

Python-Flask en Azure Kubernetes Services

Robert Rozas Navarro
Software Engineer
OWA



Agenda

1. Python
2. Flask
3. Kubernetes
4. Demo
5. Q&A



\$ whoami - Robert



Robert Rozas Navarro

robert.rozas.n@outlook.com

Software Engineer at Microsoft 

Open Source Advocate 

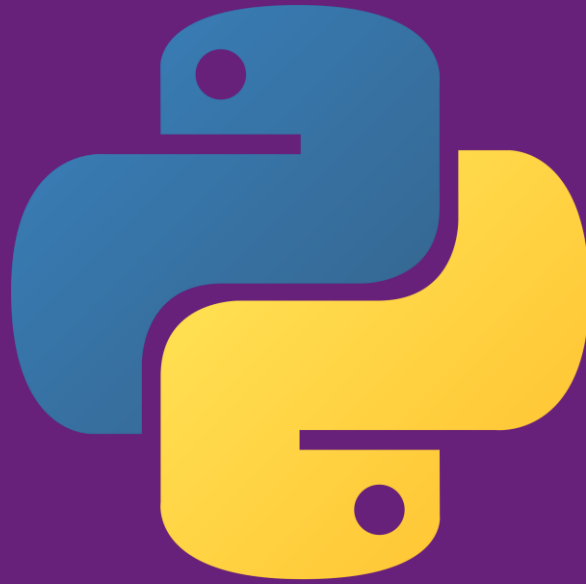
Microsoft SME 

Github: [@ashwilliams](#)

StackOverflow: [@hackerman](#)



Python



BRIEF HISTORY OF PYTHON

- Invented in the Netherlands, early 90s by Guido van Rossum (Microsoft)
- Named after Monty Python
- Open sourced from the beginning
- Considered a scripting language, but is much more
- Scalable, object oriented and functional from the beginning
- Used by Google from the beginning
- Increasingly popular

PYTHON'S BENEVOLENT DICTATOR FOR LIFE

"Python is an experiment in how much freedom programmers need. Too much freedom and nobody can read another's code; too little and expressive-ness is endangered."

- Guido van Rossum



PYTHON SCRIPTS

- When you call a python program from the command line the interpreter evaluates each expression in the file
- Familiar mechanisms are used to provide command line arguments and/or redirect input and output
- Python also has mechanisms to allow a python program to act both as a script and as a module to be imported and used by another python program



WHAT IS FLASK PYTHON

- Flask is a web framework, it's a Python module that lets you develop web applications easily. It has a small and easy-to-extend core: it's a microframework that doesn't include an ORM (Object Relational Manager) or such features.
- It does have many cool features like url routing, template engine. It is a WSGI web app framework.

WHAT IS A WEB FRAMEWORK?

A Web Application Framework or a simply a Web Framework represents a collection of libraries and modules that enable web application developers to write applications without worrying about low-level details such as protocol, thread management, and so on.

WHAT IS FLASK?

- Flask is a web application framework written in Python. It was developed by Armin Ronacher, who led a team of international Python enthusiasts called Pocco. Flask is based on the Werkzeug WSGI toolkit and the Jinja2 template engine. Both are Pocco projects.
- Flask is often referred to as a microframework. It is designed to keep the core of the application simple and scalable.
- Instead of an abstraction layer for database support, Flask supports extensions to add such capabilities to the application.

HELLO WORLD IN FLASK

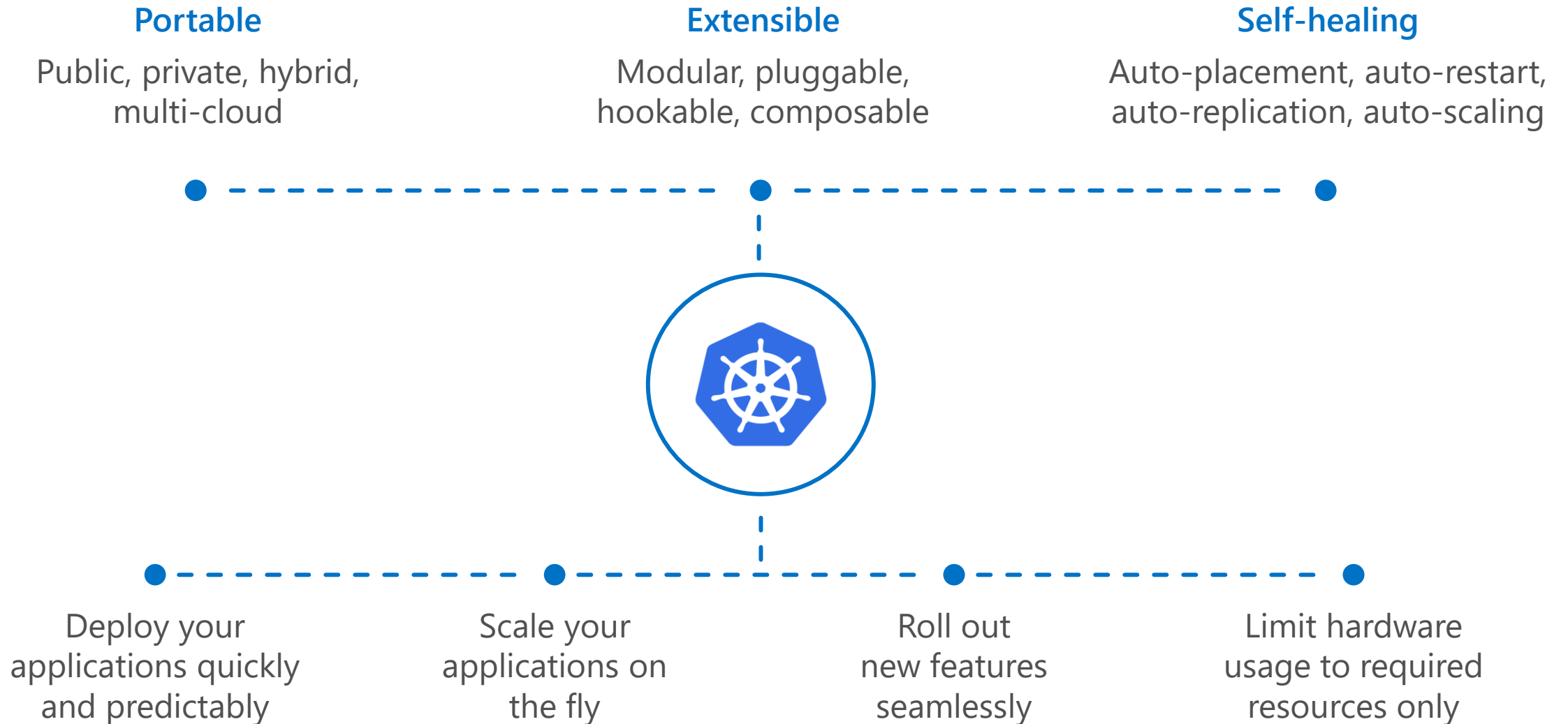
```
from flask import Flask
app = Flask(__name__)

@app.route('/')
def hello_world():
    return 'Hello World!'

if __name__ == '__main__':
    app.run()
```

Kubernetes on Azure

Kubernetes: empowering you to do more



What is Kubernetes?

Background

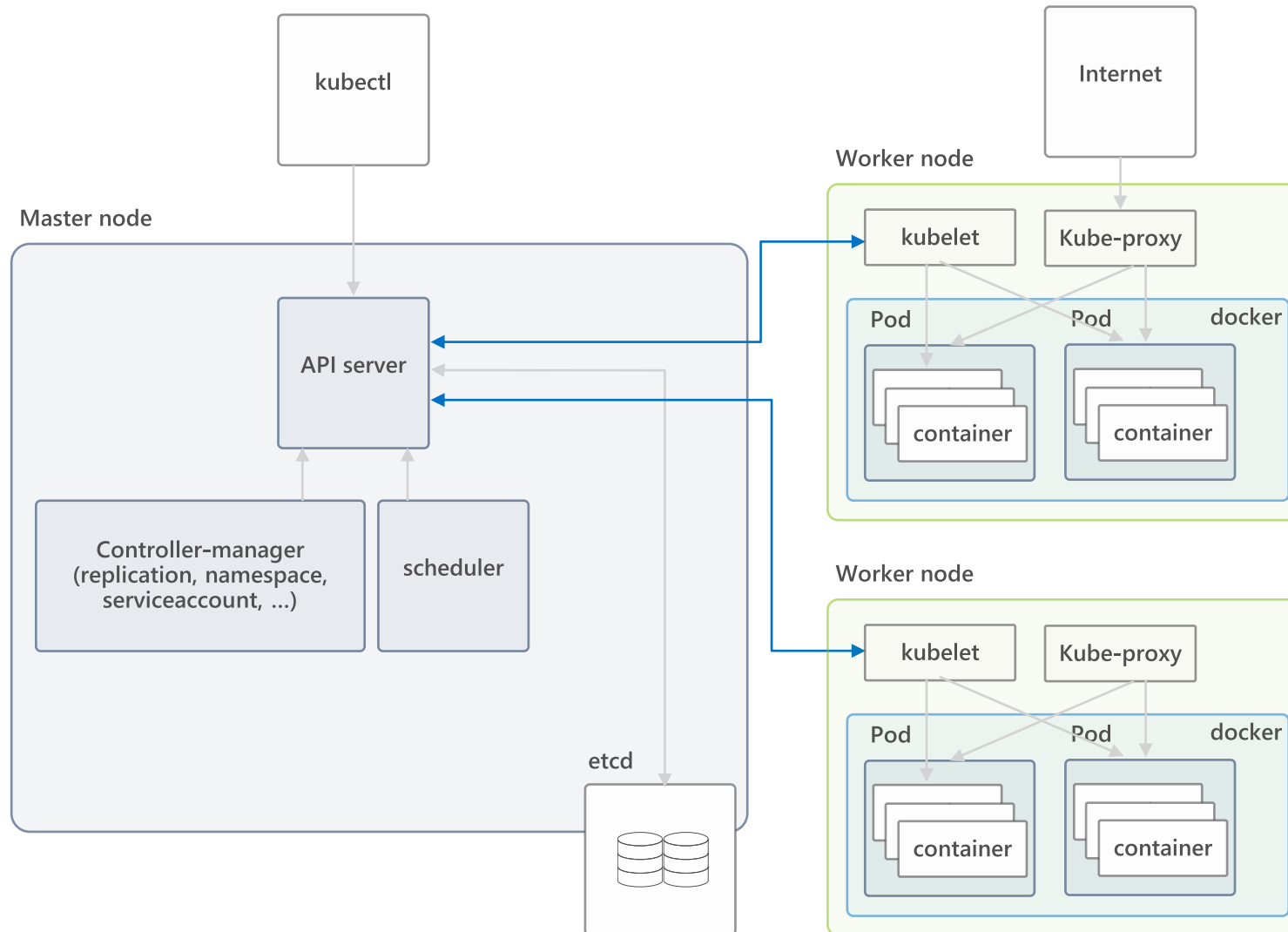
- "Kubernetes is an open-source system for automating deployment, scaling, and management of containerized applications"
- Schedules and runs application containers across a cluster of machines
- Kubernetes v1.0 released on July 21, 2015. Joe Beda, Brendan Burns, & Craig McLuckie

Key features

- Declarative infrastructure
- Self-healing
- Horizontal scaling
- Automated rollouts and rollbacks
- Service discovery and load balancing
- Automatic bin packing
- Storage orchestration
- Secret and configuration management
- Not a PaaS platform



Kubernetes Architecture



Demo

Q&A?