

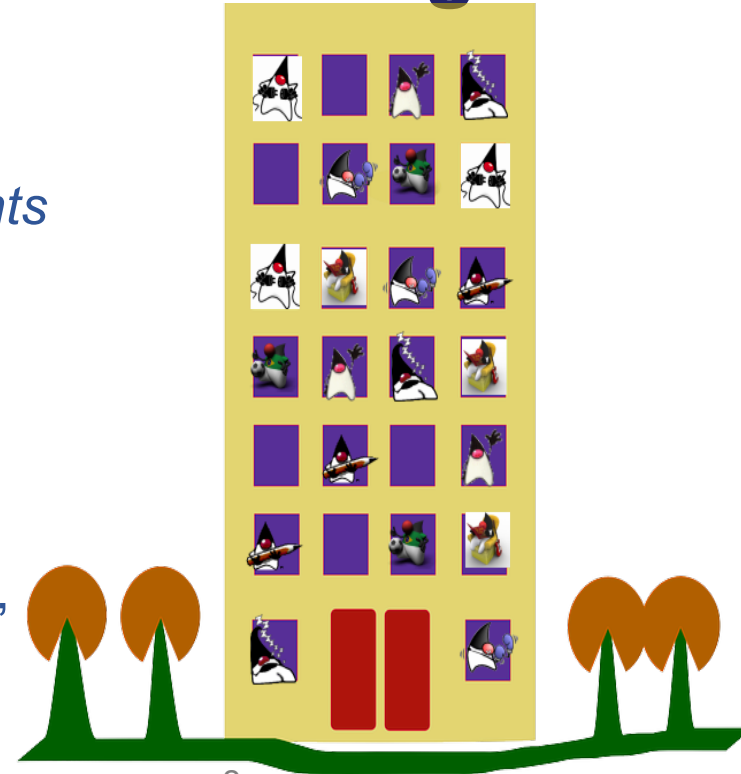
Java

Luis Rodríguez Fernández



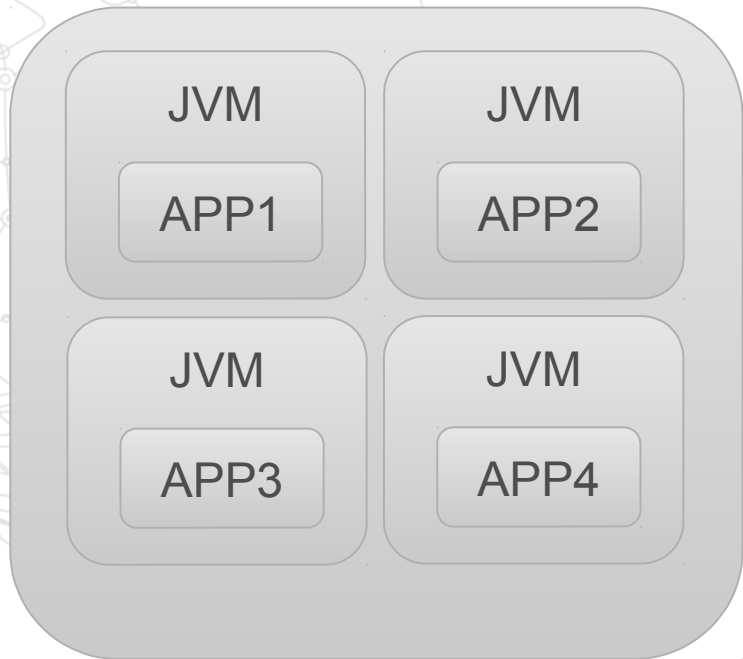
Oracle Weblogic 12.2.1 Beta Program

- 12.2.1 version is focus on **multitenancy**.
- **Tenant** (Merriam-Webster): *one who rents or leases (as a house) from a landlord.*
- **Multitenancy**: mode of operation of software where multiple independent instances of one or multiple applications operate in a shared environment. The instances (tenants) are logically isolated, but physically integrated.



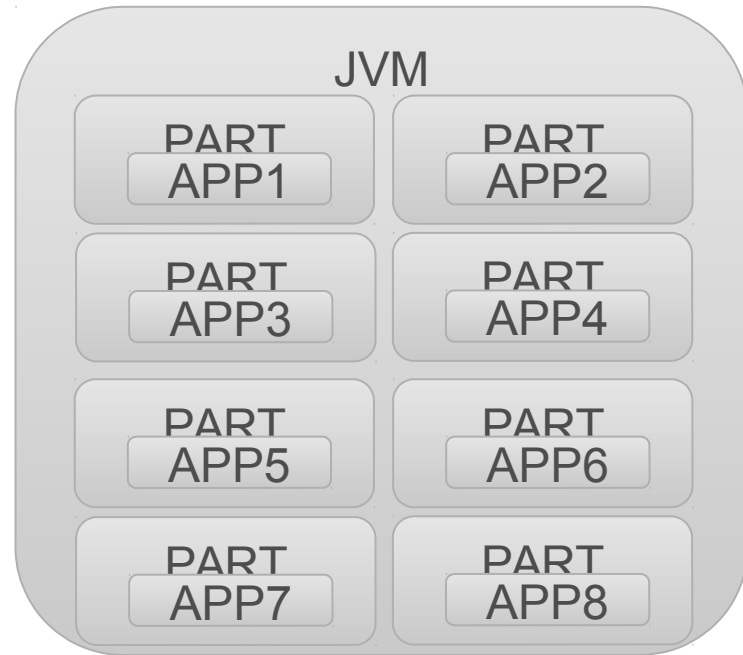
Oracle Weblogic 12.2.1 Beta Program

Current setup



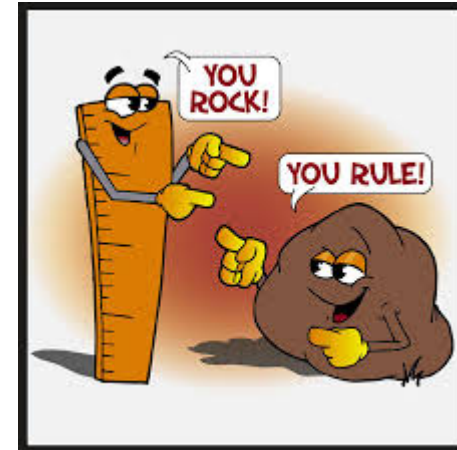
2-3x
density
gain

New setup

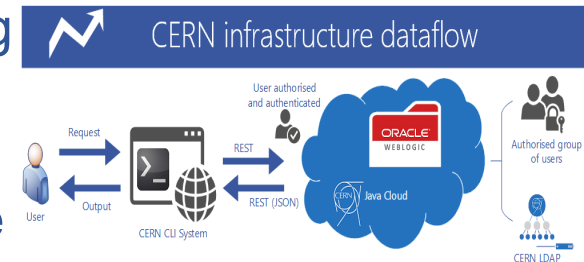


Oracle Weblogic 12.2.1 Beta Program

- ✓ Improve operational efficiency?
 - ✓ Yes – Resource group cluster migration
- ✓ Improve resource efficiency?
 - ✓ Yes – Partitions. Resource limitations
- ✓ Enable cloud architectures?
 - ✓ Yes – RESTful management APIs
- ✓ Improve responsiveness?
 - ✓ Yes – Fast provisioning/Better fault detection



- Oracle Open World:
 - Presentation: Oracle Weblogic Server 12.2.1 Multitenancy: Efficiency, Agility, and Lower Cost [CON8630] Artur Wiecek (CERN) & David Cabelus (Oracle)
 - Interview: Artur Wiecek
- Oracle Scene Magazine:
 - Oracle APEX in the CERN Java Cloud (Spring 15 | Issue 56)
 - CERN develops a new WebLogic Command Line Interface tool for CERN Java Middleware Services (first edition of 2016)



Next steps

- Help the developer community to make their applications “cloud-ready”
- Explore the Oracle Public Cloud
- Multi-tenancy improvements:
 - Export/Import applications (partitions)
 - RESTful for 12.2.1
- Investigate Maximum Availability Architectures
 - Load Balancing (Oracle Traffic Director)
- Oracle Enterprise Manager PaaS capabilities
- 12.2.1 is JAVA EE 7 fully compatible





Virtualization

Antonio Nappi(September 2015)

Integration tests

✓ Oracle Openstack Deployment

- Openstack Icehouse Release.
- Controller Node with CentOS 7.
- Compute Nodes with Oracle VM.
- KVM and XEN as Hypervisors:
 - Un-solved network problems with XEN.
- Compatibility issues: current Oracle Openstack is linked to Openstack Icehouse release (April 2014), CERN Openstack is based on Kilo release (April 2015).

- Project ▸
- Admin ▾
- System Panel ▾
- Overview
- Resource Usage
- Hypervisors
- Host Aggregates
- Instances
- Volumes
- Flavors
- Images
- Networks
- Routers
- System Info
- Identity Panel ▸

All Hypervisors

Hypervisor Summary



VCPU Usage
Used 5 of 72



Memory Usage
Used 5.5GB of 61.3GB



Disk Usage
Used 5.0GB of 274.0GB

Hypervisors

Hostname	Type	VCPUs (total)	VCPUs (used)	RAM (total)	RAM (used)	Storage (total)	Storage (used)	Instances
compute3.cem.ch	QEMU	2	0	3GB	512MB	39.0GB	0Bytes	0
compute4.cem.ch	QEMU	2	0	3GB	512MB	39.0GB	0Bytes	0
itrac1304.cem.ch	QEMU	20	0	2GB	512MB	49.0GB	0Bytes	0
itrac1123.cem.ch	Xen	16	2	47GB	1GB	49.0GB	2.0GB	2
itrac1124.cem.ch	QEMU	16	3	1GB	2GB	49.0GB	3.0GB	3
itrac1124.cem.ch	QEMU	16	3	1GB	2GB	49.0GB	3.0GB	3

Displaying 6 items

Next steps

- **Goals:**

1. Test new Oracle VM beta version (new UEK based on Linux 4).
2. Test new Oracle OpenStack release (based on OpenStack Kilo release).
3. Integration of Compute Nodes(Oracle VM) with new Oracle OpenStack Release in OpenStack CERN deployment.

Questions?



- Weblogic 12.2.1 download: Oracle Technology Network
- What's new in Oracle Weblogic Server 12.2.1
- Domain Partitions for Multi-tenancy in WebLogic Server 12.2.1
- Oracle Weblogic Server 12.2.1 Multitenancy: Efficiency, Agility, and Lower Cost [CON8630]
- Artur Wiecek OOW interview, coming soon!
- Oracle APEX in the CERN Java Cloud (Oracle Scene magazine)
- Weblogic Client project on github.com
- Trouble-Maker (performance issues samples) on github.com
- Oracle Cloud (Java)
- Databases at CERN blog



- Building: pixabay.com
- All Duke images: Duke images project
- JVM consolidation diagram taken from Oracle Weblogic Server 12.2.1 Multitenancy: Efficiency, Agility, and Lower Cost [CON8630]
- “You rock, you rule”: James Sanden web site
- Oracle Open World logo: Oracle Open World web site
- Oracle Scene logo: UK Oracle User Group site
- CERN Weblogic Command Line diagram courtesy of Konrad Aleksander Kaczkowski (IT/DB)
- Happy Birthday Java!!!: Scott Schram flicker

Images

