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- 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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- 156 h/a PC!
Ansible - Faster than Light?!

Bernhard Hopfenmüller

16.10.2019
TASK [introduce myself] ****************************

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

#atix #osad2019
TASK [Describe the Problem] ********************

- start a playbook
- and wait
- and be done
TASK [Describe the Problem] ***************

- start a playbook
- and wait
- and be done

#atix #osad2019
TASK [Describe the Problem] ********************

- start a playbook
- and wait
- and be done

#atix #osad2019
TASK [The Name] ********************

imdb.com

#atix #osad2019
ok: [localhost] => {
    "msg": "How do we get there?"
}
ok: [localhost] => {
    "tweaks": [
        "settings",
        "layer8optimization",
        "mitogen"
    ]
}

#atix #osad2019
TASK [ Categories of Optimization] *******

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

#atix #osad2019
ok: [localhost] => {
    "question" : "Ansible, what are you doing?"
}
TASK [ Understanding the problem] *********
"Hey Hans, what is your fax number?"
"Hans, please put paper in your fax machine!"
Dear Hans,
please prepare to call customer x and invite to OSAD.
TASK [ Let’s call Hans again] ************

"Hey Hans, any moment now!"
TASK [ Let’s call Hans again] ************

"Hey Hans, go for it!"
"Hey Hans, done? Please trash the fax from before!"
"Hey Hans, why are you mad?"
TASK [What has that to do with Ansible?] *

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

#atix #osad2019
ok: [localhost] => {
    "SSH The First": "Hello Host! Where is your home"
}

#atix #osad2019
ok: [localhost] => {
    "SSH The First" : "Hello Host! Where is your home",
    "SSH The Second" : "Would you mind creating some space?"
}
TASK [ Understanding the internal schedule] *

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!",
}

#atix #osad2019
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!",
}

#atix #osad2019
TASK [ How about calling Hans only once? ] *

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

#atix #osad2019
[ssh]
pipelining = true

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

Don’t monitor employees!
[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"
}

#atix #osad2019
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",
}

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

#atix #osad2019
TASK [What if we clone Hans?]  **********
[defaults]
forks = 5

ok: [localhost] => {
    "forks": {
        "# of parallel processes": "# parallel hosts",
        "here": "no tests",
    }
}
ok: [localhost] => {
    "category" : "layer8optimization"
}
Dear Hans,

please tell me everything about you!

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] *********

- no fact gathering
- fact gathering
- fact caching

#atix #osad2019
ok: [localhost] => {
    "msg" : "it's bigger on the inside",
}
TASK [What if we talk to Hans in person?] **

"Hans! Good to see you!"

who is that?
ok: [localhost] => {
    "jump_host": [
        "Talk to Hans - face to face",
        "move ansible master to finnland/network",
        "quicker",
    ]
}

#atix #osad2019
TASK [Move closer to Hosts Result] **********
ok: [localhost] => {
"factor" : "~ 2.6"
}

#atix #osad2019
ansible-pull -U mygit.com/baseline baseline_playbook.yaml

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

#atix #osad2019
- 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] **********

#atix #osad2019
ok: [localhost] => {
"list_of": "6 packages",
"factor": "~ 2.5",
"seems": "independently from package number",
}

#atix #osad2019
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"
}

#atix #osad2019
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"
}
TASK [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
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 +
want 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 ;-)"
    }
}