Responsibly Parsing Text Using Python

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Agenda

Working with Python regular expressions

Your first custom parser

Big leagues: VRF parsing

Unit testing with pytest

What Is a Regular Expression?

A pattern to match against

"Tweedle Beetle Battle"

Can extract data

Built-in Python support

```python
import re
text_from_router = 'vrf definition POLICE'
pattern = r'vrf\s+definition\s+(?P<vrf_name>\S+)'
match = re.search(pattern, text_from_router)
if match:
    print(match.groupdict())

# prints {'vrf_name': 'POLICE'}
```

Python Regex in One Slide

www.regex101.com is a great resource!

Demo

Parsing the model ID string on IOS-XE and IOS-XR

Demo

Building structured data from IOS-XE and IOS-XR VRF configuration
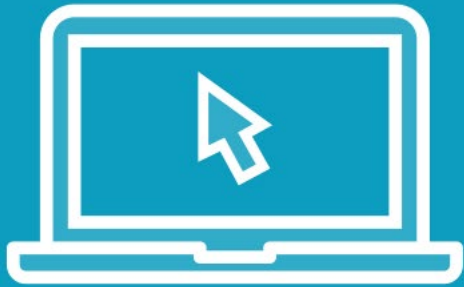
What Are Unit Tests?

Static input passed to function

Assert expected result is correct

Catch small problems early!

Demo

Using pytest to test our model ID parsers

Demo

Using pytest to test our VRF parsers

Parsing and Unit Testing in Review

Regex-based parser to get data

OS-agnostic data structures

Proper unit testing