

A man with a beard and grey hair, dressed in Roman-style armor, is reclining on a red throne. He is wearing a dark red tunic with a gold and silver patterned breastplate, arm guards, and tall, laced-up boots. He is resting his head on his hand, looking towards the camera. The background features a white column and a red wall with a relief sculpture of a man and a woman.

AVE CONSUL!

@ROBONOVOTNY
EASTCODE SESSIONS V. X. MMXI




SERVICE TROUBLES

- configuration
- service registry
- service discovery
- service monitoring
- loadbalancing





HASHICORP CONSUL



AVE CONSUL!

- K/V database
- service registry
- service health monitoring
- service discovery
- request loadbalancing



AGENT

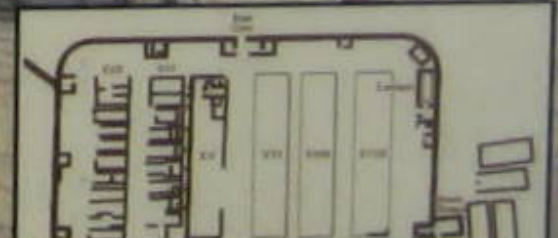
`consul agent`

`-server -bootstrap`

`-data-dir = /var/lib/consul`

`-advertise = 127.0.0.1 -ui`

KV STORE





KV STORE


- directory-like structure
- arbitrary (string) values
- exposes REST API

STATELESS SERVICES

- strict separation of config and code
- The Twelve-Factor app, III. Config



CONSUL AND SPRING BOOT



SPRING + CONSUL

- directly integrate Consul K/V into Spring Framework Environment

org.springframework.cloud:[spring-cloud-starter-consul-all](#)



SERVICE REPOSITORY

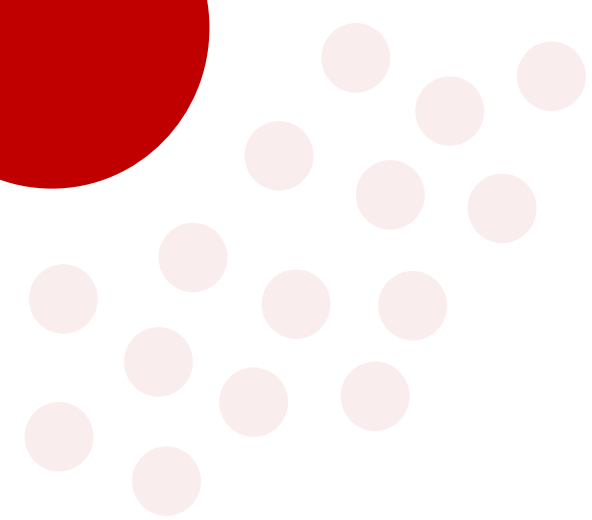


http://____:8500/vi/agent/service/register

{

"Name": "mysql",
"Address": "localhost",
"Port": 3306

}



*@*EnableDiscoveryClient



HEALTH CHECKS



HEALTH CHECKS

HTTP | Script | TCP

- allows intervals
- allows TTL
- support Docker



SPRING BOOT HEALTH CHECKS

- integrate with `@EnableDiscoveryClient`
- automatically support `/health` endpoint

VIEW

ORDERS

REPORTS

TRADE

COLONIZERS

SERVICE DISCOVERY

You have found one of the Seven Cities of Cibola! Treasure worth 60000 unearthed in the ruins! It will take a Galleon to get this treasure back to Europe!

Spring 1499
Gold: 607630

Moves: 50
Locat: (2)

Scouts Report
No Orders
(Rain Forest)
or River)

RESOLVING SERVICES VIA CODE

`@Autowired`

`DiscoveryClient discovery;`

`List<ServiceInstance> instances`

`= discovery.getInstances("mysql");`

RESOLVING SERVICES VIA DNS

- ping mysql.service.consul
- dig +short @127.0.0.1 -p 8600
mysql.service.consul ANY



RESOLVING SERVICES VIA DNS

- integrate with
 - bind
 - dnsmasq
 - /etc/resolver
- become a proxy for external services



OTHER STUFF



OTHER STUFF

- simple loadbalancing
 - randomly discover healthy nodes only
- support deployment environments
 - integrate with Spring profiles
- support configuration reloading
 - Spring Cloud Bus
- integrate with Docker
 - Docker registry

QUESTIONS?

