

– title loading –



Bernhard Hopfenmüller

16.10.2019

– title  
loading –



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We wait 5 full years of life:

- ▶ 38 h/a traffic
- ▶ 6 h/a supermarket queue
- ▶ 7 h/a waiting room
- ▶ 21 min for SO to get ready to go out
- ▶ 13 h/a support queues

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Ansible -  
Faster than  
Light?!



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- ▶ 6 h/a supermarket queue
- ▶ 7 h/a waiting room
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- ▶ 13 h/a support queues
- ▶ 156 h/a PC!



# Ansible - Faster than Light?!



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16.10.2019



```
ok: [localhost] => {  
  "me": {  
    "name": "Bernhard Hopfenmüller",  
    "occupation": "Senior Consultant",  
    "waiting for things": "~30 years",  
  }  
}
```

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

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- ▶ and wait
- ▶ and be done



imdb.com

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

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



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

```
ok: [localhost] => {  
  "question" : "Ansible, what are you doing?"  
}
```

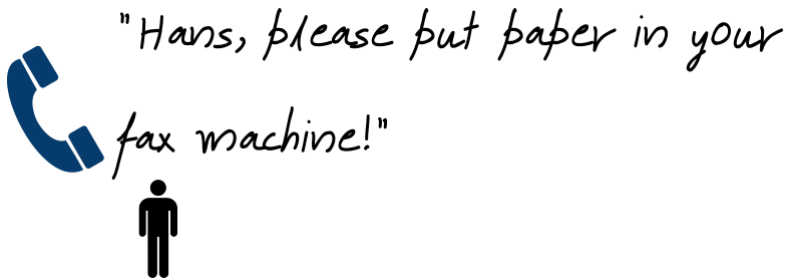


Hans Ible



"Hey Hans, what is your fax  
number?"





# TASK [ Let's call/fax Hans] \*\*\*\*\*





"Hey Hans, any moment now!"





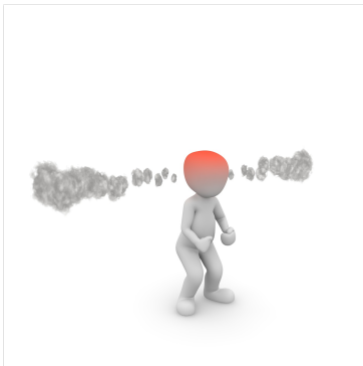




"Hey Hans, done? Please trash  
the fax from before!"



"Hey Hans, why are you mad?"



```
ok: [localhost] => {  
  "answer" : "More than you wish!"  
}
```

```
ok: [localhost] => {  
  "SSH The First" : "Hello Host! Where is your home"  
}
```

```
ok: [localhost] => {  
  "SSH The First" : "Hello Host! Where is your home",  
  "SSH The Second": "Would you mind creating some space?",  
}
```

```
ok: [localhost] => {  
  "SSH The First" : "Hello Host! Where is your home",  
  "SSH The Second": "Would you mind creating some space?",  
  "SSH The Third": "I have gifts for you!",  
}
```

```
ok: [localhost] => {  
  "SSH The First" : "Hello Host! Where is your home",  
  "SSH The Second": "Would you mind creating some space?",  
  "SSH The Third": "I have gifts for you!",  
  "SSH The Fourth": "Let me make that runnable for you!",  
}
```

```
ok: [localhost] => {  
  "SSH The First" : "Hello Host! Where is your home",  
  "SSH The Second": "Would you mind creating some space?",  
  "SSH The Third": "I have gifts for you!",  
  "SSH The Fourth": "Let me make that runnable for you!",  
  "SSH The Fifth": "Whoops! Almost forgot to run it!",  
}
```



```
ok: [localhost] => {  
  "SSH The First" : "Hello Host! Where is your home",  
  "SSH The Second": "Would you mind creating some space?",  
  "SSH The Third": "I have gifts for you!",  
  "SSH The Fourth": "Let me make that runnable for you!",  
  "SSH The Fifth": "Whoops! Almost forgot to run it!",  
  "SSH The Sixth": "Let me clean this up!"  
}
```

```
ok: [localhost] => {  
  "every task" : "up to 6SSH connections!",  
}
```

```
ok: [localhost] => {  
  "SSH Pipelining" : "reuse SSH",  
}
```

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

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



```
[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 10 Files
      include: create_file.yaml
      loop: "{{ range(0, 10)|list }}"

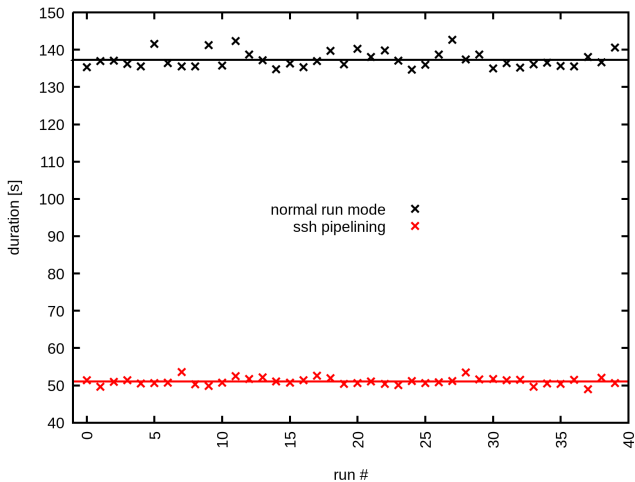
    - name: Remove directory
      file:
        path: /tmp/ansible_speed
        state: absent

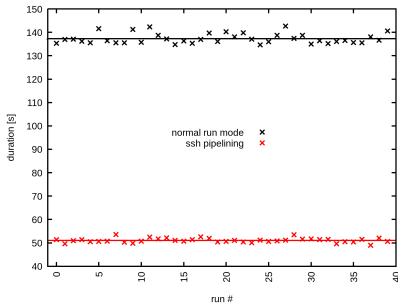
    - name: Run a command 100 times
      command: "echo {{ item }}"
      loop: "{{ range(0, 100)|list }}"
```

```
ok: [localhost] => {  
  "tweaks": {  
    "testing" : "40 times w/wo tweaks",  
    "location": "server in most distant DC: Finnland",  
    "tests" : "tested each tweak independently ",  
    "results" : "qualitative",  
    "test_play" : "very simple use case!",  
    "disclaimer " : "no guarantee for reproducibility",  
  }  
}
```



# TASK [Pipelining Benchmark] \*\*\*\*\*





```
ok: [localhost] => {  
  "msg" : "factor 2.6"  
}
```

# TASK [New Call - New Phone?!] \*\*\*\*\*

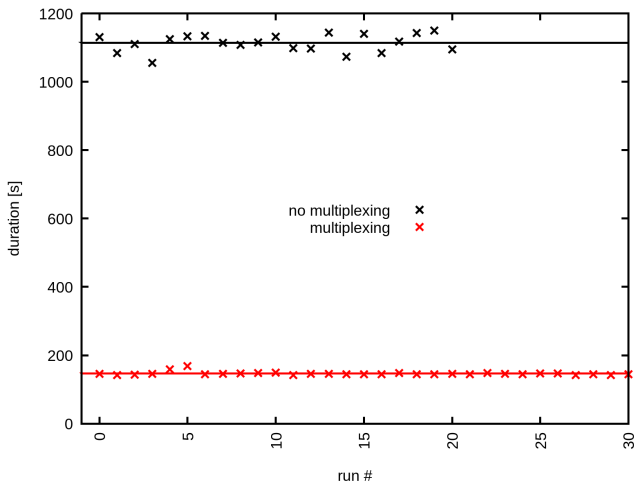


```
[ssh]
```

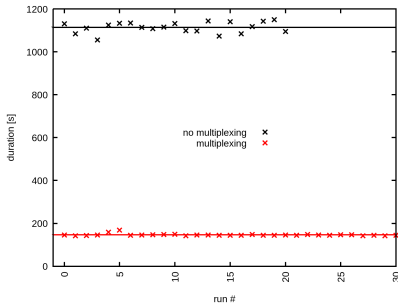
```
ssh_args = -o ControlMaster=auto -o ControlPersist=60s
```

```
ok: [localhost] => {  
  "reuse" : "existing TCP for SSH connections",  
  "enabled" : "per default",  
}
```

# TASK [Multiplexing Benchmark] \*\*\*\*\*



# TASK [Multiplexing Result] \*\*\*\*\*



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

# TASK [What if we clone Hans?] \*\*\*\*\*



*Hans Army*



```
[defaults]
```

```
forks = 5
```

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



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

# TASK [There is a history...] \*\*\*\*\*

*earlier*



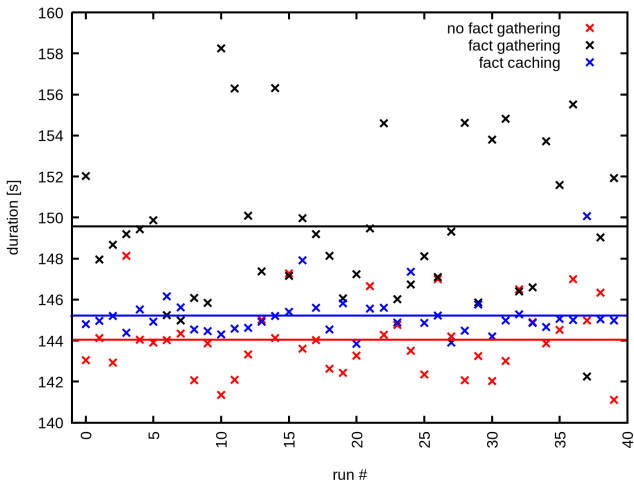
???

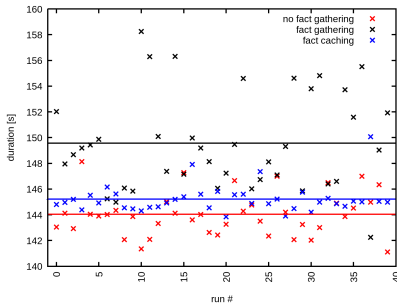


```
---  
- hosts: web1  
  gather_facts: no
```

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

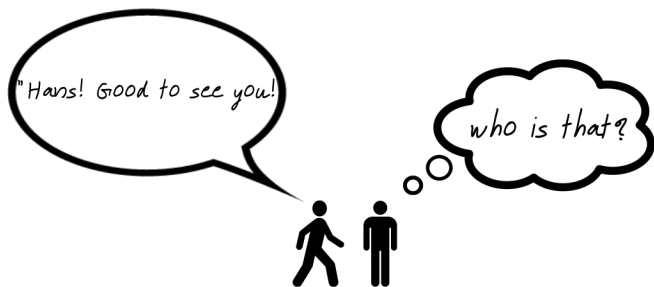
# TASK [Fact Gathering Benchmark] \*\*\*\*\*





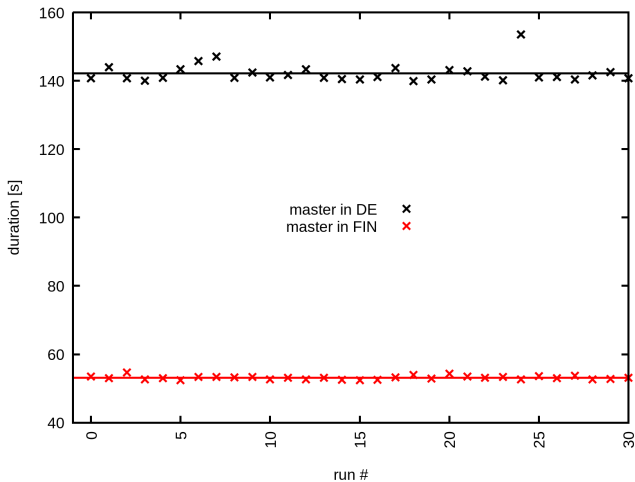
```
ok: [localhost] => {
  "msg" : "it's bigger on the inside",
}
```

# TASK [What if we talk to Hans in person?] \*\*



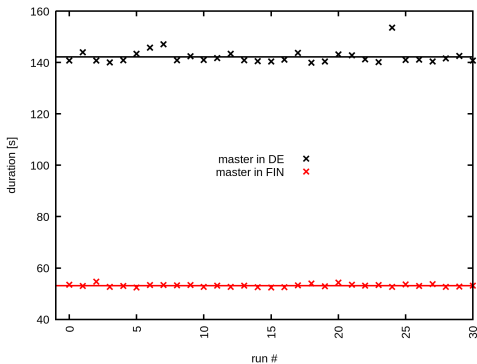
```
ok: [localhost] => {  
  "jump_host": [  
    "Talk to Hans - face to face",  
    "move ansible master to finland/network",  
    "quicker",  
  ]  
}
```

# TASK [Move closer to Hosts Result] \*\*\*\*\*





# TASK [Move closer to Hosts Result] \*\*\*\*\*



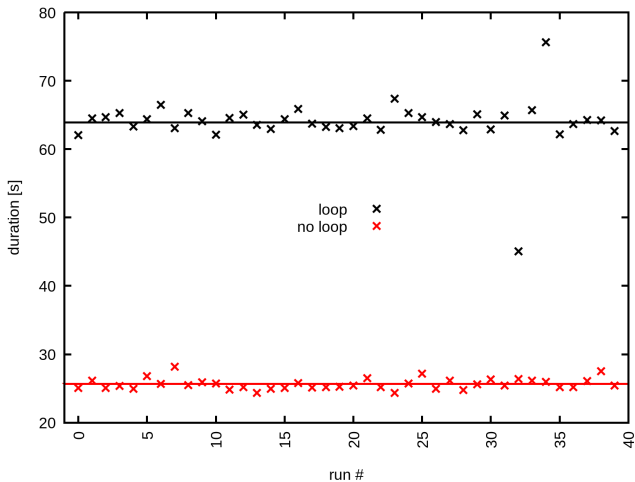
```
ok: [localhost] => {  
  "factor" : "~ 2.6"  
}
```

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

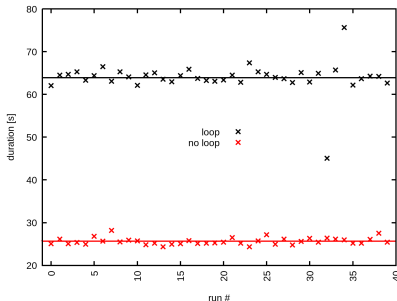
```
ok: [localhost] => {  
  "use_pull": [  
    "no need for ssh",  
    "combine with Cron",  
    "self managing host",  
  ]  
}
```

- 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" : " ~ 2.5",  
  "seems": " independently from package number",  
}
```

```
ok: [localhost] => {  
  "honorable_mentions": {  
    "free strategy" : "might help",  
    "async_actions" : "do tasks ins background",  
    "server installation" : "golden image",  
  }  
}
```



"Hey Hans, I will send you an email with tasks later!"



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

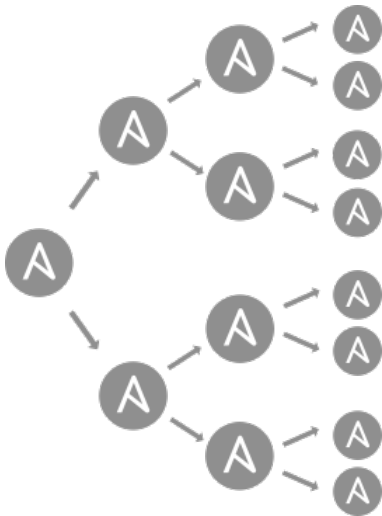


```
ok: [localhost] => {  
  "msg": " o -> 0 -> 8 -> o o "  
}
```

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

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

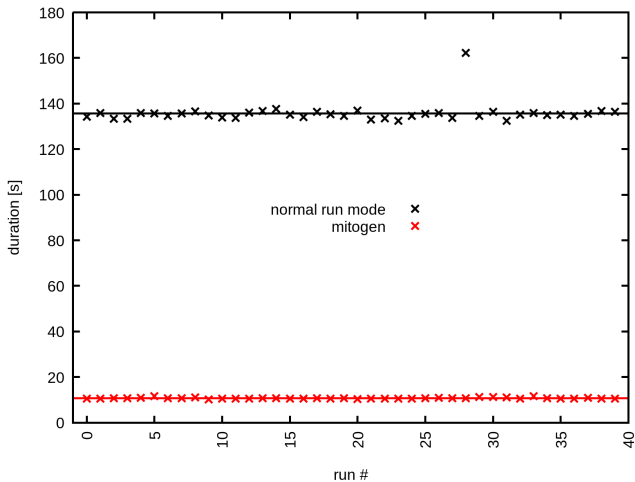
```
ok: [localhost] => {  
  "mitogen": {  
    "described as" :  
      "network-capable fork() on steroids",  
    "1 SSH" : "per playbook",  
    "reuse": "python processes",  
    "reuse": "python code",  
    "new process":  
      "become (but also reused)",  
    "runs": "ephemeral",  
  }  
}
```

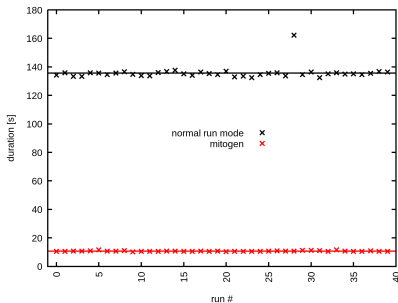


src: mitogen docs

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

# TASK [Mitogen Benchmark] \*\*\*\*\*





```
ok: [localhost] => {  
  "factor" : " ~ 10",  
  "disclaimer": "benchmark in favor of mitogen!",  
  "docs claim": "factor 1.5 - 7"  
}
```

```
Wednesday 16 October 13:10:00 +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 ----- +++
```

```
ok: [localhost] => {
  "disclaimer": {
    "Hans": "is not real!",
    "employee monitoring": "is not happening",
    "no employees" : "were harmed",
    "comparisons" : "pictorial, not 100% accurate",
    "waiting study" : "avg. american - TIMEX 2012",
    "Hannoversche Allgemeine": "2016 - Lebenszeit-
    verschwenden-wir-mit-warten",
  }
}
```





```
ok: [localhost] => {  
  "me": {  
    "xinglinkedin": "Bernhard Hopfenmüller",  
    "irc_twitter_github": "Fobhep",  
    "email": "hopfenmueller@atix.de",  
    "we help you" : "to wait less ;-)",  
  }  
}
```