

The JPetStore Suite: A Concise Experiment Setup for Research

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iObserve

Kieker



Evaluation of

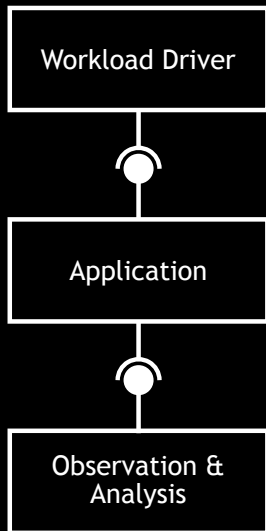
- methods
- approaches
- techniques
- tooling

for software qualities

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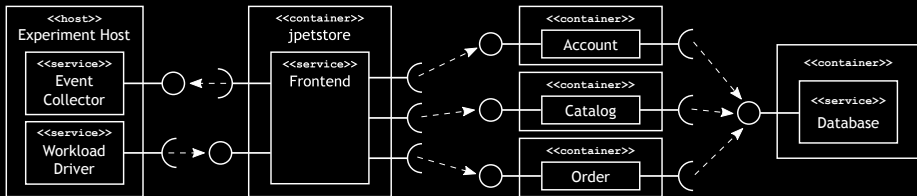
SPECjbb Benchmark

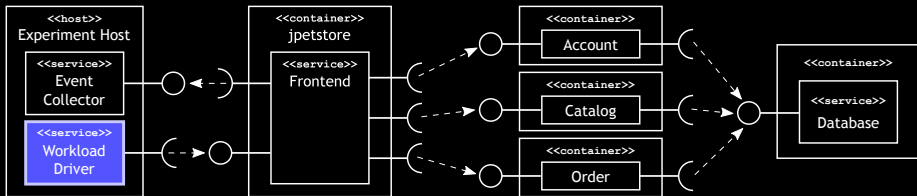


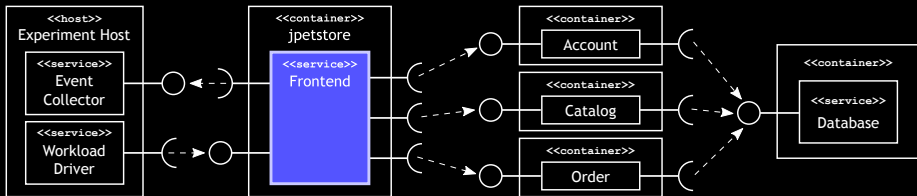
1. Experiment documentation
2. Experiment setup
 - Software System & setup instructions
 - Workload drivers & documentation
 - Working scenarios which are easy to setup up
3. Tests to support setup
4. Instrumentation examples
5. Different deployments/architectures

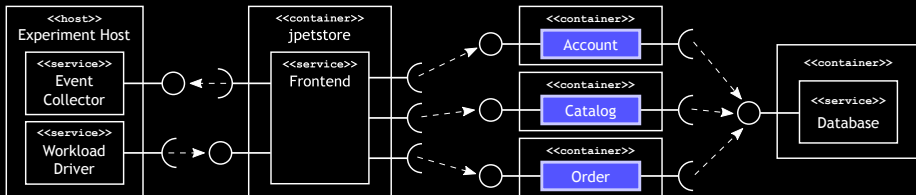
- Extend a big widely used case study?
 - too complicated for a first example
 - there is no widely USED case study
- Use a small open source application?
 - but small examples are only single service architectures

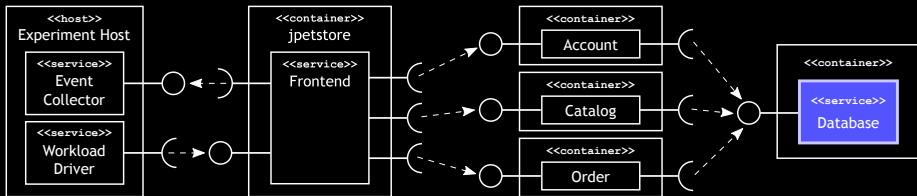


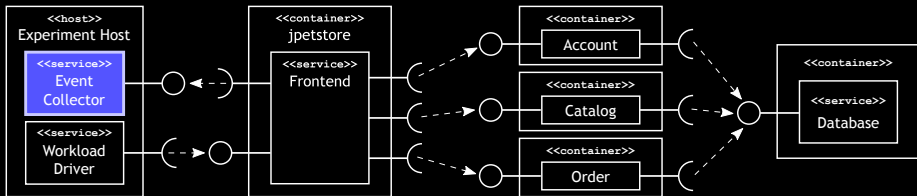


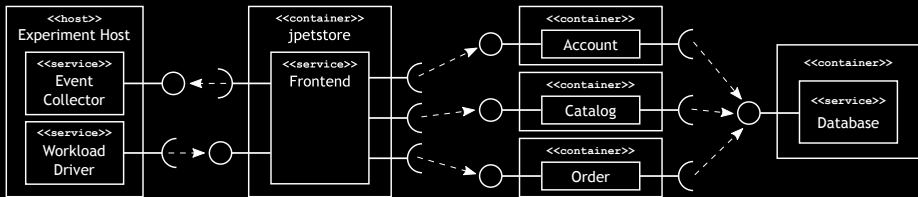




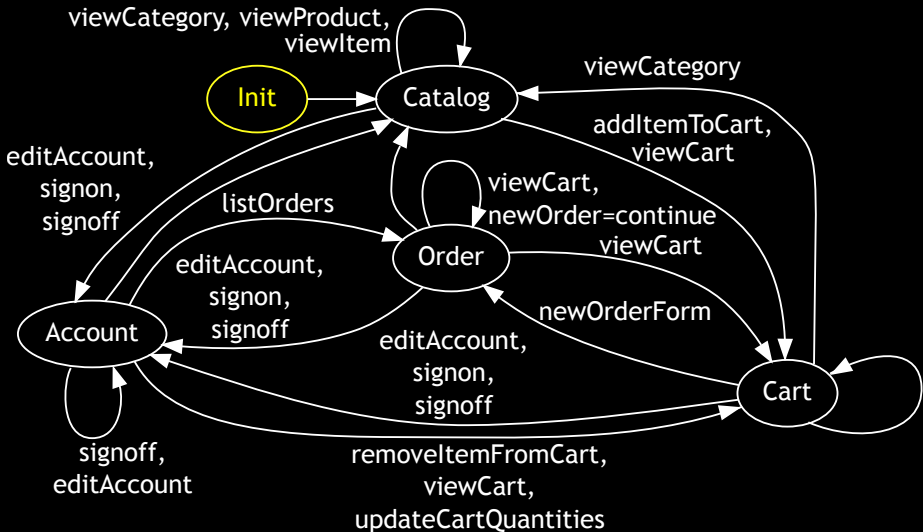








Page Graph



```
activityDelay: 1
```

```
webdriverConfiguration:
```

```
  baseUrl: http://172.18.0.5:8080/jpetstore-frontend/
```

```
  type: org.iobserve.selenium.behavior.ChromeDriverFactory
```

```
  driver: /home/reiner/iObserve/experiments/tools/chromedriver
```

```
  timeout: 60000
```

```
  ...
```

```
workloads:
```

```
  ...
```

```
behaviors:
```

```
  ...
```


workloads:

- name: AccountManager

intensity:

- type: org.iobserve.selenium.configuration.
ConstantWorkloadIntensity

- name: AccountManager

- spawnPerSecond: 0.1

- durations: [100, 50]

- delays: [50, 50]

behaviors:

AccountManager:

name: AccountManager

activityDelay: 2

subbehaviors:

- name: LoginJPetStoreTask

parameters:

username: "j2ee"

password: "j2ee"

- name: ChangeAccountInformationTask

repetition: { min: 1, max: 10 }

parameters:

attribute: ADDRESS2

value: "Christian-Albrechts-Platz 4"

- name: ViewOrderTask

repetition: { min: 1, max: 20 }

Run a workload

```
bin/selenium-workloads.sh -c workload-file.yaml \  
    -d /home/reiner/iObserve/experiments/tools/chromedriver \  
    -u http://172.17.0.2:8080/jpetstore-frontend/  
# -d and -u are optional and overwrite workload settings
```

Extending workloads

1. Configuration class `IWorkloadIntensity`
2. Workload model `IWorkloadBalance`

- **Execute JPetStore**

- Local docker `execute-jpetstore.sh $WORKLOAD_FILE`
- Kubernetes `execute-kube-jpetstore.sh $WORKLOAD_FILE`

- **Execute Observation**

- `execute-observation.sh $WORKLOAD_FILE`

```
# docker repository
DOCKER_REPO="blade1.se.internal:5000"

# logger IP
LOGGER=192.168.48.213

# workload driver
WORKLOAD_RUNNER="$TOOLS/bin/selenium-experiment-workloads"

# webdriver
WEB_DRIVER="$TOOLS/chromedriver"

# collector
COLLECTOR="$TOOLS/bin/collector"
```

Features

- Workloads
- JPetStore variants
- Cloud setups
- Documentation
- PCM complete models

Upcoming

- Models for privacy
- Other intensity models
- Additional probes

Sources

- Version snapshots on Zenodo.org

DOI [10.5281/zenodo.1292788](https://doi.org/10.5281/zenodo.1292788)

- All else on github

<https://github.com/research-iobserve>