

Ansible - Faster Than Light

```
ansible-playbook talk.yaml  
PLAY [cfgmgmtcamp2019] *****
```

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5. Februar 2019

```
ok: [localhost] => {  
  "me": {  
    "name": "Bernhard Hopfenmüller",  
    "occupation": "Consultant/Developer@Atix",  
    "irc_twitter_github": "Fobhep",  
  }  
}
```

- ▶ start a playbook
- ▶ and wait
- ▶ and wait
- ▶ and wait
- ▶ and wait?
- ▶ and wait
- ▶ and be done

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imdb.com

```
ok: [localhost] => {  
  "msg": "How do we get there?"  
}
```

```
ok: [localhost] => {  
  "tweaks": [  
    "settings",  
    "layer8optimization",  
    "mitogen"  
  ]  
}
```

```
[defaults]
```

```
callback_whitelist = profile_tasks
```

```
export PROFILE_TASKS_SORT_ORDER=none
```

```
ok: [localhost] => {  
  "profiling": "duration of each task"  
}
```

```
---
- hosts: web1
  gather_facts: no
  tasks:
    - name: Create directory
      file:
        path: /tmp/ansible_speed
        state: directory

    - name: Create Files
      include: create_file.yaml
      loop: "{{ range(0, 10)|list }}"

    - name: Remove directory
      file:
        path: /tmp/ansible_speed
        state: absent
```

```
ok: [localhost] => {  
  "tweaks": {  
    "testing" : "30 times w/wo tweaks",  
    "tests" : "tested each tweak independently ",  
    "results" : "qualitative",  
    "disclaimer " : "no guarantee for reproducibility",  
  }  
}
```

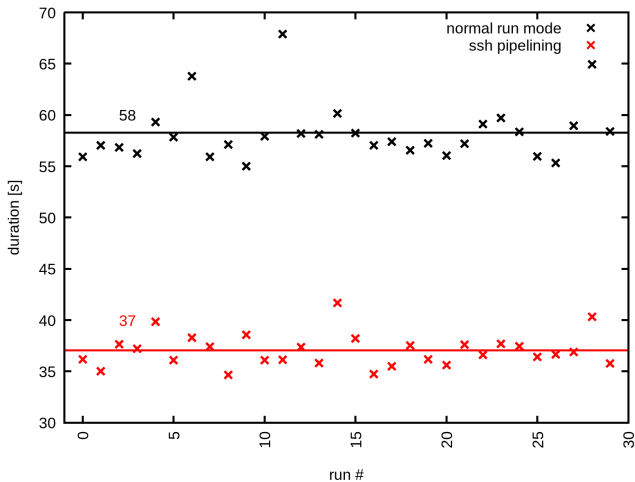
```
ok: [localhost] => {  
  "category" : "settings"  
}
```



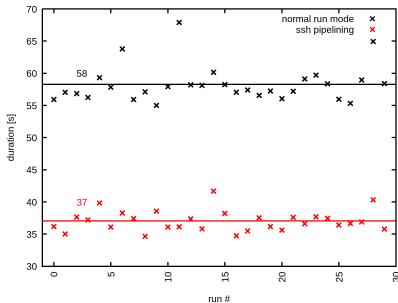
```
[ssh]  
pipelining = true
```

```
ok: [localhost] => {  
  "reuse": "one ssh tunnel",  
  "Needs!" : "requiretty=false on managed host!"  
}
```

TASK [Pipelining Benchmark] *****



TASK [SSH Pipelining Result] *****



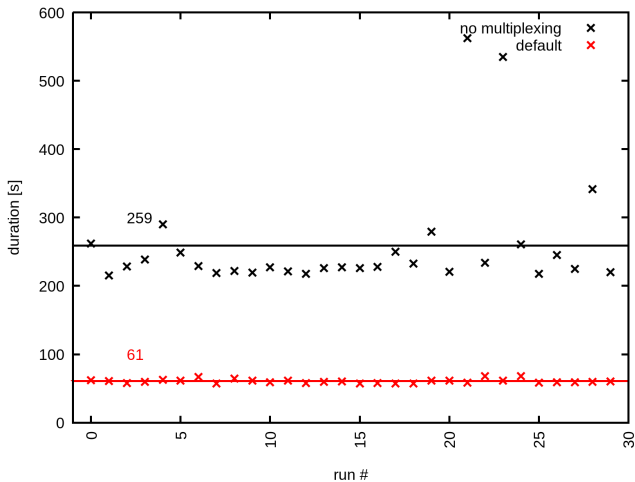
```
ok: [localhost] => {  
  "msg" : "factor 1.5"  
}
```

```
[ssh]
```

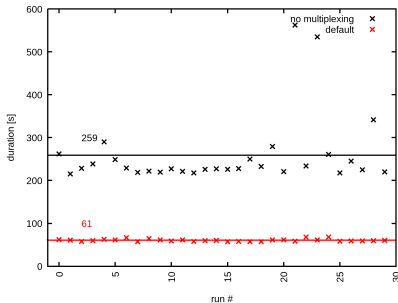
```
ssh_args = -o ControlMaster=auto -o ControlPersist=60s
```

```
ok: [localhost] => {  
  "parallel" : "usage of connection",  
  "enabled" : "per default",  
}
```

TASK [Multiplexing Benchmark] *****



TASK [Multiplexing Result] *****



```
ok: [localhost] => {  
  "msg" : "factor 4.3"  
}
```

```
[defaults]
```

```
forks = 5
```

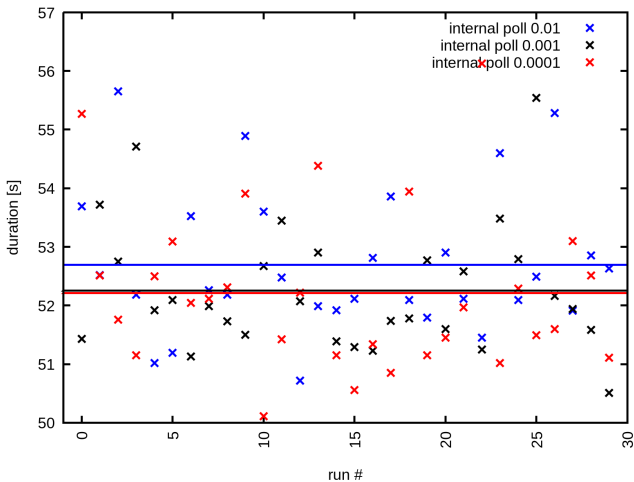
```
ok: [localhost] => {
  "forks": {
    "# of parallel processes": "# parallel hosts",
    "too few forks" : "multiplexing closed",
    "here": "no tests",
  }
}
```

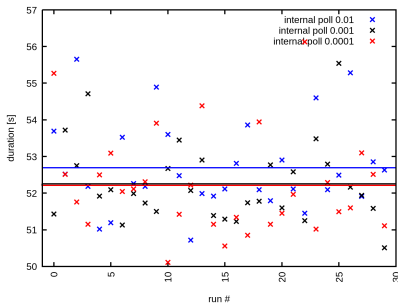
```
[defaults]
```

```
internal_poll_interval = 0.001
```

```
ok: [localhost] => {  
  "interval" : "internal ansible process polling",  
  "msg" : "Greater interval means less CPU Load",  
}
```


TASK [Internal Poll Benchmark] *****





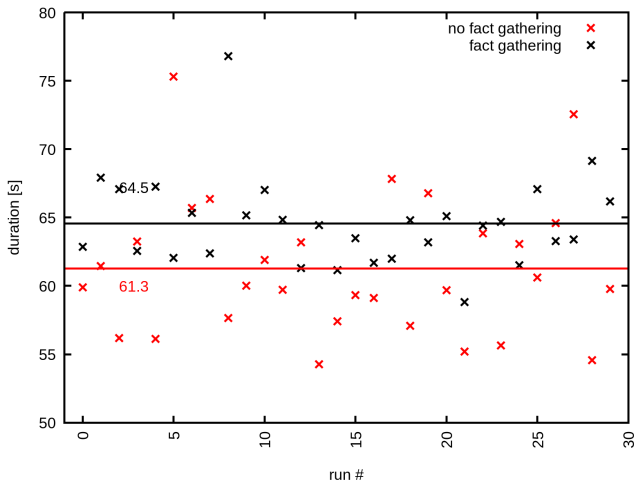
```
ok: [localhost] => {
  "tweaking" : "here not really time wise improvement",
  "relevant" : "CPU load",
}
```

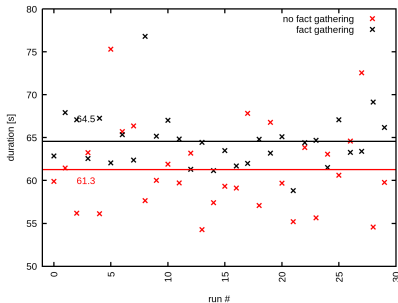
```
ok: [localhost] => {  
  "category" : "layer8optimization"  
}
```

```
---  
- hosts: web1  
  gather_facts: no
```

```
ok: [localhost] => {  
  "facts" : "do I really need them?",  
  "facts" : "do I need them now?",  
  "facts" : "consider fact cache!",  
}
```

TASK [Fact Gathering Benchmark] *****





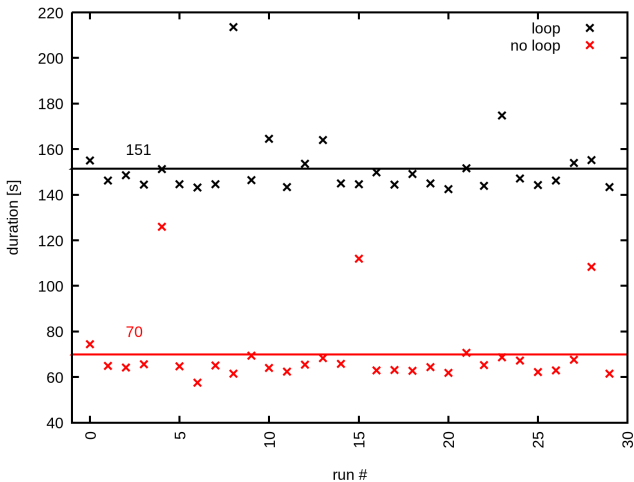
```
ok: [localhost] => {
  "msg" : "it's bigger on the inside",
}
```

```
ansible-pull -U mygit.com/baseline baseline_playbook.yaml
```

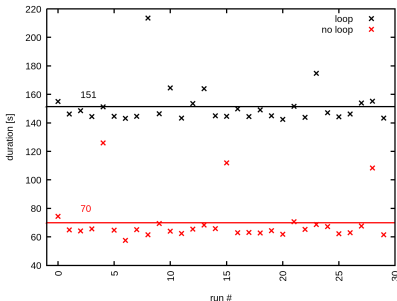
```
ok: [localhost] => {  
  "use_pull": [  
    "no need for ssh",  
    "combine with Cron",  
    "self managing host",  
  ]  
}
```

- name: Install packages in loop
package:
 name: "{{ item }}"
 state: present
 loop: "{{ packages }}"
- name: Install packages without loop
package:
 name: "{{ packages }}"
 state: present

TASK [Do noot loop Benchmark] *****



TASK [Do not loop Result] *****



```
ok: [localhost] => {  
  "list_of" : "6 packages",  
  "factor" : " 2",  
  "seems": " independently from package number",  
}
```

```
ok: [localhost] => {  
  "honorable_mentions": {  
    "free strategy" : "might help",  
    "server installation" : "golden image",  
    "move" : "master close to slaves!",  
    "general" : "optimize data flow",  
  }  
}
```

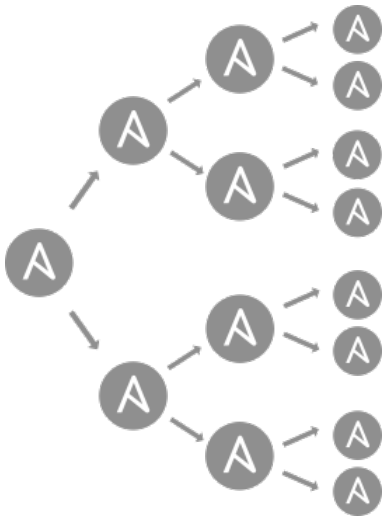
```
ok: [localhost] => {  
  "category" : "Mitogen"  
}
```

```
ok: [localhost] => {  
  "msg": " o -> 0 -> 8 -> o o "  
}
```

```
ok: [localhost] => {  
  "msg": " o -> 0 -> 8 -> o o "  
}
```

```
ok: [localhost] => {  
  "msg": "division of cell nuclei, triggered by mitogen"  
}
```

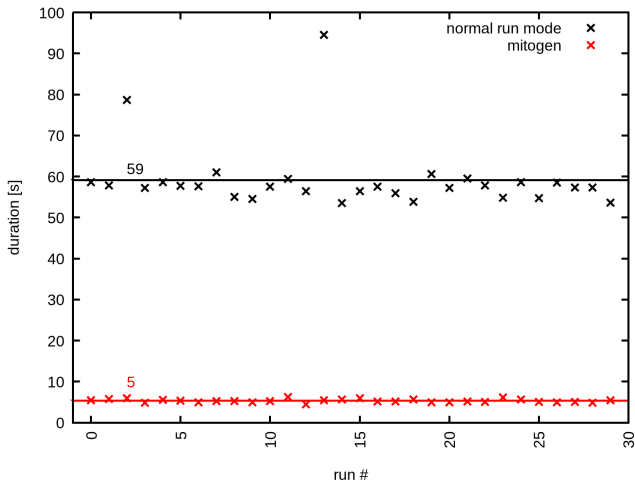
```
ok: [localhost] => {
  "mitogen": {
    "described as" : "network-
capable fork() on steroids",
    "replicate" : "itself",
    "distribute": "itself",
    "connection": "1/target",
    "runs": "ephemeral",
  }
}
```

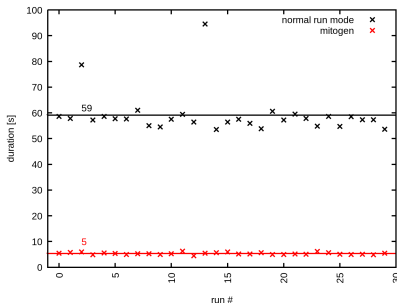


src: mitogen docs

```
[defaults]
strategy_plugins = /path/to/mitogen
strategy = mitogen_linear
```


TASK [Mitogen Benchmark] *****



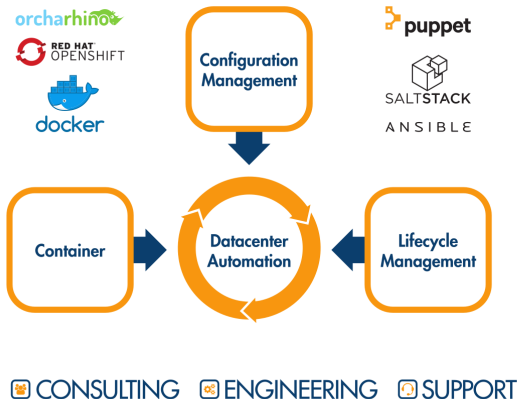


```
ok: [localhost] => {  
  "msg" : "factor 12",  
  "docs claim": "factor 1.5 - 7"  
}
```

Tuesday 5 February 18:20:00 +0000 (0:00:00.000)

```
=====
SSH Pipelining ----- +
SSH Multiplexing ----- 0
Fork ----- +
Internal Poll ----- 0
No Fact Gathering ----- +
Pull mode ----- +
Do not loop ----- ++
Async ----- +
Free Strategy ----- +
golden image ----- +
wan to lan ----- ++
Mitogen ----- +++
```

30s, please ;-)



orcharhino

DEPLOY
RUN
CONTROL



```
ok: [localhost] => {  
  "honorable_mentions": {  
    "similarity" : "yes",  
    "caching of code" : "mitogen",  
    "python processes" : "reused in mitogen",  
    "SSH stdio pipeline" : "reused in mitogen",  
  }  
}
```