SHIPPING CODE WITH AURORA

Bill Farner
wfarner@apache.org
MANY, MANY meanings
change is good
BUT IT ISN’T EASY
tools should be SAFE SHARP PREDICTABLE
define the path of LEAST RESISTANCE
rolling update
rolling update

instances: 9
rolling update

instances: 6
rolling update

instances: 9
rolling update

instances: 6
rolling update

instances: 9
rolling update

instances: 6
rolling update

instances: 9
blue/green

instances: 9
blue/green

instances: 18
blue/green

instances: 18
blue/green

instances: 9
sliding update

instances: 9
sliding update

instances: 12
sliding update

instances: 9
sliding update

instances: 12
sliding update

instances: 9
sliding update

instances: 12
sliding update

instances: 9
stop/start

instances: 9
stop/start

instances: 9
cron jobs

template

time
cron jobs
cron jobs
cron jobs
cron jobs
cron jobs

time
cron jobs
cron jobs
cron jobs
varying DEMANDS
DELICATE balance
tearing down
CANARY
a new engine
API
start
pause
resume
abort
pulse
JobUpdateRequest {
    TaskConfig taskConfig
    int instanceCount
    JobUpdateSettings settings
}
JobUpdateSettings {
    ...
}

JobUpdateSettings {
...
int updateGroupSize
bool waitForBatchCompletion
int minWaitInInstanceRunningMs
}

JobUpdateSettings {
    ...
    int maxPerInstanceFailures
    int maxFailedInstances
    bool rollbackOnFailure
}

JobUpdateSettings {
    ...
    set<Range> updateOnlyTheseInstances
}
JobUpdateSettings {
  ...
  int blockIfNoPulsesAfterMs
}

## Updates In Progress

<table>
<thead>
<tr>
<th>job</th>
<th>user</th>
<th>started</th>
<th>last modified</th>
<th>status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>9 hours ago</td>
<td>2 minutes ago</td>
<td>IN PROGRESS</td>
</tr>
</tbody>
</table>

## Recently Completed Updates

<table>
<thead>
<tr>
<th>job</th>
<th>user</th>
<th>started</th>
<th>last modified</th>
<th>status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12 minutes ago</td>
<td>5 minutes ago</td>
<td>SUCCESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 minutes ago</td>
<td>13 minutes ago</td>
<td>SUCCESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 minutes ago</td>
<td>13 minutes ago</td>
<td>SUCCESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17 minutes ago</td>
<td>15 minutes ago</td>
<td>SUCCESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26 minutes ago</td>
<td>19 minutes ago</td>
<td>SUCCESS</td>
</tr>
</tbody>
</table>
Job [redacted] in role [redacted] and environment [redacted]

Update In Progress

2 of 3

STARTED BY [redacted]
12 MINUTES AGO

Configuration Overview

<table>
<thead>
<tr>
<th>Instance</th>
<th>Status</th>
<th>Host</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12 minutes ago - RUNNING</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7 minutes ago - RUNNING</td>
<td></td>
</tr>
</tbody>
</table>

show config
## Update History

<table>
<thead>
<tr>
<th>id</th>
<th>status</th>
<th>started</th>
<th>last modified</th>
<th>user</th>
</tr>
</thead>
<tbody>
<tr>
<td>e87b7462-9a69-41ff-ab13-e66d938497db</td>
<td>SUCCESS</td>
<td>7 minutes ago</td>
<td>6 minutes ago</td>
<td>jenkins</td>
</tr>
<tr>
<td>76fbe128-149c-4ae4-9ff3-db88ec4fb27b</td>
<td>SUCCESS</td>
<td>12 hours ago</td>
<td>12 hours ago</td>
<td>jenkins</td>
</tr>
<tr>
<td>b95b3b26-ceb7-4843-9083-152b7bb68751</td>
<td>SUCCESS</td>
<td>19 hours ago</td>
<td>19 hours ago</td>
<td>jenkins</td>
</tr>
<tr>
<td>c5dd0e10-a9b2-4541-8284-c655f461e073</td>
<td>SUCCESS</td>
<td>a day ago</td>
<td>a day ago</td>
<td>jenkins</td>
</tr>
<tr>
<td>f9918b15-04e3-44bd-bc88-be80e6da60a7</td>
<td>SUCCESS</td>
<td>2 days ago</td>
<td>2 days ago</td>
<td>jenkins</td>
</tr>
<tr>
<td>f0cbbc96b-dcb9-49e8-8399-25ec0950a802</td>
<td>SUCCESS</td>
<td>2 days ago</td>
<td>2 days ago</td>
<td>jenkins</td>
</tr>
<tr>
<td>81fcbaw2d-3ae5-4601-a23e-2de26ec23f07f</td>
<td>SUCCESS</td>
<td>3 days ago</td>
<td>3 days ago</td>
<td>jenkins</td>
</tr>
</tbody>
</table>
Update Summary

STARTED BY [User]
FINAL STATUS SUCCESS

THU, AUG 13TH
20:05
AN HOUR AGO

THU, AUG 13TH
20:35
27 MINUTES AGO

DURATION: 29 MINUTES

INSTANCE STATUS

3797 / 3797 (100%)

Update Settings

<table>
<thead>
<tr>
<th>setting</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE GROUP SIZE</td>
<td>312</td>
</tr>
<tr>
<td>MAX FAILURES PER INSTANCE</td>
<td>2</td>
</tr>
<tr>
<td>MAX FAILED Instances</td>
<td>6</td>
</tr>
<tr>
<td>MAX WAITING TIME FOR RUNNING</td>
<td>300000</td>
</tr>
<tr>
<td>MIN WAITING TIME IN RUNNING</td>
<td>90000</td>
</tr>
<tr>
<td>ROLLBACK ON FAILURE</td>
<td>false</td>
</tr>
</tbody>
</table>
90 days of deploys
grouped by hour
DOS: centralizing policy
DOS: centralizing policy
DOS: centralizing policy
DOS: centralizing policy

Diagram:
- Client
- Aurora
- DOS
- Notifiers
- Alert System
further reducing OPERATOR ERROR
<table>
<thead>
<tr>
<th>Version</th>
<th>Status</th>
<th>Rollback/Update Details</th>
<th>Targets Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>v0</td>
<td>Completed</td>
<td>Staged at 6/30/2015 by dmcloughlin</td>
<td>4/4</td>
</tr>
<tr>
<td>v1</td>
<td>Completed</td>
<td>Staged at 6/30/2015 by dmcloughlin</td>
<td>4/4</td>
</tr>
<tr>
<td>v2</td>
<td>Completed</td>
<td>Staged at 6/30/2015 by dmcloughlin</td>
<td>4/4</td>
</tr>
<tr>
<td>v3</td>
<td>Status: Waiting for release of smf1 dmcloughlin/pred/super-important-job</td>
<td>Rolled back from 0 at 6/30/2015 by ui-user</td>
<td>3/4</td>
</tr>
<tr>
<td>v4</td>
<td>Status: Waiting for release of smf1 dmcloughlin/pred/super-important-job</td>
<td>Rolled back from 2 at 6/30/2015 by ui-user</td>
<td>2/4</td>
</tr>
<tr>
<td>v5</td>
<td>Status: Waiting for release of smf1 dmcloughlin/pred/super-important-job</td>
<td>Rolled back from 0 at 6/30/2015 by ui-user</td>
<td>1/4</td>
</tr>
<tr>
<td>v6</td>
<td>Status: Waiting for release of smf1 dmcloughlin/pred/super-important-job</td>
<td>Rolled back from 0 at 6/30/2015 by ui-user</td>
<td>0/4</td>
</tr>
<tr>
<td>v7</td>
<td>Status: Waiting for release of smf1 dmcloughlin/pred/super-important-job</td>
<td>Staged at 6/31/2015 by dmcloughlin</td>
<td>3/4</td>
</tr>
<tr>
<td>v8</td>
<td>Status: Waiting for release of smf1 dmcloughlin/pred/super-important-job</td>
<td>Rolled back from 0 at 6/31/2015 by ui-user</td>
<td>0/4</td>
</tr>
<tr>
<td>Targets</td>
<td>Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>smfl/dmclauglin/devel/super_important_job/0</td>
<td>Successfully released by user on 6/30/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>smfl/dmclauglin/devel/super_important_job</td>
<td>Successfully released by user on 6/30/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>smfl/dmclauglin/prod/super_important_job</td>
<td>Successfully released by user on 6/30/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>atla/dmclauglin/devel/super_important_job</td>
<td>Successfully released by user on 6/30/2015</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
v2

Targets Released

ROLLBACK TO THIS VERSION

FLAG AS BAD DEPLOY

view details
safeguards can be traps
thanks!
aurora.apache.org
wfarner@apache.org