edX Load Tests

Introduction And Current Status

Troy Sankey

September 5, 2017

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- Uses the Locust load testing tool.

Why Load Test?

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- Performance-sensitive code changes.
- Major version changes of dependencies.

Overview Of Writing Tests

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3. Write startup (`on_start()`) function.
4. Write instructions for seeding test data.

locustfile.py

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class ChatTasks(TaskSet)
    @task(3)
    def send_message():
        print("sending a message.")
    @task(8)
    def get_emoji():
        print("getting list of emoji.")

class ServiceTasks(TaskSet):
    tasks = {
        ChatTasks: 1,
        SearchTasks: 2,
    }

class ServiceUser(HttpLocust):
    task_set = ServiceTasks
    min_wait = 1000
    max_wait = 5000
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User Experience

- No browser, no javascript, no good measure of user experience.
- Focus on the system response, not the users.

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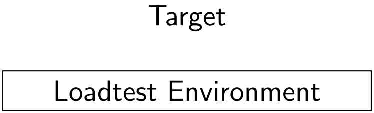
- Use `helpers.settings`.
- The Jenkins job (run-simple-loadtest) will use settings specified by a job parameter.

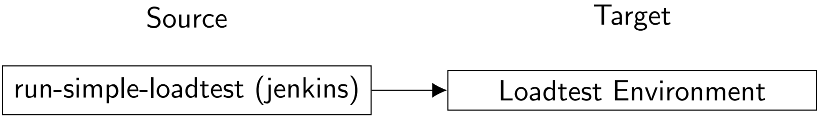
Overview Of Running Load Tests



Target

Loadtest Environment

Overview Of Running Load Tests



Source

run-simple-loadtest (jenkins)

Target

Loadtest Environment

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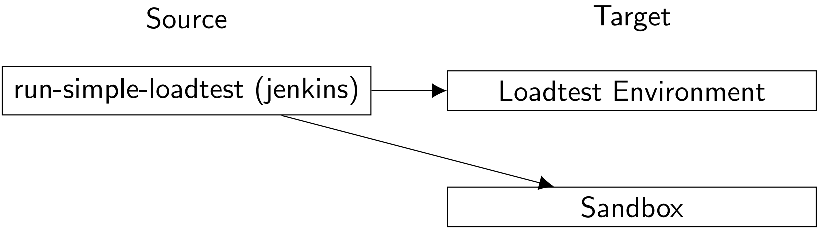

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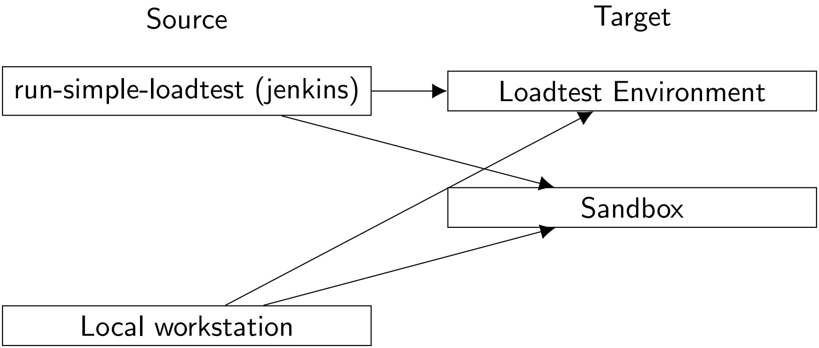

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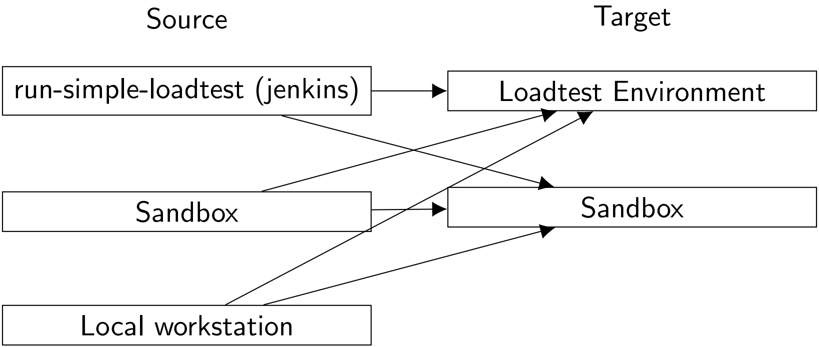

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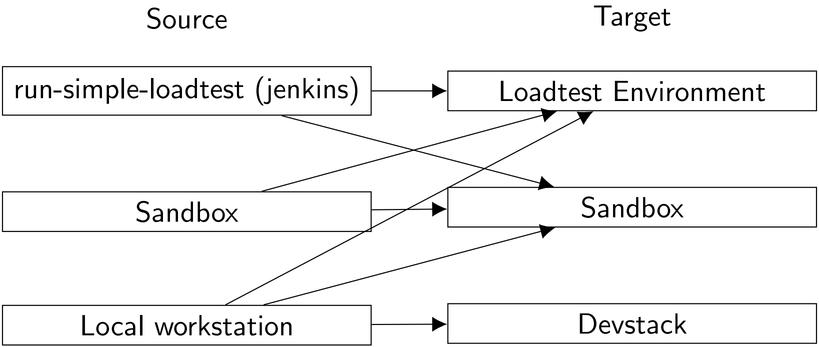

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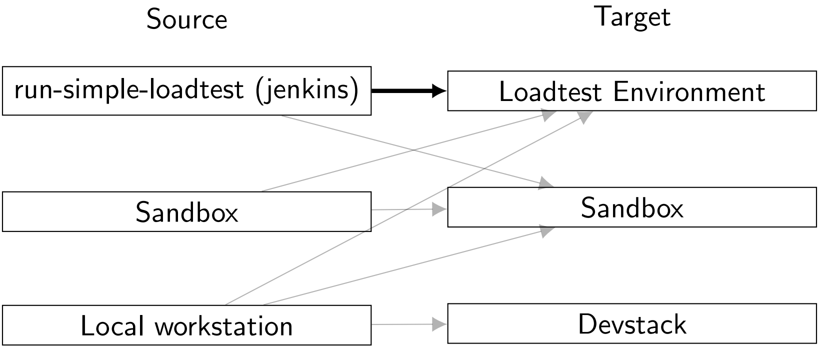

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    - How long do the tests need to run?
    - How easy is it to infer test outcomes?
    - Is there loadtest environment contention?
    - Do you need to block on devops?

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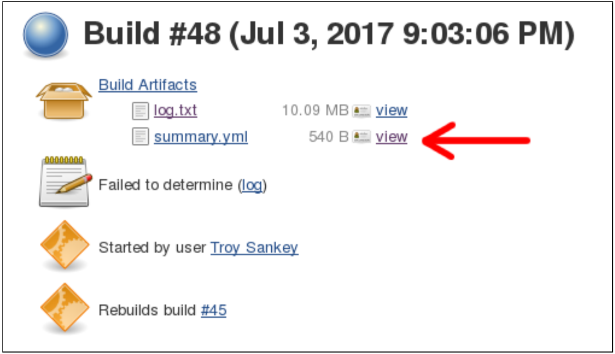

Build #48 (Jul 3, 2017 9:03:06 PM)

Build Artifacts

log.txt 10.09 MB view

summary.yml 540 B view

Failed to determine (log)

Started by user Troy Sankey

Rebuilds build #45

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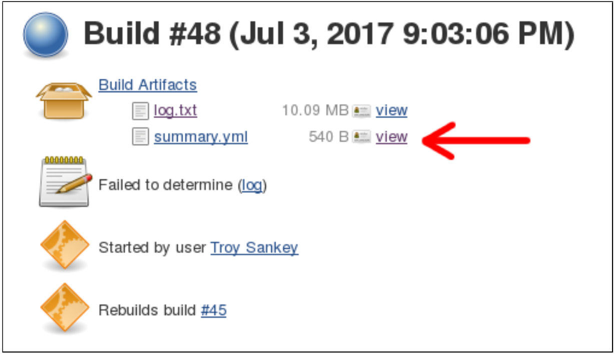

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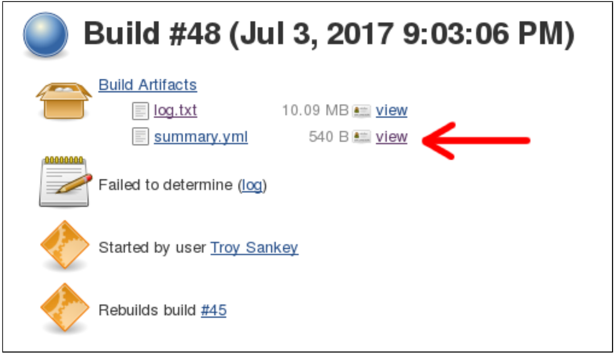

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- Custom metrics in edx-platform: make use of the custom metrics middleware for peering into application behavior.

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- Continuous deployment ⇒ continuous deletion of system metrics!

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- You may need to prime N workers first.
- If you want/need real distributed load testing, demand it!

Maintaining load tests

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- New endpoints will need to be added as new tasks.

For fun: Real browser load testing

- `pip install realbrowserlocusts`, then subclass PhantomJSLocust in your locustfile.
- Could make certain tests more realistic (AJAX calls actually happen).
- Potentially far more resource intensive on the client side