

Ansible Meetup – Dublin

Massimo Ferrari
Product Manager

Craig Brandt
Technical Marketing Manager



01	microsoft/vscode	19.1k
02	MicrosoftDocs/azure-docs	14k
03	flutter/flutter	13k
04	firstcontributions/first-contributions	11.6k
05	tensorflow/tensorflow	9.9k
06	facebook/react-native	9.1k
07	kubernetes/kubernetes	6.9k
08	DefinitelyTyped/DefinitelyTyped	6.9k
09	ansible/ansible	6.8k
10	home-assistant/home-assistant	

100M
PROJECTS

Fastest rising tech skills, 2014-2019

% of tech jobs, Sept 2014-to-Sept 2019, at least 0.1% in each period

Rank	Skill	2014 share	2019 share	% change
1	docker	0.1%	5.1%	4162%
2	iot	0.1%	2.1%	1994%
3	ansible	0.2%	2.8%	1292%
4	kafka	0.2%	2.4%	1216%
5	azure	0.6%	6.9%	1107%
6	spark	0.3%	3.5%	1068%
7	artificial intelligence	0.3%	2.0%	701%
8	redshift	0.2%	1.2%	564%
9	swift	0.2%	1.1%	481%
10	machine learning	1.3%	7.0%	439%
11	angular	0.9%	4.9%	427%
12	aws	2.7%	14.2%	418%
13	elasticsearch	0.3%	1.4%	333%
14	servicenow	0.2%	1.0%	333%
15	tableau	0.8%	2.9%	275%
16	gradle	0.2%	0.7%	254%
17	jenkins	1.4%	5.0%	251%
18	splunk	0.5%	1.7%	238%
19	scala	0.6%	2.1%	235%
20	jira	1.5%	4.9%	232%

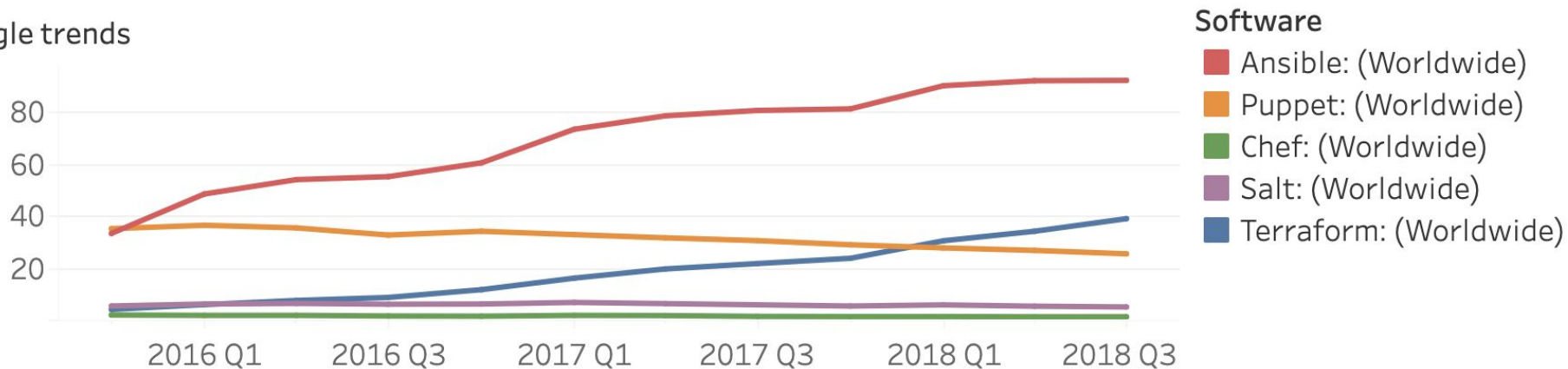
Source: Indeed



Ansible Project Momentum - **Adoption**

Google trends

Avg. Weekly Sea..

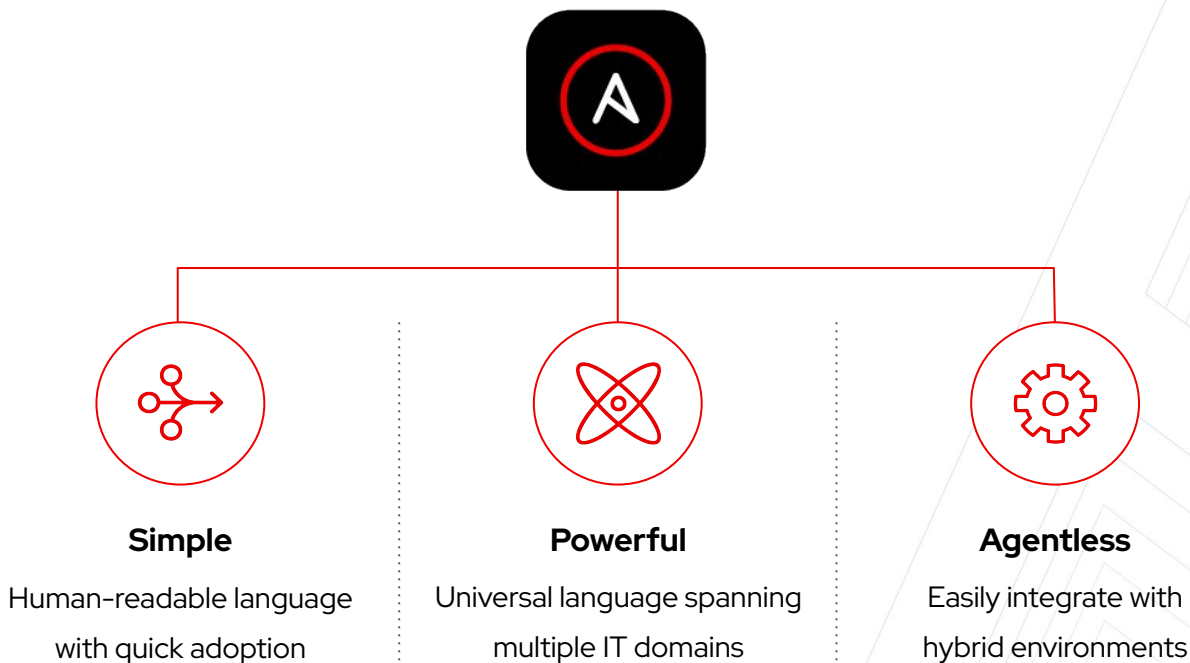


Ansible is downloaded **+4,000,000** times per month

Source: <https://www.redhat.com/en/tech-lab/ansible>

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Ansible is the **de facto automation language**.



Create

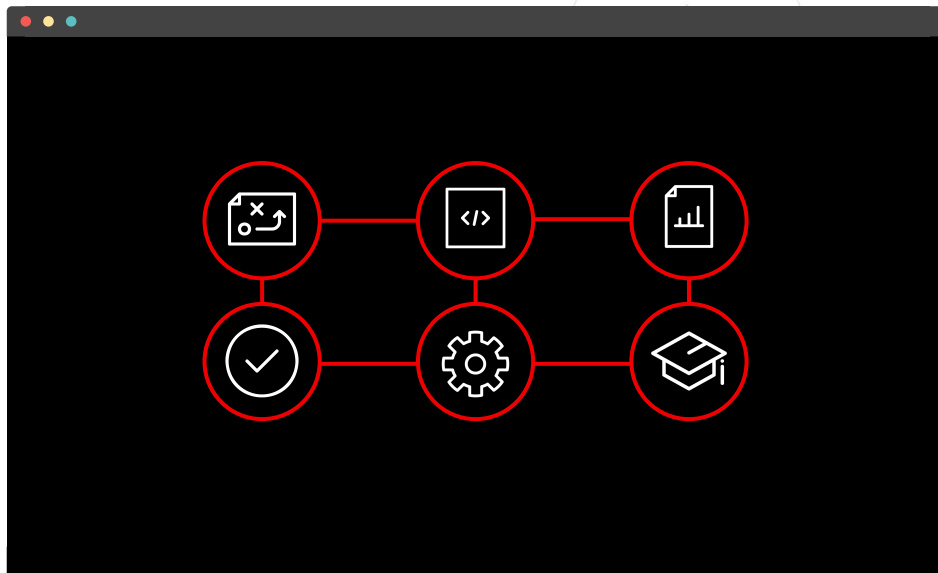


Content Collections.

Simplified, consistent content delivery.

What are they?

- ▶ Group tasks and variables of your automation in a reusable structure
- ▶ Write roles once, and share them with others who have similar challenges in front of them





```
nginx_core
├── galaxy.yml
├── meta
├── playbooks
│   └── deploy-nginx.yml
│       ...
├── plugins
├── README.md
├── roles
│   ├── nginx
│   │   ├── defaults
│   │   ├── files
│   │   │   └── ...
│   │   ├── tasks
│   │   └── templates
│   │       ...
│   ├── nginx_app_protect
│   └── nginx_config
```

deploy-nginx.yml

```
---
- name: Install NGINX Plus
  hosts: all
  tasks:
    - name: Install NGINX
      include_role:
        name: nginxinc.nginx
      vars:
        nginx_type: plus

    - name: Install NGINX App Protect
      include_role:
        name: nginxinc.nginx_app_protect
      vars:
        nginx_app_protect_setup_license: false
        nginx_app_protect_remove_license: false
        nginx_app_protect_install_signatures: false
```



Ansible Core (**ansible-core**)

What is it?

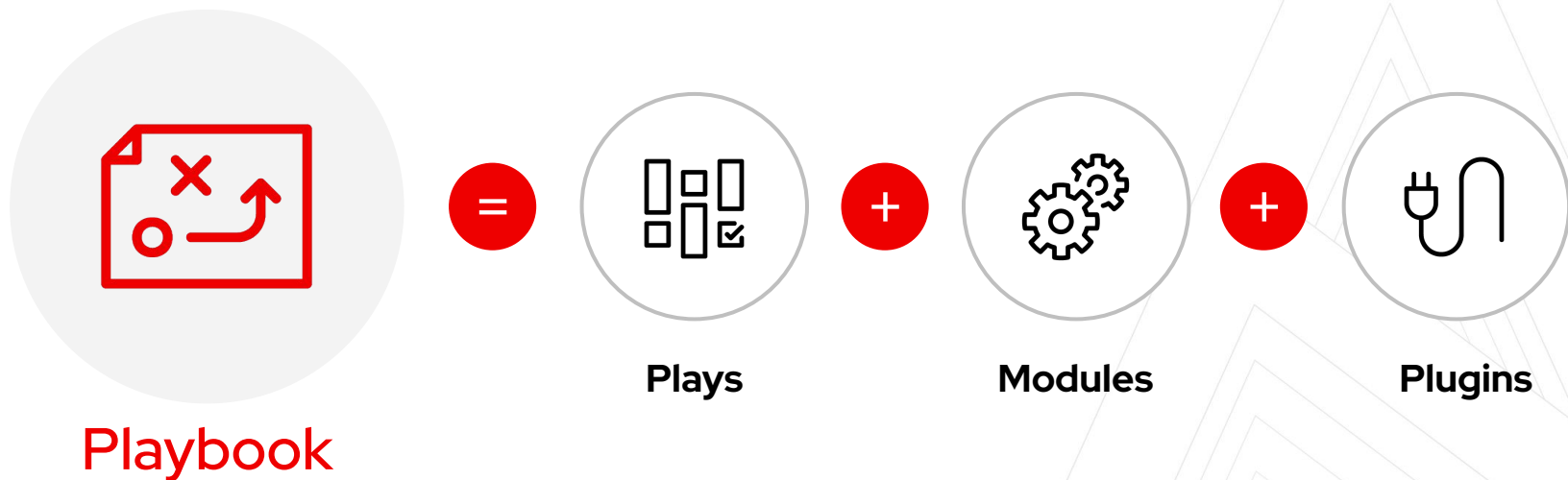
- ▶ The main building block for Ansible
- ▶ Simple YAML syntax to develop Ansible Playbooks
- ▶ Provides CLI tools to develop, test and run playbooks
- ▶ Pluggable architecture that allows extensions through Content Collections

```
---  
- name: Shutdown VM guest  
  hosts: localhost  
  gather_facts: false  
  tasks:  
    - name: Turn off specified VM guest  
      vmware.vmware_rest.vcenter_vm_guest_power:  
        state: shutdown  
        vm: 1021343  
        vcenter_hostname: vcenter.demoredhat.com  
        vcenter_username: admin  
        vcenter_password: tedlasso
```


Ansible playbooks

```
---  
- name: Install and start apache  
  hosts: web  
  become: true  
  
  tasks:  
    - name: Ensure the httpd package is installed  
      ansible.builtin.yum:  
        name: httpd  
        state: present  
  
    - name: Create the index.html file  
      ansible.builtin.template:  
        src: files/index.html  
        dest: /var/www/html/  
  
    - name: Start the httpd service if needed  
      ansible.builtin.service:  
        name: httpd  
        state: started
```

What makes up an Ansible playbook?





Ansible plays. What am I automating?

What are they?

- ▶ Top level specification for a group of tasks
- ▶ Will tell that play which hosts it will execute on and control behavior such as fact gathering or privilege level

Building blocks for playbooks

- ▶ Multiple plays can exist within an Ansible playbook

```
---  
- name: Ensure the httpd package is installed  
  hosts: web  
  become: true
```



Ansible modules. The “tools in the toolkit”.

What are they?

- ▶ Parametrized components with internal logic, representing a single step to be done
- ▶ The modules “do” things in Ansible

Language

- ▶ Usually created in Python, or Powershell for Windows setups, but can be developed in any language

```
- name: Create the index.html file
  ansible.builtin.template:
    src: files/index.html
    dest: /var/www/html/log
```



Ansible plugins. The “extra bits”.

What are they?

- ▶ Plugins are pieces of code that augment Ansible’s core functionality
- ▶ Ansible uses a plugin architecture to enable a rich, flexible, and expandable feature set

Example become plugin:

```
---  
- name: Install and start apache  
  hosts: web  
  become: true
```

Example filter plugins:

```
{{ some_variable | to_nice_json }}
```

```
{{ some_variable | to_nice_yaml }}
```



Ansible Roles. Reusable automation actions.

What are they?

- ▶ Group tasks and variables of your automation in a reusable structure
- ▶ Write roles once, and share them with others who have similar challenges in front of them

```
---  
- name: Install and start apache  
  hosts: web  
  ansible.builtin.roles:  
    - common  
    - webservers
```



```
roles
```

```
  | nginx
```

```
  | | defaults
```

```
  | | files
```

```
  | | | ...
```

```
  | | tasks
```

```
  | | templates
```

```
  | | | ...
```

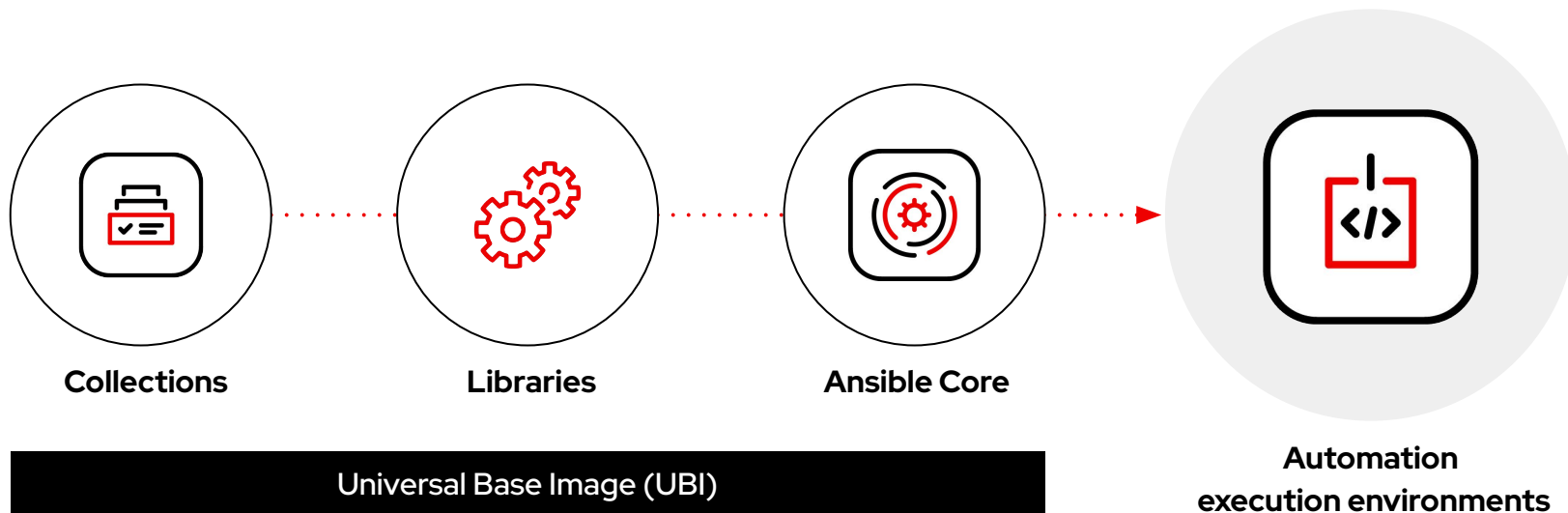
```
  | nginx_app_protect
```

```
  | nginx_config
```

```
deploy-nginx.yml
```

```
---
- name: Install NGINX Plus
  hosts: all
  tasks:
    - name: Install NGINX App Protect
      include_role:
        name: nginx_app_protect
      vars:
        nginx_app_protect_setup_license: false
        nginx_app_protect_remove_license: false
        nginx_app_protect_install_signatures: false
```

Automation execution environments. Reuse and scale automation content.





Execution environment builder. **Build.**

ansible-builder

What is it?

- ▶ Easily build custom execution environments with the exact Ansible content needed
- ▶ Manage, track and version execution environments
- ▶ Share execution environment build artifacts with other teams

```
$ ansible-builder build --tag repo/custom_ee:latest
```

Ansible content navigator (`ansible-navigator`).



What is it?

It is a command line utility and text-based user interface (TUI) for running, testing and developing Ansible automation content

- ▶ Review EEs
- ▶ Develop collections
- ▶ Develop playbooks
- ▶ Troubleshoot problems

```
$ ansible-navigator run playbook.yml -i inventory.ini
```

CRAIG

