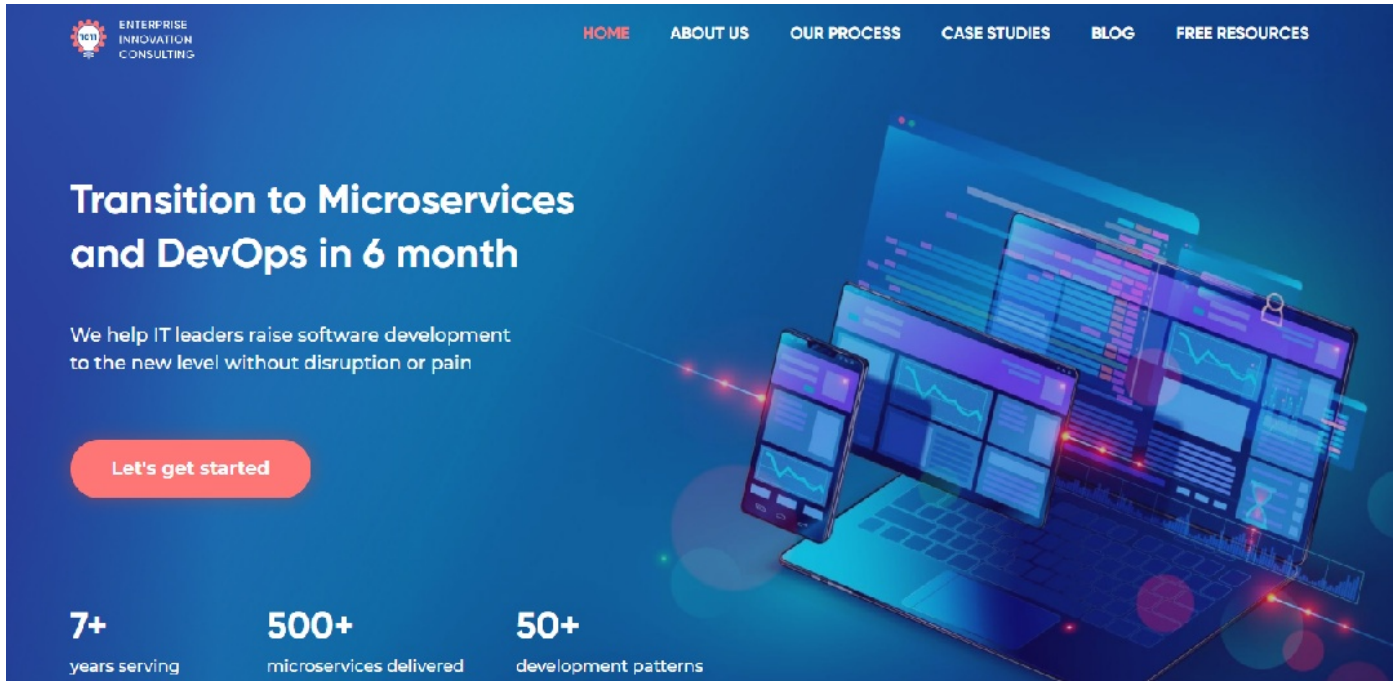
Where to find it



https://www.pipservices.org/

Brief history

Initially developed by Enterprise Innovation Consulting and launched as open-source with an MIT license in June 2021.



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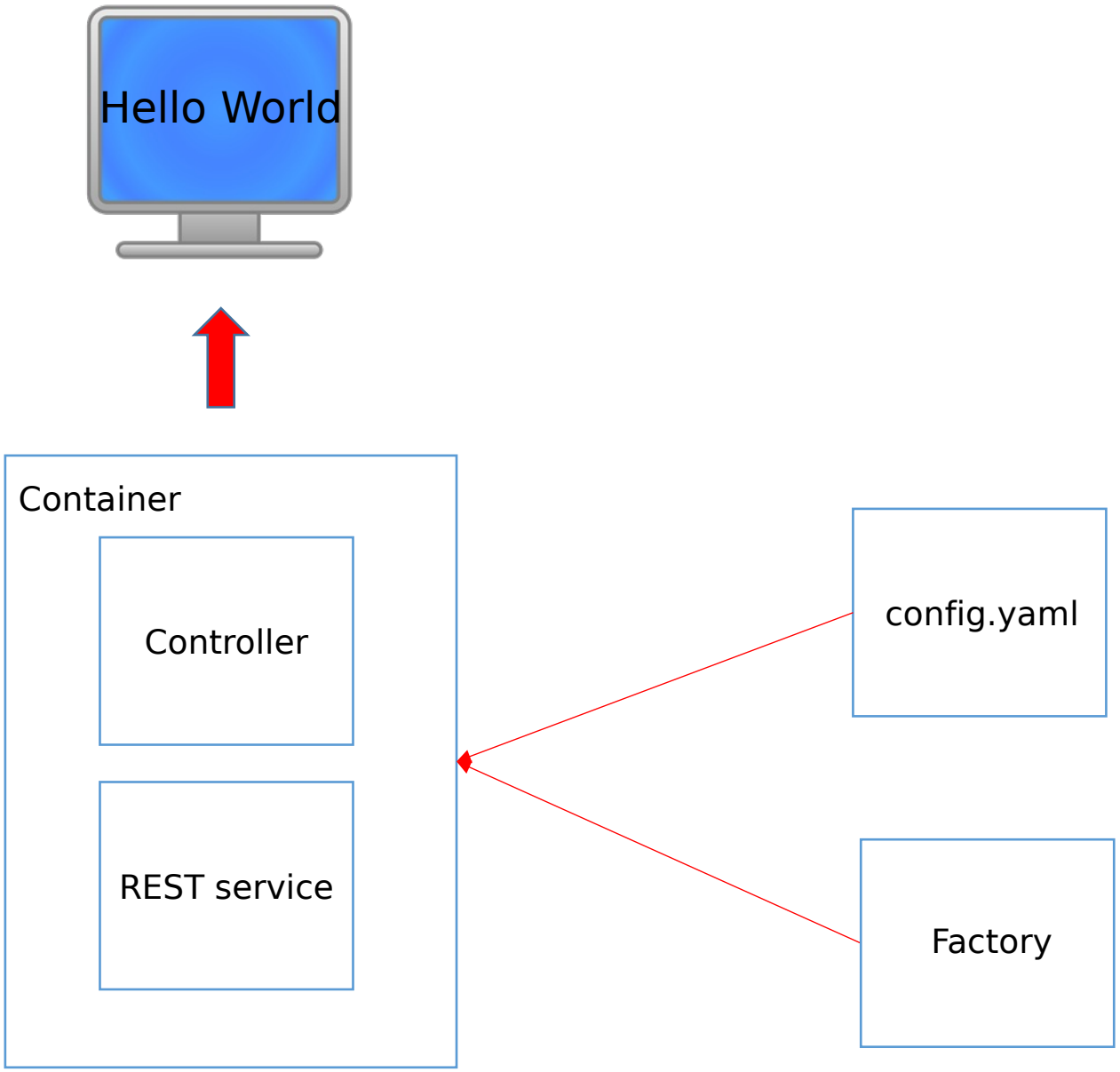
Part 2: Demo


Hello World
Container
Controller
REST service
config.yaml
Factory

Where to find the code

Python:
https://github.com/pip-services-samples/service-quickstart-python

Node.js:
https://github.com/pip-services-samples/service-quickstart-nodex

Golang:
https://github.com/pip-services-samples/service-quickstart-go

Part3: Principles behind and architecture

Principles behind

Symmetric implementation

It means that for every programming language it is implemented in, there are a common set of classes, methods, and method signatures.

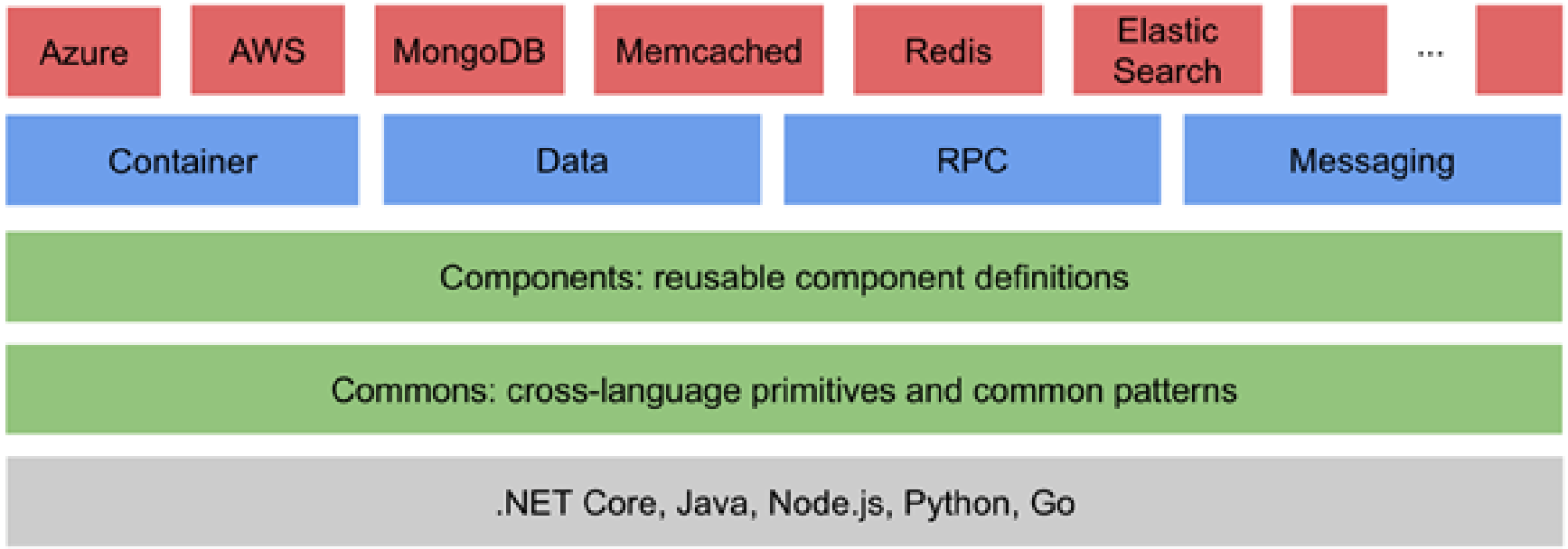
/HelloWorldProcess.py

```python
# -*- coding: utf-8 -*-
from HelloWorldServiceFactory import HelloWorldServiceFactory
from pip_services3_container.ProcessContainer import ProcessContainer
from pip_services3_rpc.build import DefaultRpcFactory


class HelloWorldProcess(ProcessContainer):
    def __init__(self):

        super(HelloWorldProcess, self).__init__('hello-world', 'HelloWorld microservice')
        self._config_path = './config.yaml'
        self._factories.add(HelloWorldServiceFactory())
        self._factories.add(DefaultRpcFactory())
```

/HelloWorldProcess.js

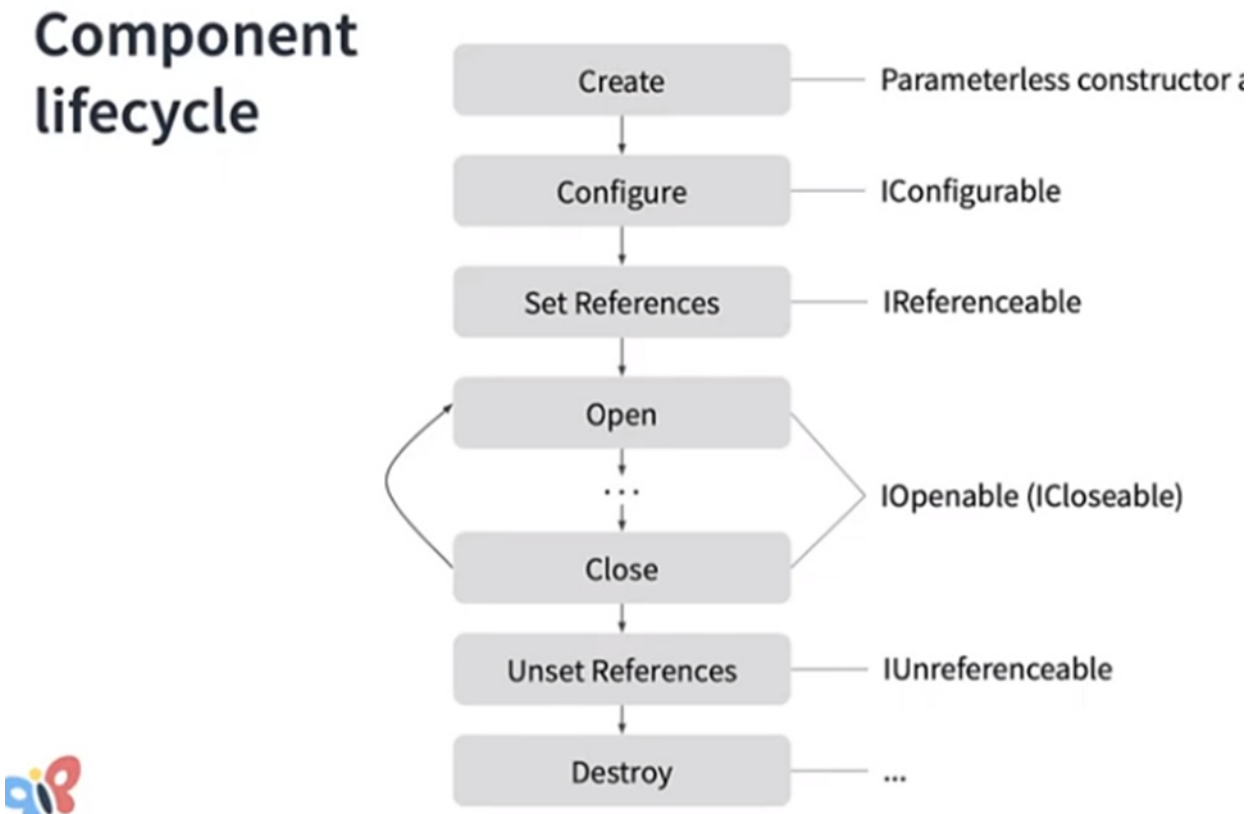
```javascript
"use strict";

const rpc = require("pip-services3-rpc-nodex");
const container = require('pip-services3-container-nodex');
const factory = require("./HelloWorldServiceFactory");

class HelloWorldProcess extends container.ProcessContainer {
    constructor() {
        super('hello-world', 'HelloWorld microservice');
        this._configPath = './config.yml';
        this._factories.add(new factory.HelloWorldServiceFactory());
        this._factories.add(new rpc.DefaultRpcFactory());
    }
}

exports.HelloWorldProcess = HelloWorldProcess;
```

Architecture



A component’s lifecycle

The life of a component



Advantages of PIP.Services

Why PIP.Services?

1. Both cross-language and cross-platform
2. Comprehensive
3. Incremental approach
5. Production-grade code
6. High-development productivity
7. Architectural flexibility

It allows businesses to create long-living, adaptable systems in a short time.

The end