

Jupyter lab × ansible

- 参考: <https://github.com/ansible/ansible-jupyter-kernel#using-the-cells>

1. インベントリ

行頭は #inventory で開始

インベントリで可変変数を管理する

```
In [1]: #inventory
[leaf01]
172.17.0.2 ansible_user=root ansible_ssh_pass=takePassw0rd
```

2. Play

行頭は #play で開始

```
In [2]: #play
name: show結果取得 & 判定
hosts: leaf01
become: yes
gather_facts: no
environment:
  PYTHONHTTPSVERIFY: 0
```

3. Tasks

行頭は #taks で開始

```
In [3]: #task

# 共通変数設定

name: Set common vars
set_fact:
  hostname: "leaf01"

TASK [Set common vars] *****
ok: [172.17.0.2] => {
  "ansible_facts": {
    "hostname": "leaf01"
  }
}
```

'net show system' を json で取得

```
In [4]: #task

name: Fetch System Status
command: net show system json
register: _re

TASK [Fetch System Status] *****
changed: [172.17.0.2] => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "cmd": [
    "net",
    "show",
    "system",
    "json"
  ],
  "delta": "0:00:00.422520",
  "end": "2022-04-11 02:06:06.349396",
  "msg": "",
  "rc": 0,
  "start": "2022-04-11 02:06:05.926876",
  "stderr": "",
  "stderr_lines": [],
  "stdout": "[see below]",
  "stdout_lines": "[removed for clarity]"
}

[172.17.0.2] stdout:
{"memory": 4029192, "uptime": "0:58:29.630000", "hostname": "leaf01", "platform": {"detected": true, "vendor": "Cumulus", "model": "VX"}, "build": "Cumulus Linux 4.3.0", "os-version": "4.3.0", "disk": null, "lsb-release": "DISTRIB_ID=Cumulus Linux\nDISTRIB_RELEASE=4.3.0\nDISTRIB_DESCRIPTION=Cumulus Linux 4.3.0\n", "os-description": "Cumulus Linux 4.3.0", "eeprom": {"idString": "TlvInfo", "totalLength": 69, "version": 1, "tlv": [{"Part Number": {"index": 36, "length": 5, "code": "0x22", "value": "4.3.0"}, "Serial Number": {"index": 55, "length": 17, "code": "0x23", "value": "02:42:AC:11:00:02"}, "MAC Addresses": {"index": 43, "length": 2, "code": "0x2A", "value": "1"}, "CRC-32": {"index": 74, "length": 4, "code": "0xFE", "value": "0xBC1F0CA0"}, "Product Name": {"index": 29, "length": 2, "code": "0x21", "value": "Containerised VX"}, "Device Version": {"index": 33, "length": 1, "code": "0x26", "value": "3"}, "Base MAC Address": {"index": 47, "length": 6, "code": "0x24", "value": "02:42:AC:11:00:02"}, "Vendor Name": {"index": 11, "length": 16, "code": "0x2D", "value": "Cumulus Networks"}], "validTlvInfoHeader": "true"}}
```

```
In [5]: #task
name: Modify Vars1
set_fact:
  re: "[{ _re.stdout | from_json }]"
```

```
TASK [Modify Vars1] *****
ok: [172.17.0.2] => {
  "ansible_facts": {
    "re": {
      "build": "Cumulus Linux 4.3.0",
      "disk": null,
      "eeprom": {
        "idString": "TlvInfo",
        "tlv": {
          "Base MAC Address": {
            "code": "0x24",
            "index": 47,
            "length": 6,
            "value": "02:42:AC:11:00:02"
          },
          "CRC-32": {
            "code": "0xFE",
            "index": 74,
            "length": 4,
            "value": "0xBC1F0CA0"
          },
          "Device Version": {
            "code": "0x26",
            "index": 33,
            "length": 1,
            "value": "3"
          },
          "MAC Addresses": {
            "code": "0x2A",
            "index": 43,
            "length": 2,
            "value": "1"
          },
          "Part Number": {
            "code": "0x22",
            "index": 36,
            "length": 5,
            "value": "4.3.0"
          },
          "Product Name": {
            "code": "0x21",
            "index": 29,
            "length": 2,
            "value": "Containerised VX"
          },
          "Serial Number": {
            "code": "0x23",
            "index": 55,
            "length": 17,
            "value": "02:42:AC:11:00:02"
          },
          "Vendor Name": {
            "code": "0x2D",
            "index": 11,
            "length": 16,
            "value": "Cumulus Networks"
          }
        }
      },
      "totalLength": 69,
      "validTlvInfoHeader": "true",
      "version": 1
    },
    "hostname": "leaf01",
    "lsb-release": "DISTRIB_ID=\"Cumulus Linux\"\\nDISTRIB_RELEASE=4.3.0\\nDISTRIB_DESCRIPTION=\"Cumulus Linux 4.3.0\"\\n",
    "memory": 4029192,
    "os-description": "Cumulus Linux 4.3.0",
    "os-version": "4.3.0",
    "platform": {
      "detected": true,
      "model": "VX",
      "vendor": "Cumulus"
    },
    "uptime": "0:58:29.630000"
  }
}
```

```
In [10]: #task
name: Mpdify Vars2
set_fact:
  scc_msg: "SUCCESS"
  err_msg: "FAILED"
  exp_hostname: "{{ hostname }}"
  var_hostname: "{{ re.hostname }}" # 戻り値（実機のhostname)
```

```
TASK [Mpdify Vars2] *****
ok: [172.17.0.2] => {
  "ansible_facts": {
    "err_msg": "FAILED",
    "exp_hostname": "leaf01",
    "scc_msg": "SUCCESS",
    "var_hostname": "leaf01"
  }
}
```

ホスト名判定

一致しない場合はエラーメッセージ出力

```
In [11]: #task
name: Verify Hostname
fail:
  msg: "{{ err_msg }}"
when: exp_hostname != var_hostname
```

```
TASK [Verify Hostname] *****
{'counter': 119,
 'created': '2022-04-11T02:07:03.823804',
 'end_line': 114,
 'event': 'runner_on_skipped',
 'event_data': {'duration': 0.06058,
                'end': '2022-04-11T02:07:03.822395',
                'event_loop': None,
                'host': '172.17.0.2',
                'play': 'show結果取得 & 判定',
                'play_pattern': 'leaf01',
                'play_uuid': '0242ac11-0003-aeeb-b3cd-000000000006',
                'playbook': 'playbook.yml',
                'playbook_uuid': 'cbb6fdc3-9c04-4ad2-90cc-547a0d56b444',
                'remote_addr': '172.17.0.2',
                'start': '2022-04-11T02:07:03.761815',
                'task': 'Verify Hostname',
                'task_action': 'fail',
                'task_args': '',
                'task_path': '/tmp/ansible_kernel_playbook6gprrgt/project/next_task8.yml:1',
                'task_uuid': '0242ac11-0003-aeeb-b3cd-000000000020c',
                'uuid': '32a601ab-9ad8-4cd9-aca5-78432b5845bc'},
 'parent_uuid': '0242ac11-0003-aeeb-b3cd-000000000020c',
 'pid': 620,
 'runner_ident': '02d0e55c-4742-4ee3-b781-c09018339024',
 'start_line': 113,
 'stdout': '\x1b[0;36mskipping: [172.17.0.2]\x1b[0m',
 'uuid': '32a601ab-9ad8-4cd9-aca5-78432b5845bc'}
```

```
In [12]: #task
debug:
  msg: "[{ scc_msg }]"

TASK [debug] *****
ok: [172.17.0.2] => {
  "msg": "SUCCESS"
}
```

ansible -> python

ansible_kernel の仕様で python に register の値を渡せる

普通の変数は渡せない、pythonから変数をansibleに渡せない。

```
In [19]: #python
res_ans = _re['172.17.0.2']['stdout']
res_ans

Out[19]: '{"memory": 4029192, "uptime": "0:58:29.630000", "hostname": "leaf01", "platform": {"detected": true, "vendor": "Cumulus", "model": "VX"}, "build": "Cumulus Linux 4.3.0", "os-version": "4.3.0", "disk": null, "lsb-release": "DISTRIB_ID=\\\"Cumulus Linux\\\"\\nDISTRIB_RELEASE=4.3.0\\nDISTRIB_DESCRIPTION=\\\"Cumulus Linux 4.3.0\\\"\\n", "os-description": "Cumulus Linux 4.3.0", "eeprom": {"idString": "TlvInfo", "totalLength": 69, "version": 1, "tlv": {"Part Number": {"index": 36, "length": 5, "code": "0x22", "value": "4.3.0"}, "Serial Number": {"index": 55, "length": 17, "code": "0x23", "value": "02:42:AC:11:00:02"}, "MAC Addresses": {"index": 43, "length": 2, "code": "0x2A", "value": "1"}, "CRC-32": {"index": 74, "length": 4, "code": "0xFE", "value": "0xBC1FOCA0"}, "Product Name": {"index": 29, "length": 2, "code": "0x21", "value": "Containerised VX"}, "Device Version": {"index": 33, "length": 1, "code": "0x26", "value": "3"}, "Base MAC Address": {"index": 47, "length": 6, "code": "0x24", "value": "02:42:AC:11:00:02"}, "Vendor Name": {"index": 11, "length": 16, "code": "0x2D", "value": "Cumulus Networks"}}, "validTlvInfoHeader": "true"}'
```

```
In [ ]:
```