REST APIs Part 2: Making REST API Calls with Postman

A Network Programmability Basics Presentation

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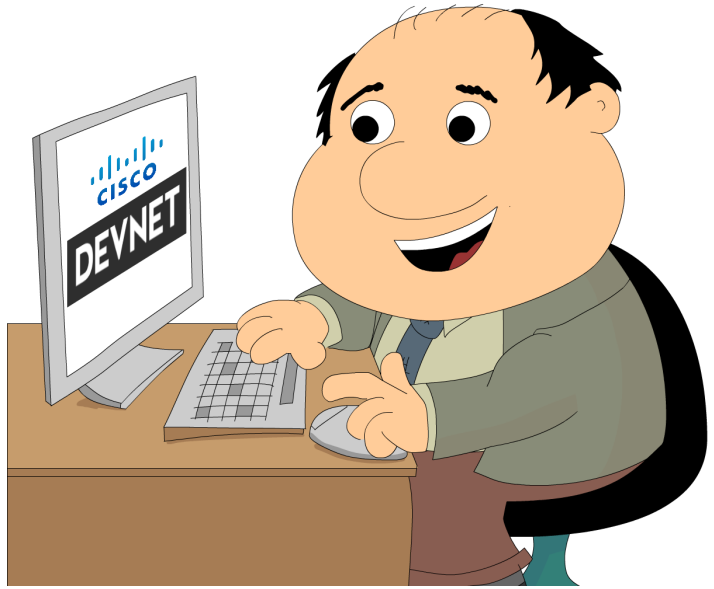
Network Programmability Basics Modules

- Introduction: How to be a Network Engineer in a Programmable Age
- **Programming Fundamentals**
- Network Device APIs
- Network Controllers
- Application Hosting and the Network
- NetDevOps



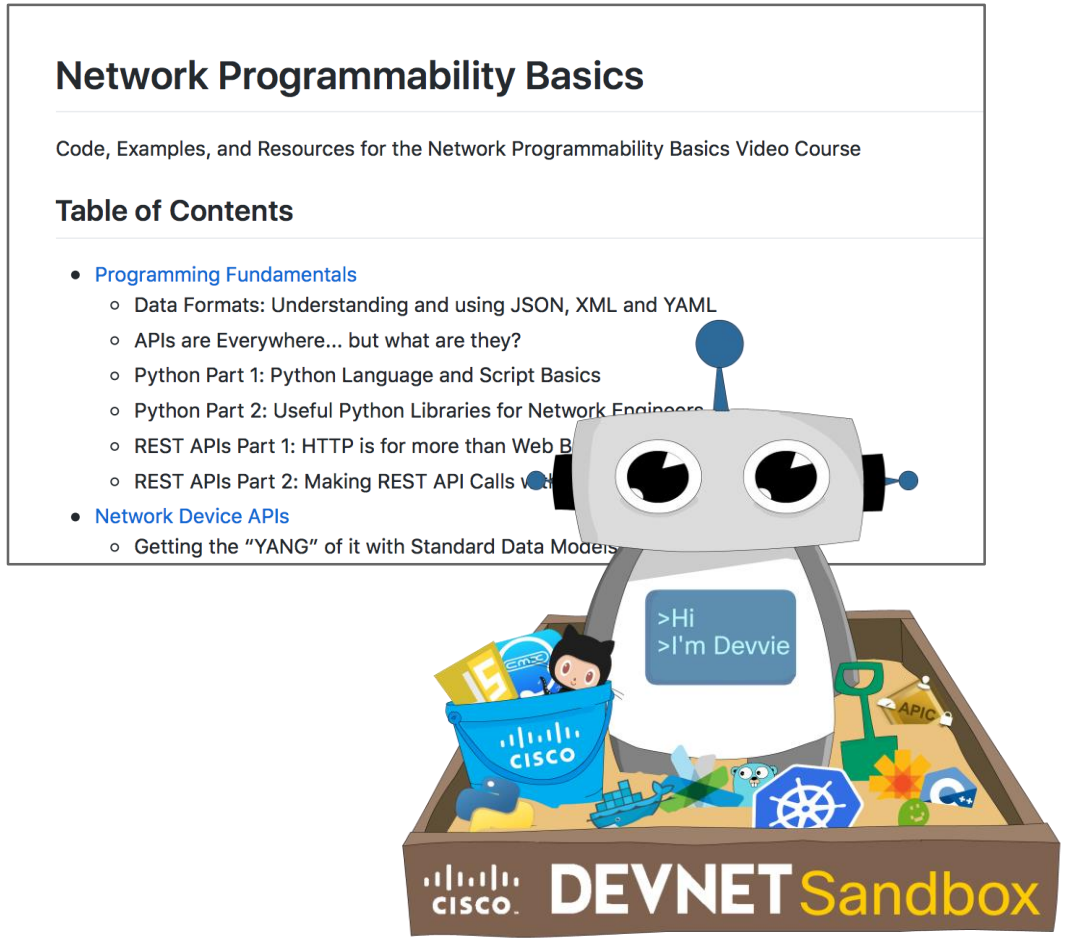
Network Programmability Basics: The Lessons

Module: Programming Fundamentals

- Data Formats: Understanding and using JSON, XML and YAML
- APIs are Everywhere… but what are they?
- REST APIs Part 1: HTTP is for more than Web Browsing
- **REST APIs Part 2: Making REST API Calls with Postman**
- Python Part 1: Python Language and Script Basics
- Python Part 2: Working with Libraries and Virtual Environments
- Python Part 3: Useful Python Libraries for Network Engineers

Code and Develop Along

- Get the Code!
  - github.com/CiscoDevNet/netprog_basics
- Setup Lab Prerequisites
  - Each lab includes a README with details
- Access to Infrastructure
  - DevNet Sandbox
  - Specifics in lab README



Topics to Cover

- Why Postman and How to Get it?
- Sending an API Request
- API Collections
- Using Environments
- Postman to Code!

Why Postman and How to Get it?

Postman: Powerful but Simple REST API Client

- Quickly test APIs in GUI
- Save APIs into Collections for reuse
- Manage multiple environments
- Auto generate code from API calls
- Standalone Application or Chrome Plugin

https://www.getpostman.com

Sending an API Request

URI

Set Method

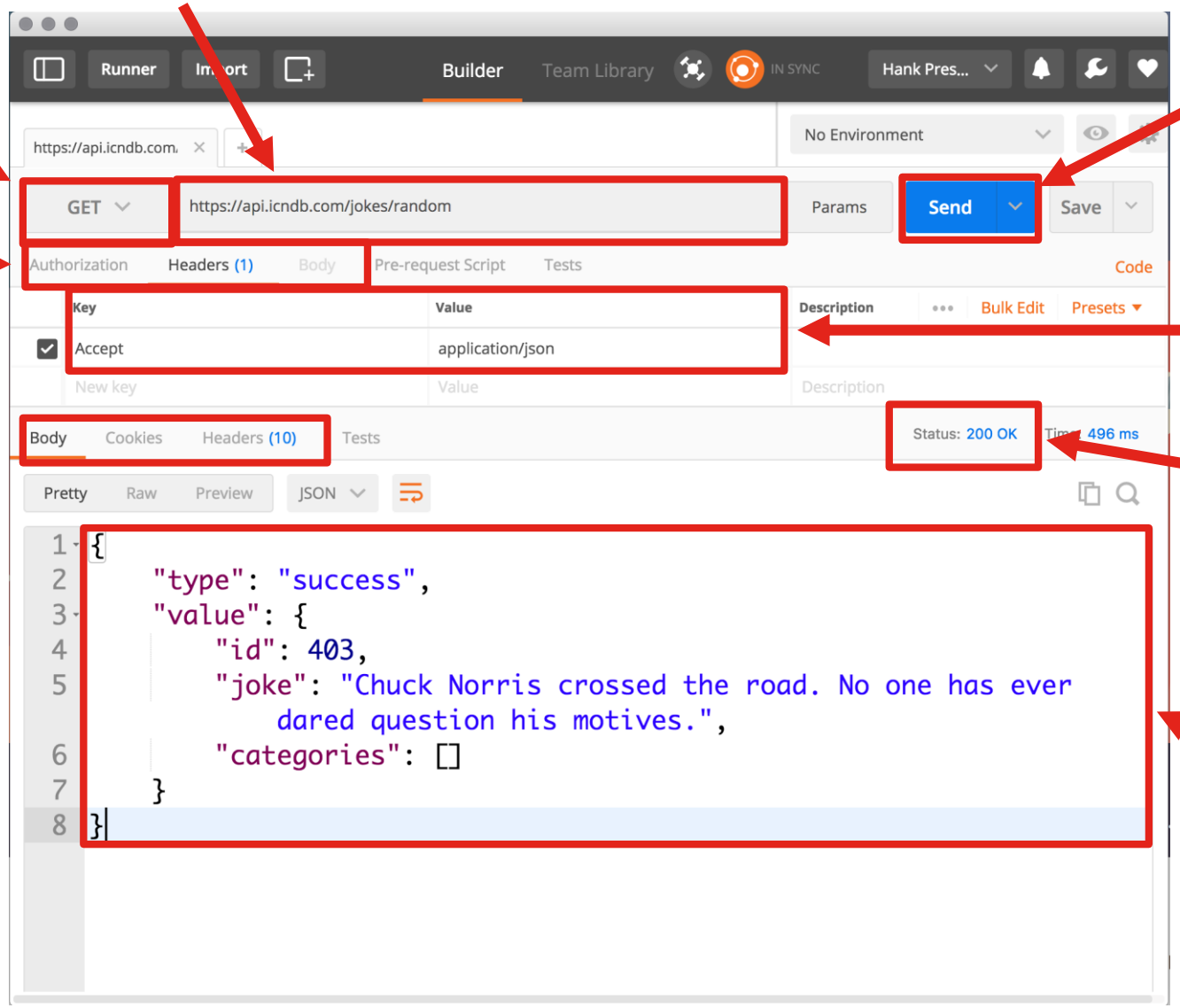
Send Request

Manage request authorization, headers, and data (body)

Easily input Headers with auto-completion

Response Status Code

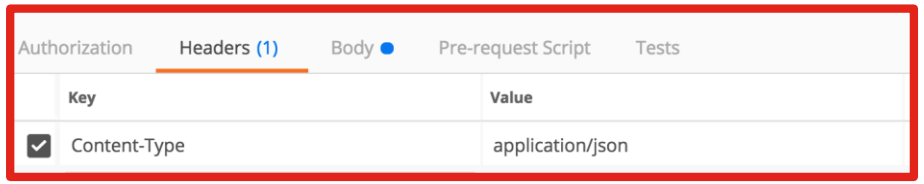
View Response details

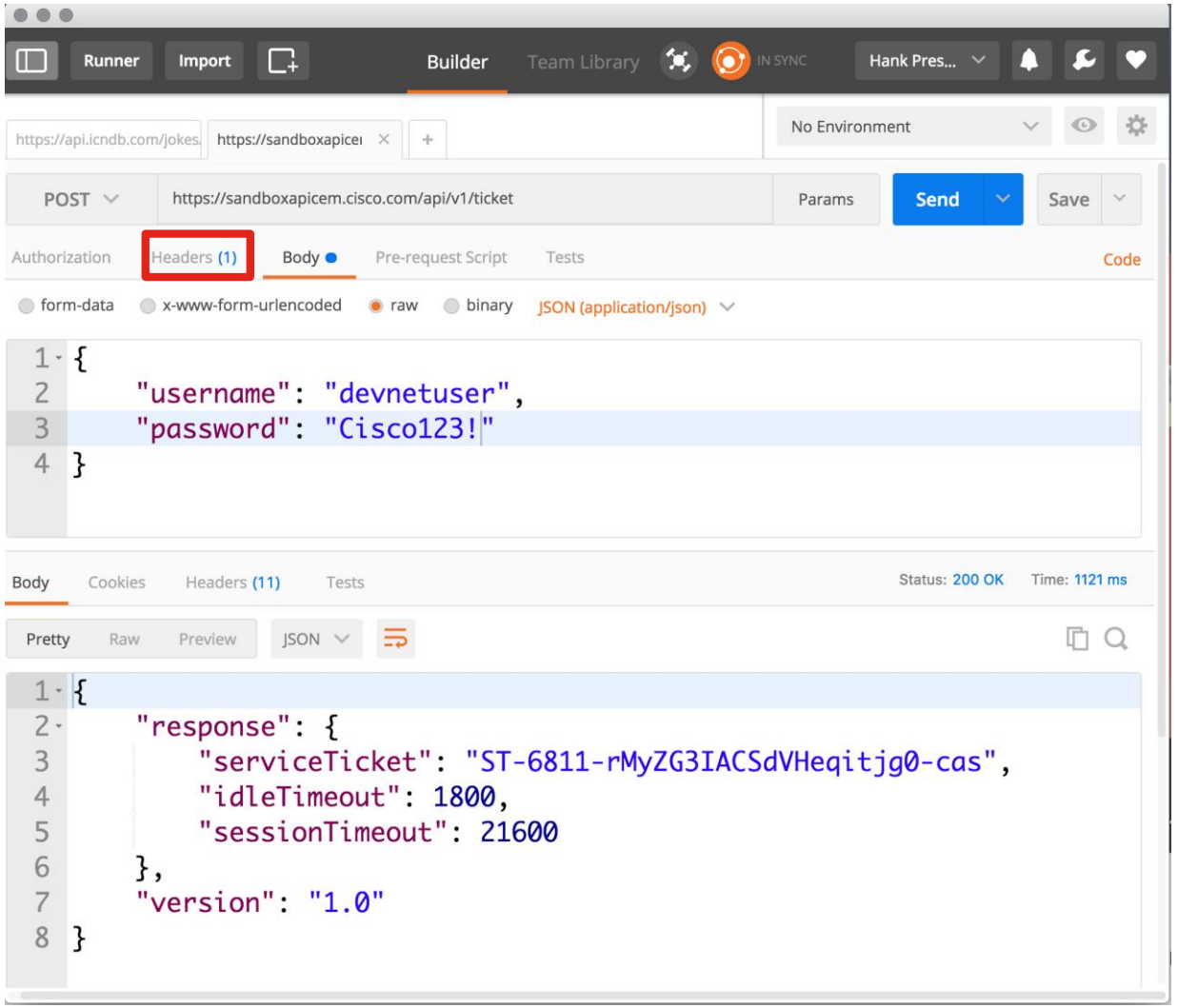


Response Body

Constructing a POST Request

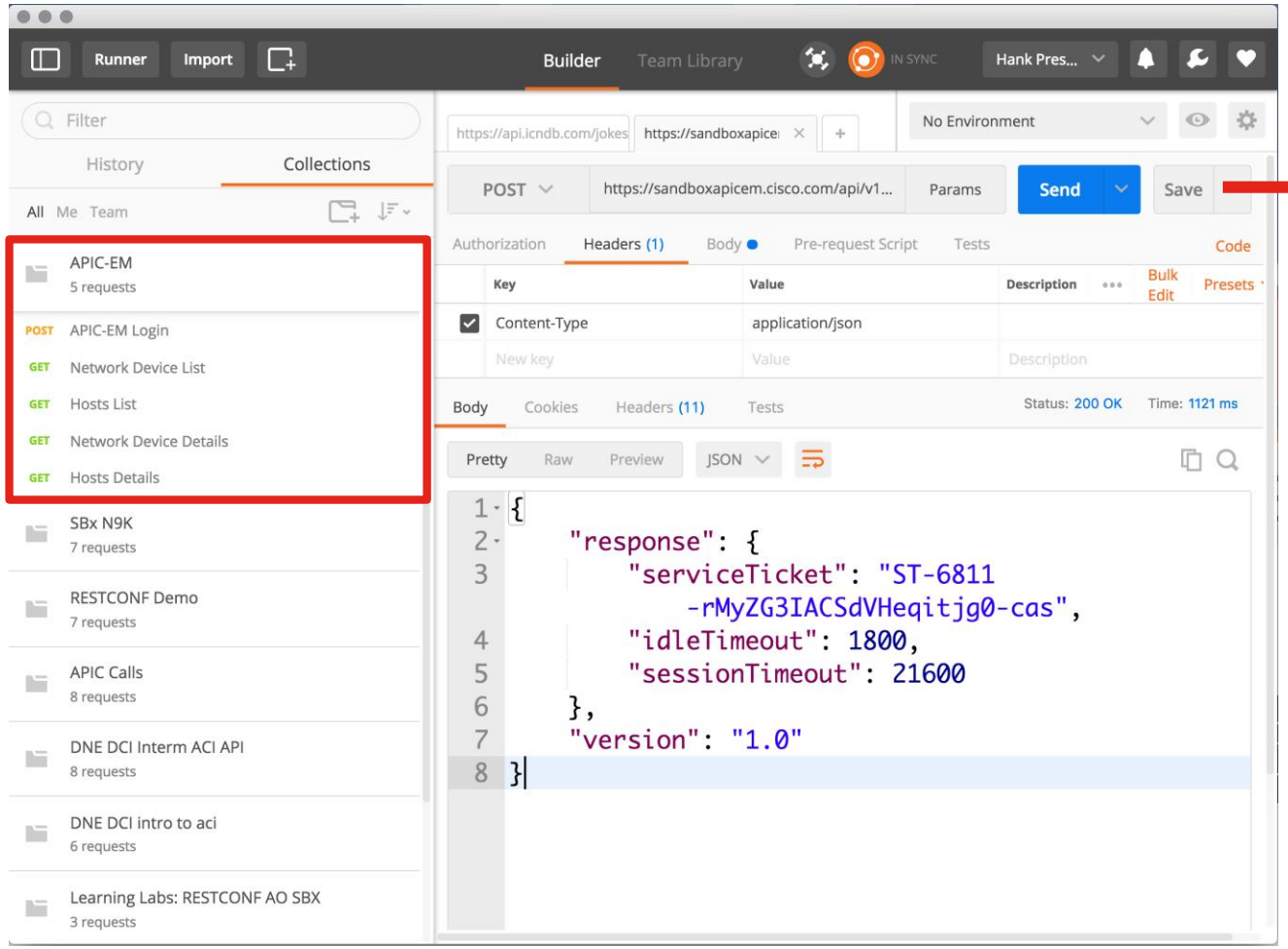
- Choose method
- Enter URI
- Configure headers and authentication
- Provide data
- Send and verify status

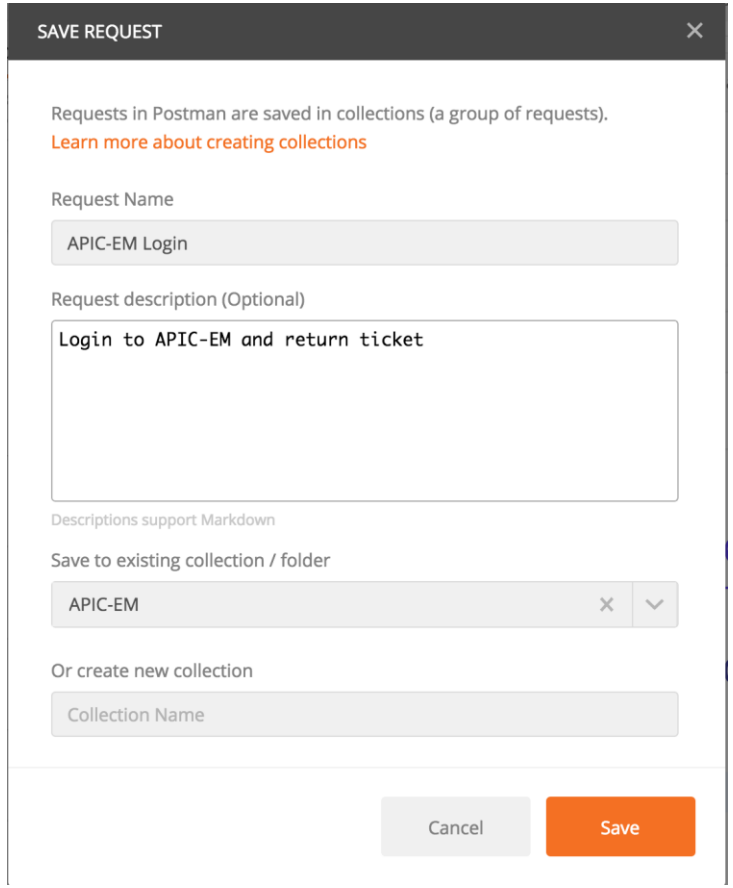




API Collections

Save and Organize API Calls into Collections

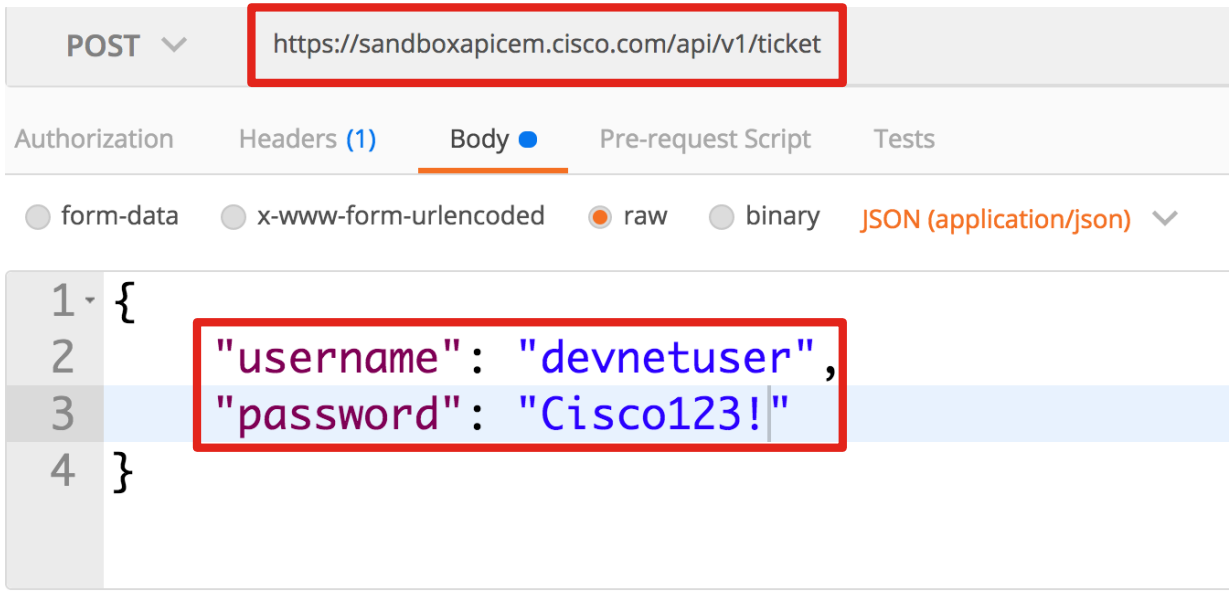




Using Environments

Variables Make Requests Reusable and Flexible

- Never good to hardcode details
- What if you want to connect to different host?
- What if credentials change?

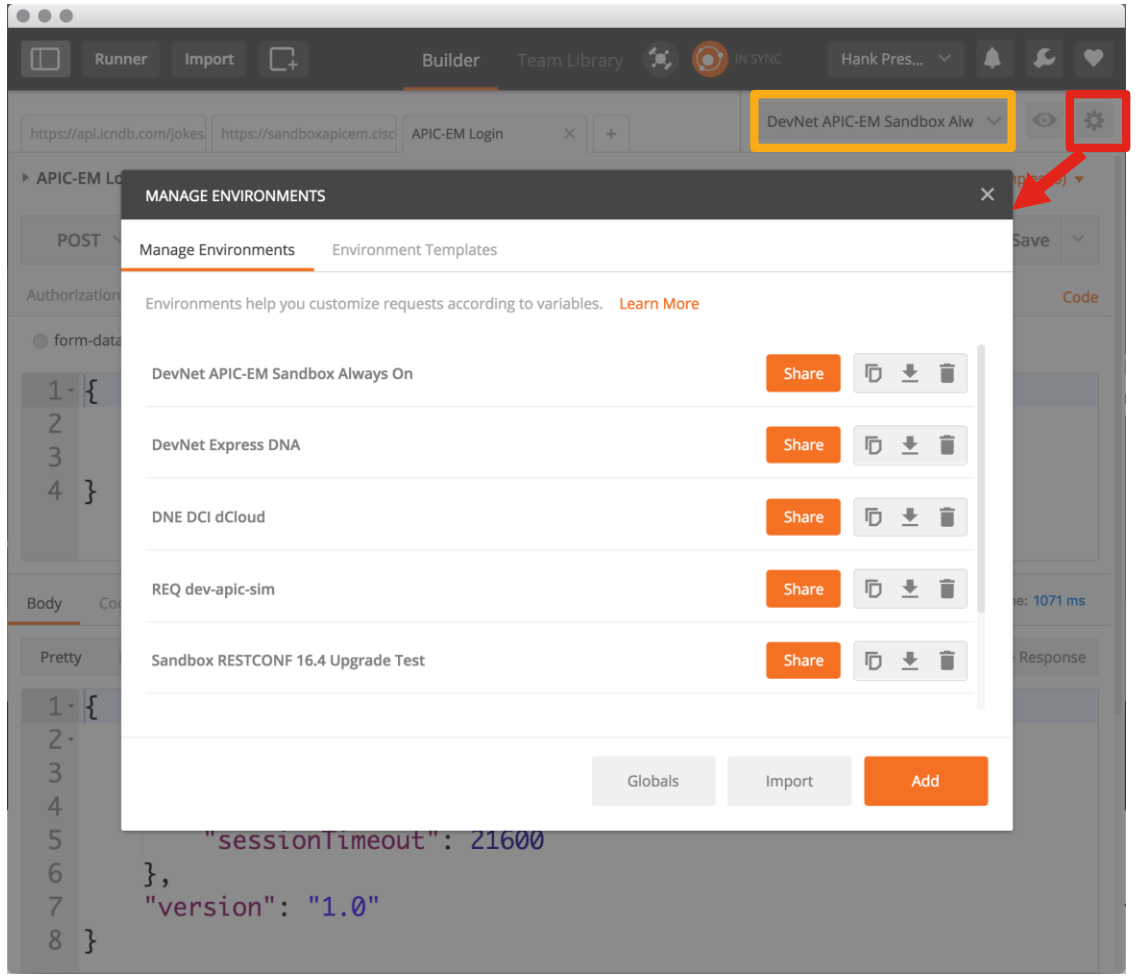


Variables Make Requests Reusable and Flexible

- Variables References
  - {{apic}}
  - {{username}}
  - {{password}}

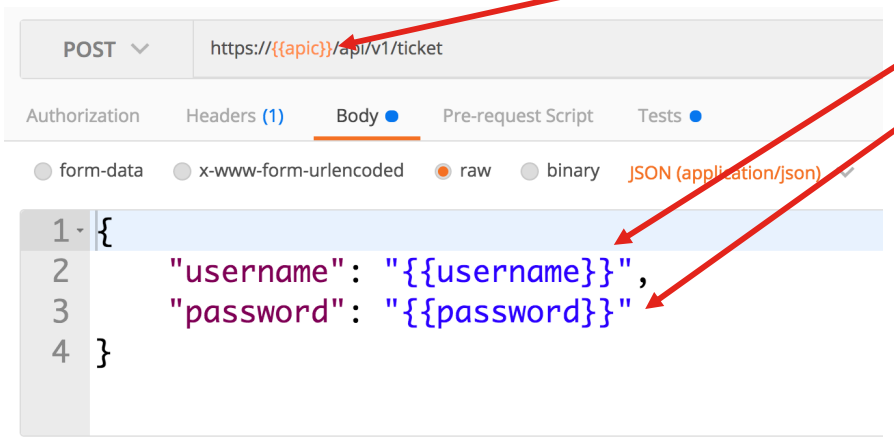
Managing Environments

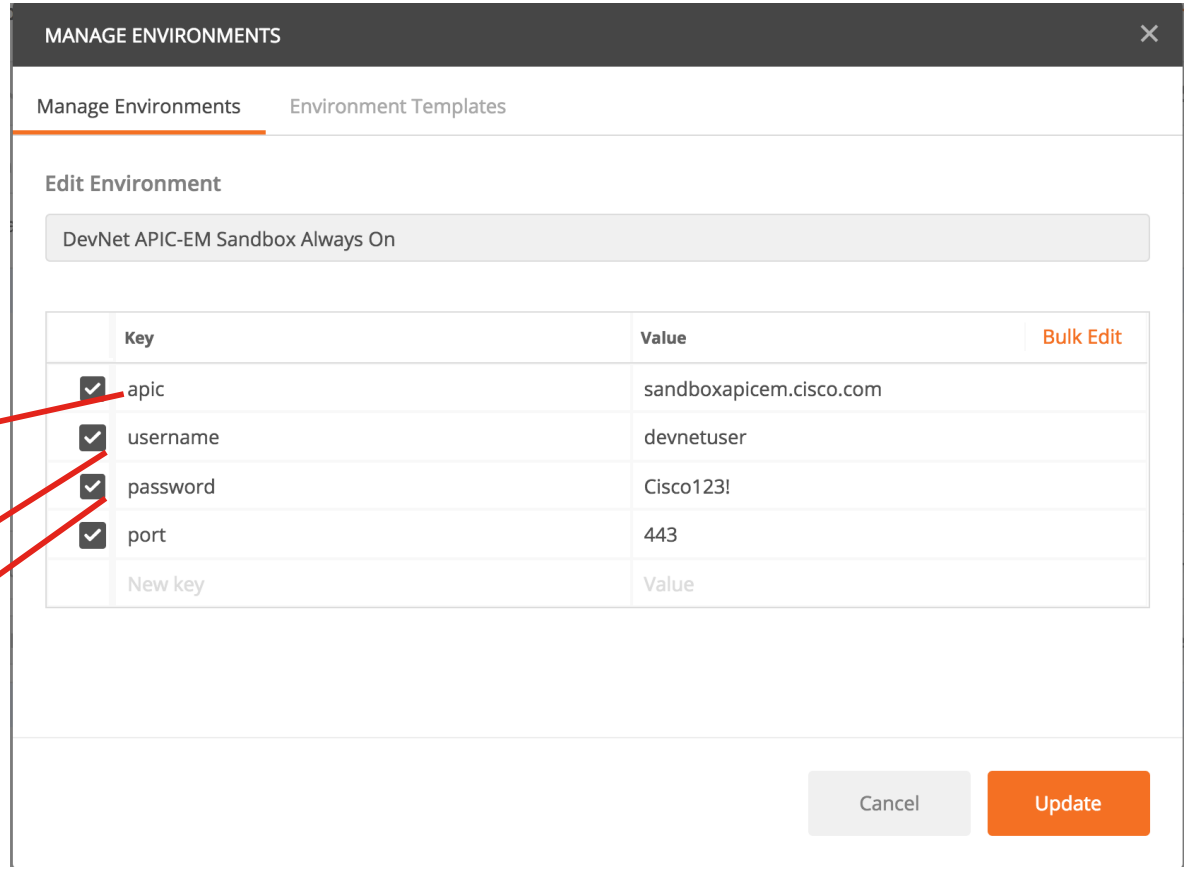
- Create any number of environments needed
- Change between environments with drop down list



Managing Environments

- Add as many variables as needed
- Reference anywhere with **{{variable name}}** syntax

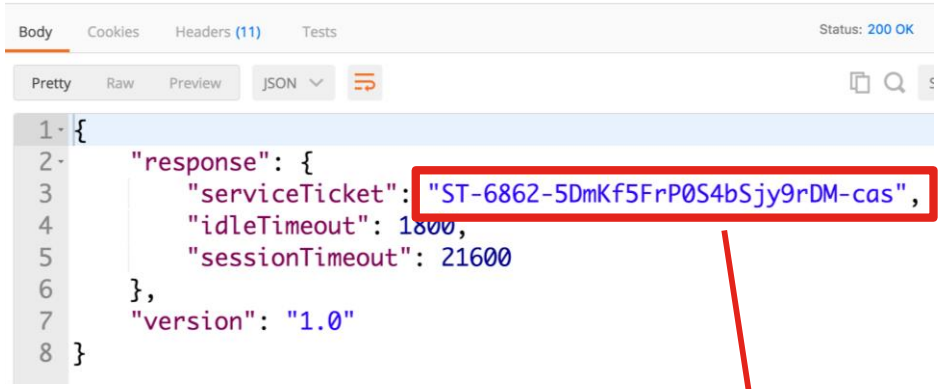




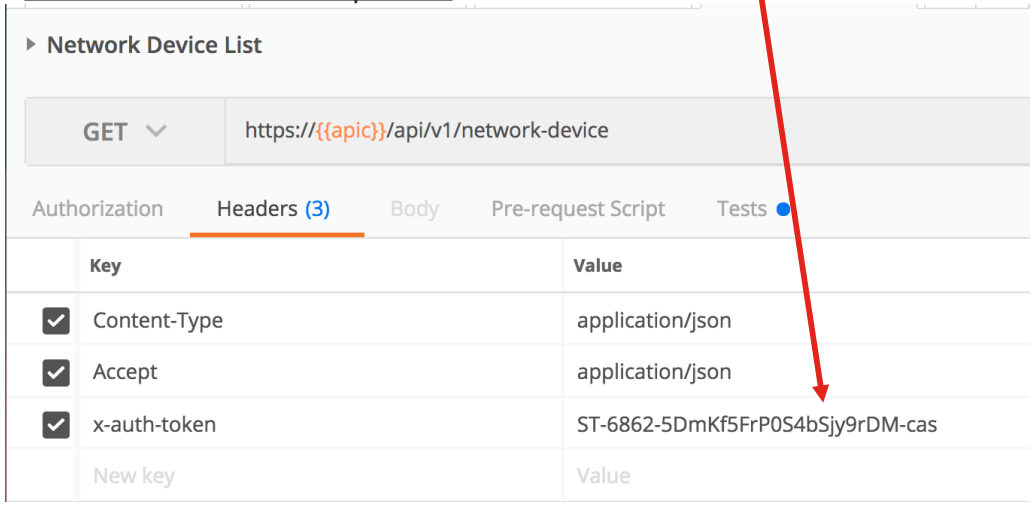
Setting Environment Variables Dynamically

- What about when info from one request is needed in another?
- Manually copying/pasting slow and error prone
- Manually updating environment variables is slow and awkward

Login Response

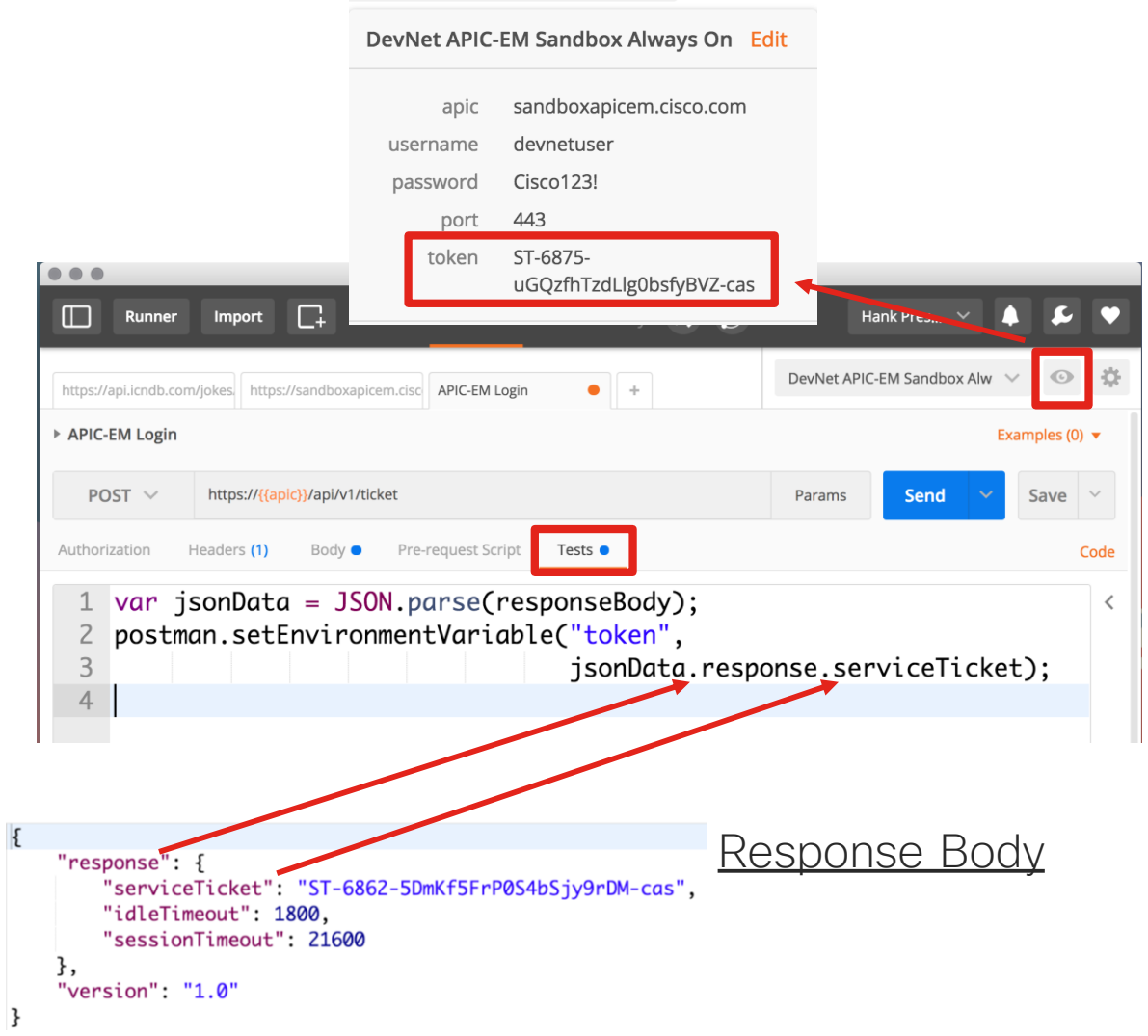


Device List Request



“Tests” Enable Dynamic Environment Variables

- Each API Request offers both pre and post actions
  - Pre -> Pre-request Script
  - Post -> Tests
- Written in JavaScript

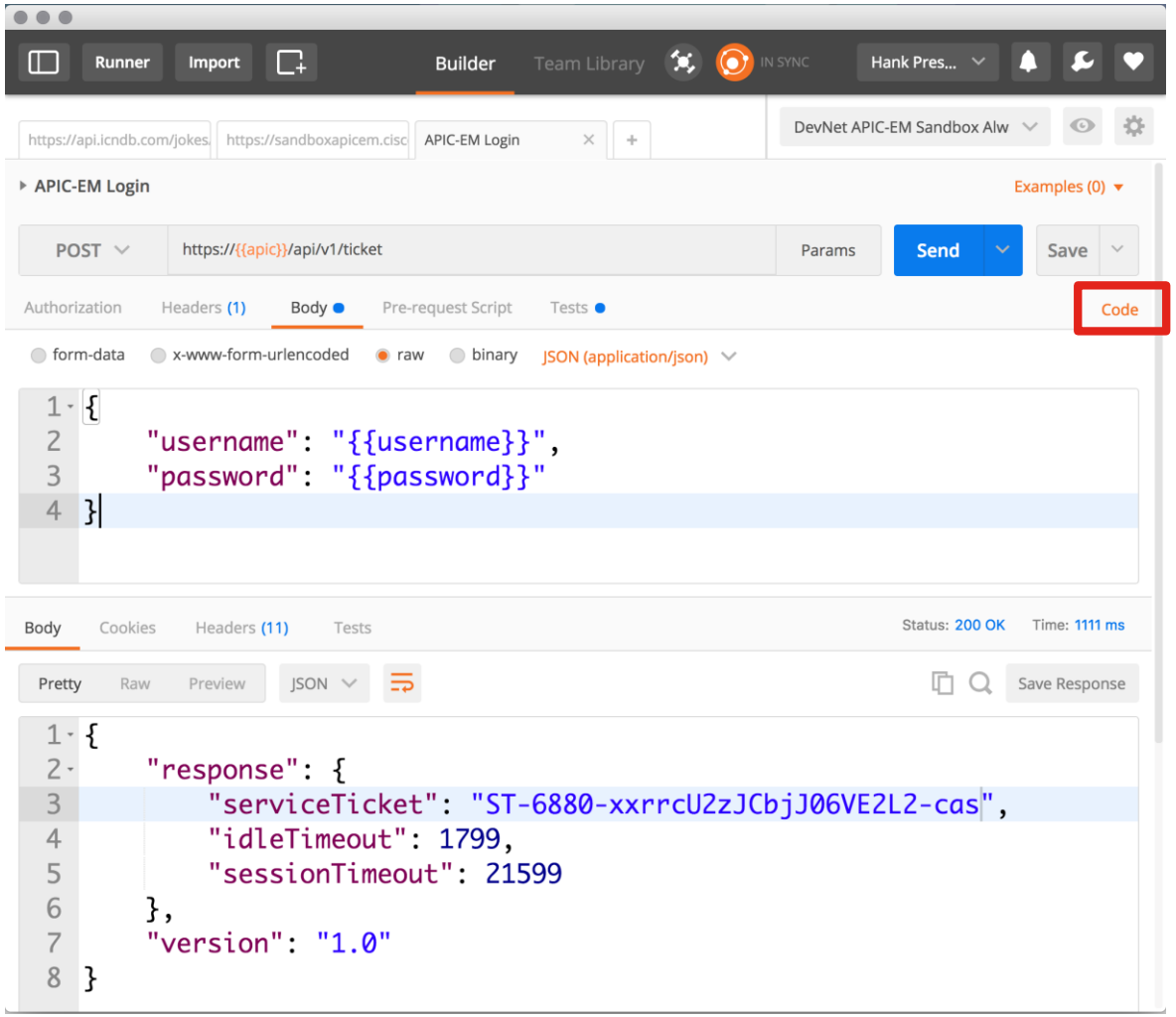


Demo Time!

Postman to Code!

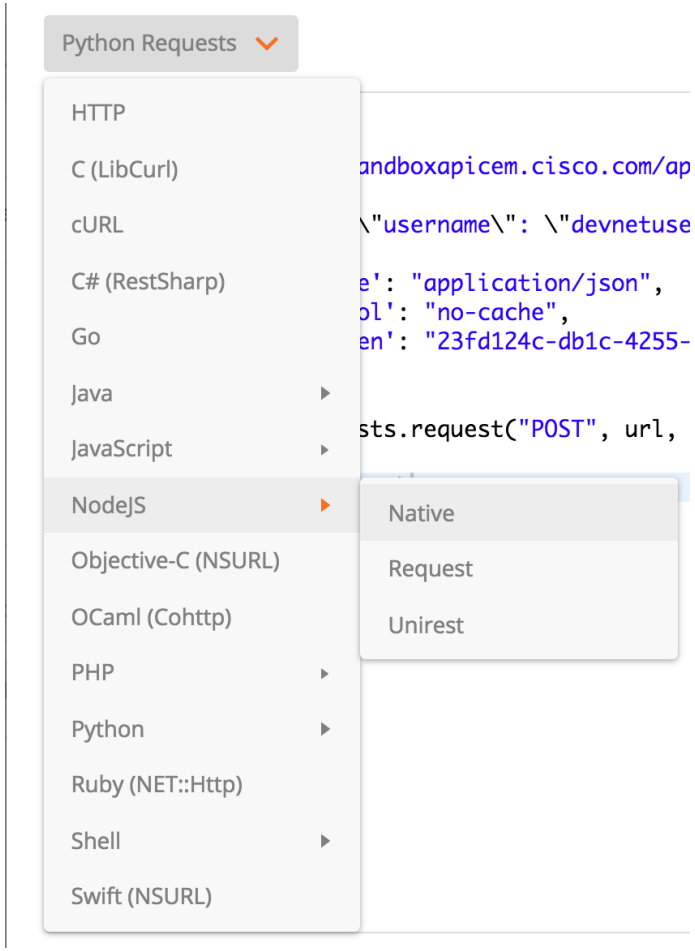
You'll eventually want to write some code…

- Postman great for testing and validating APIs
- But it's about atomic actions
- Business Logic, stringing APIs together, etc all need code
- Jumpstart with auto-generated code by Postman



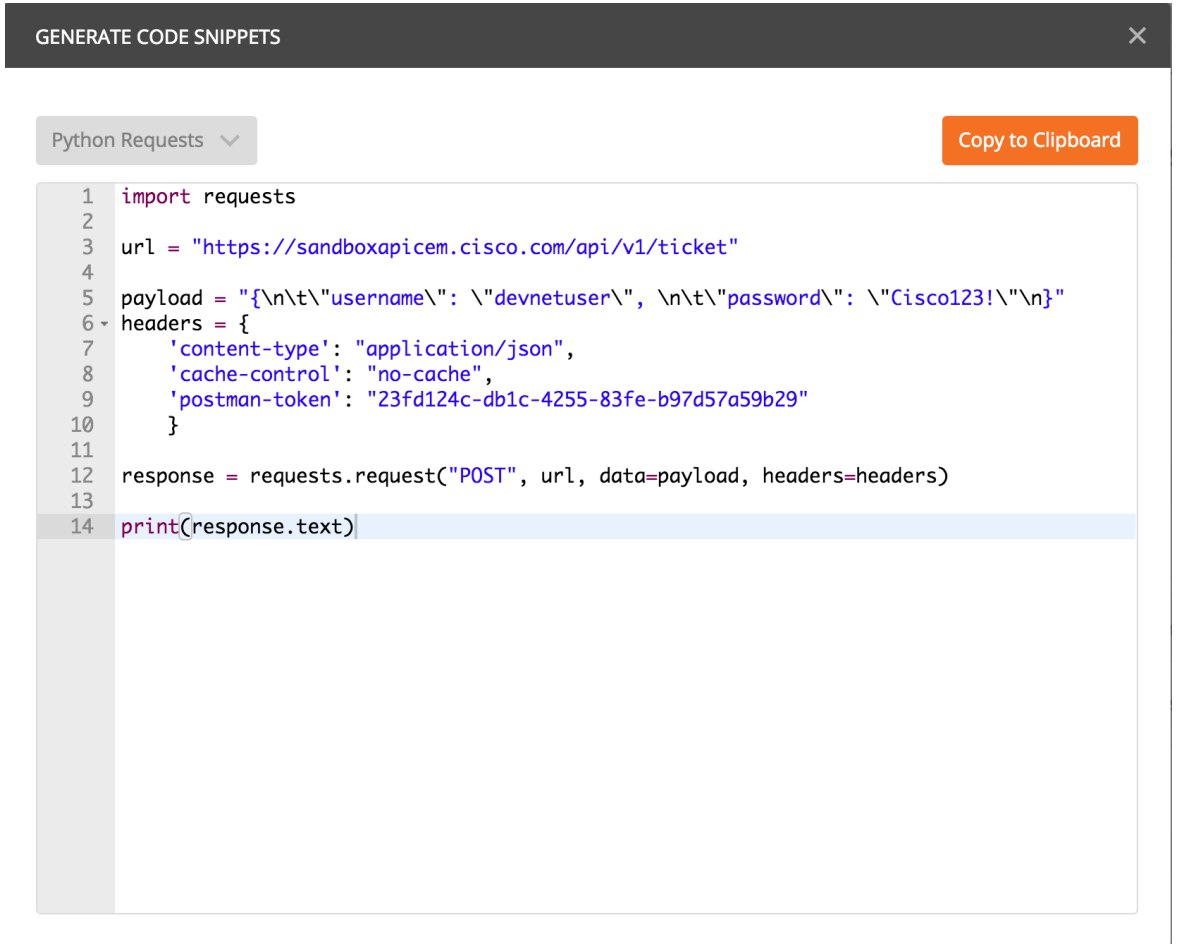
You'll eventually want to write some code…

- Many, many options for languages available



Full API Request to Code!

- Headers, payload data, and URI all included
- Environment variables are translated
- Great starting point, but expect to edit and update



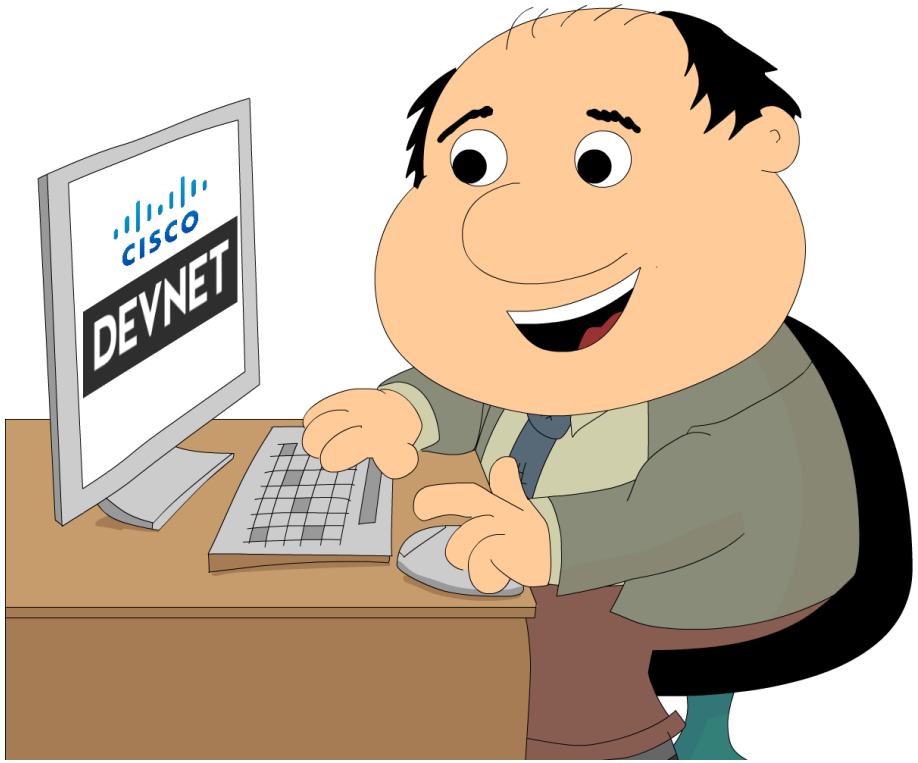
Summing up

Review

- Understand what Postman offers for API developers
- Learned how to send basic API requests
- Save API requests into Collections to re-use later
- Make APIs more modular and powerful with Environments
- Auto-generate code in many languages from an API call

Call to Action!

- Complete the full **Network Programmability Basics** Course
- Run the examples and exercises yourself!
  - Bonus Examples!
- Join DevNet for so much more!
  - Learning Labs
  - Development Sandboxes
  - Code Samples and API Guides



Got more questions? Come find me!

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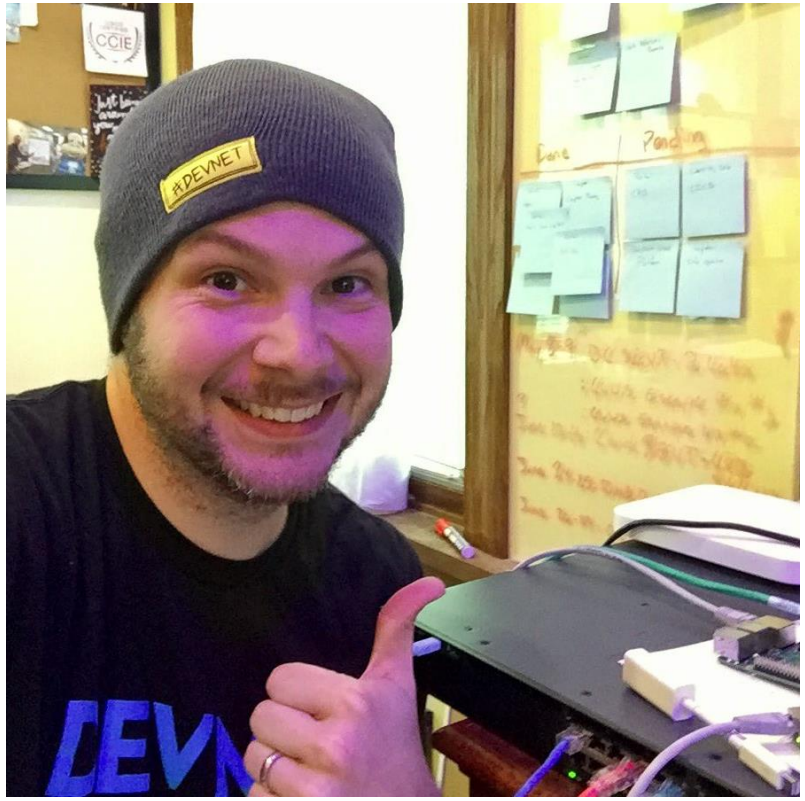


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