

My Crafting Project Became Critical Infrastructure

Elizabeth Zagroba
Agile Testing Days 2022

Context time

Web app in
our cloud



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Build package from
latest revision

The Cloud UI and why that was so slow

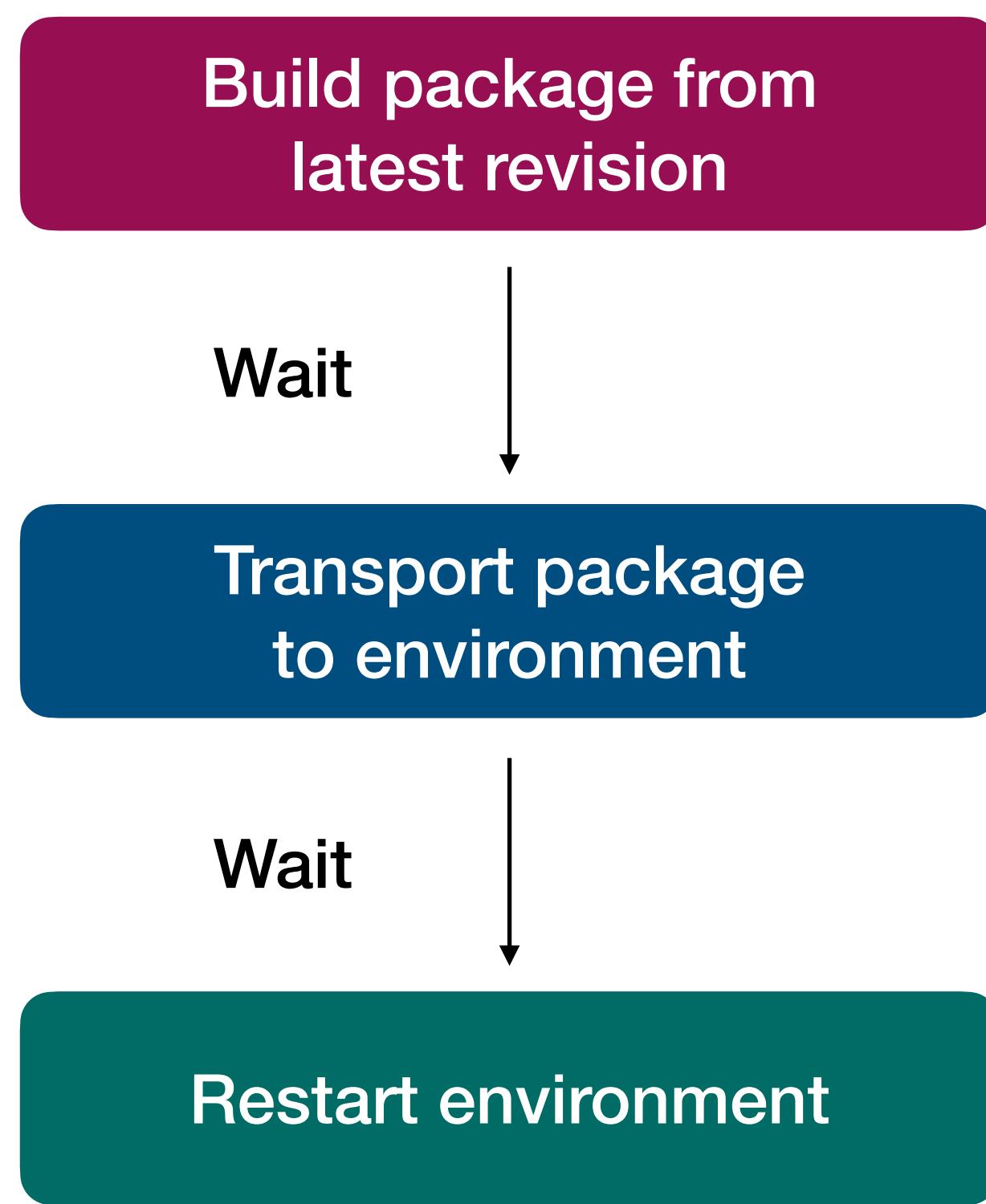
The Cloud UI and why that was so slow

Build package from
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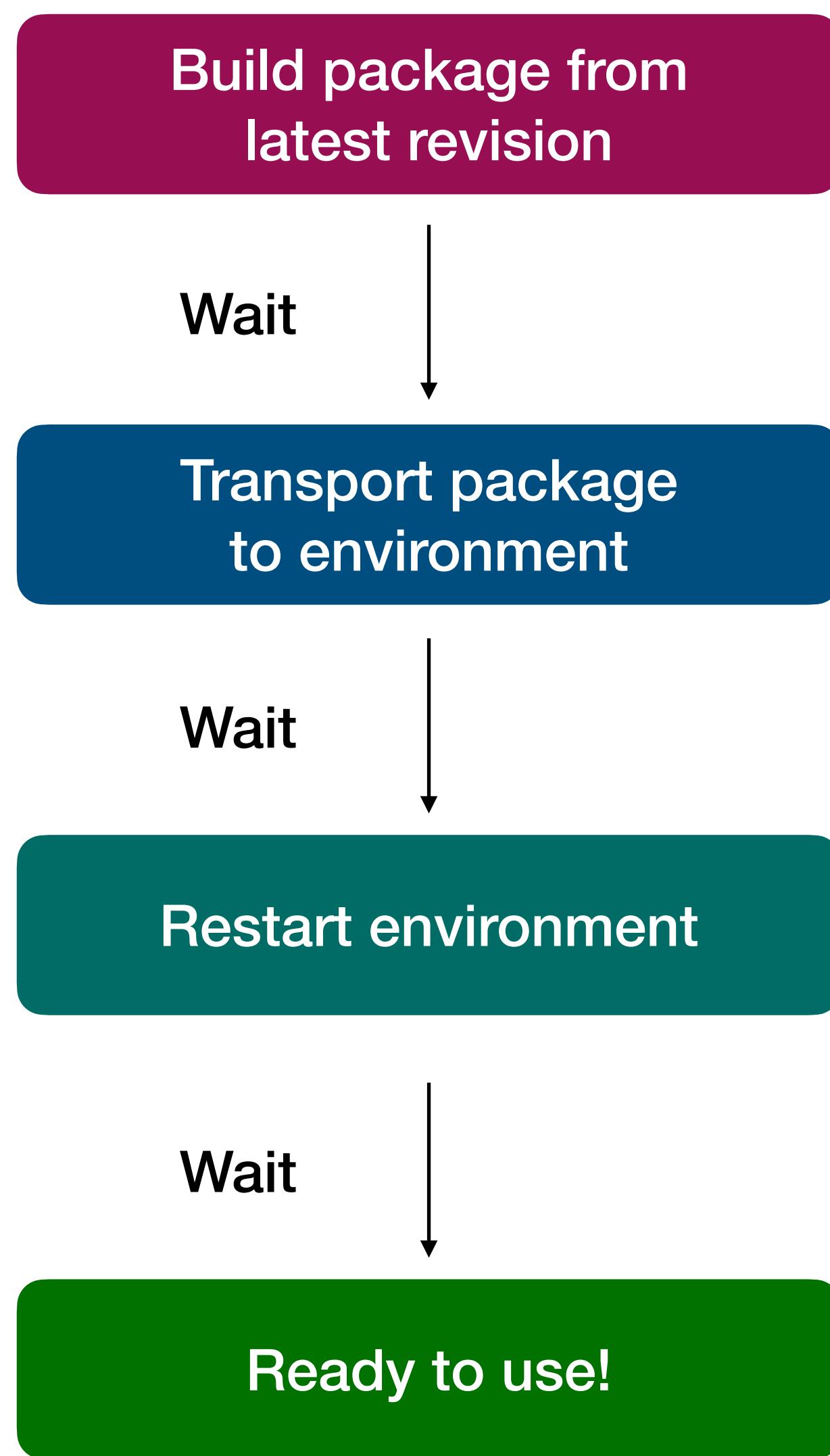
Wait

Transport package
to environment

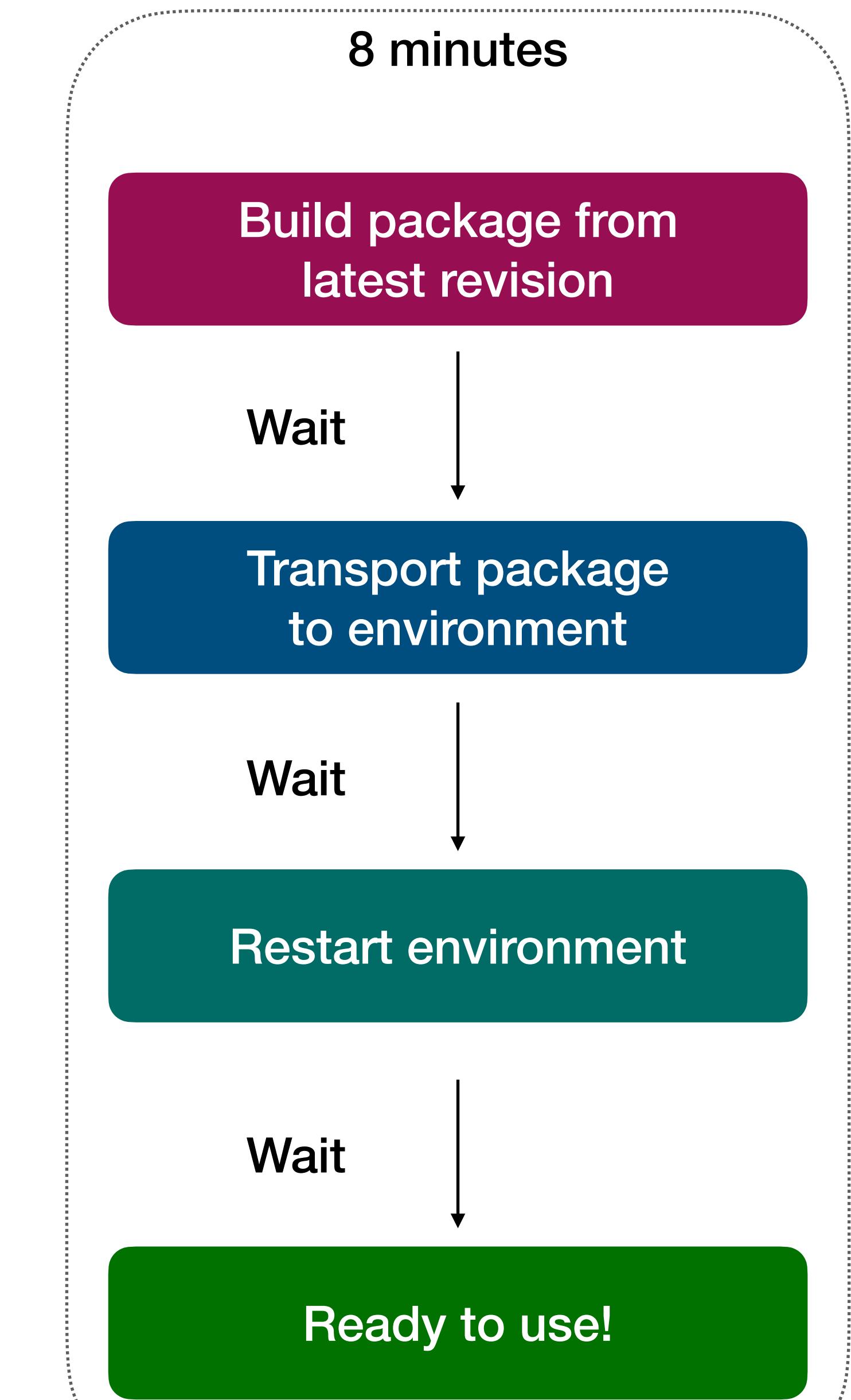
The Cloud UI and why that was so slow



The Cloud UI and why that was so slow



The Cloud UI and why that was so slow



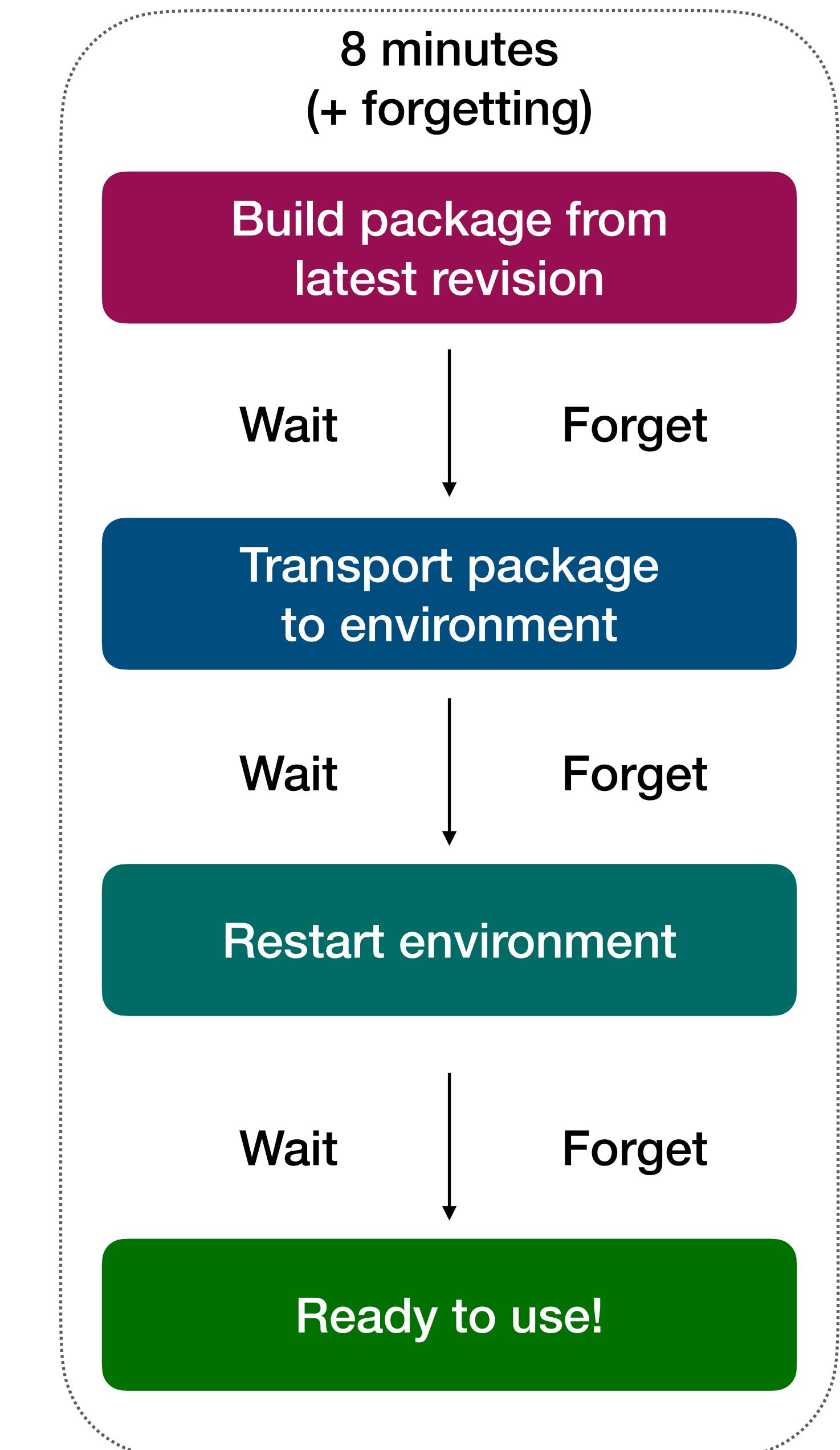
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The Cloud UI and why that was so slow

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The Dream calling the APIs

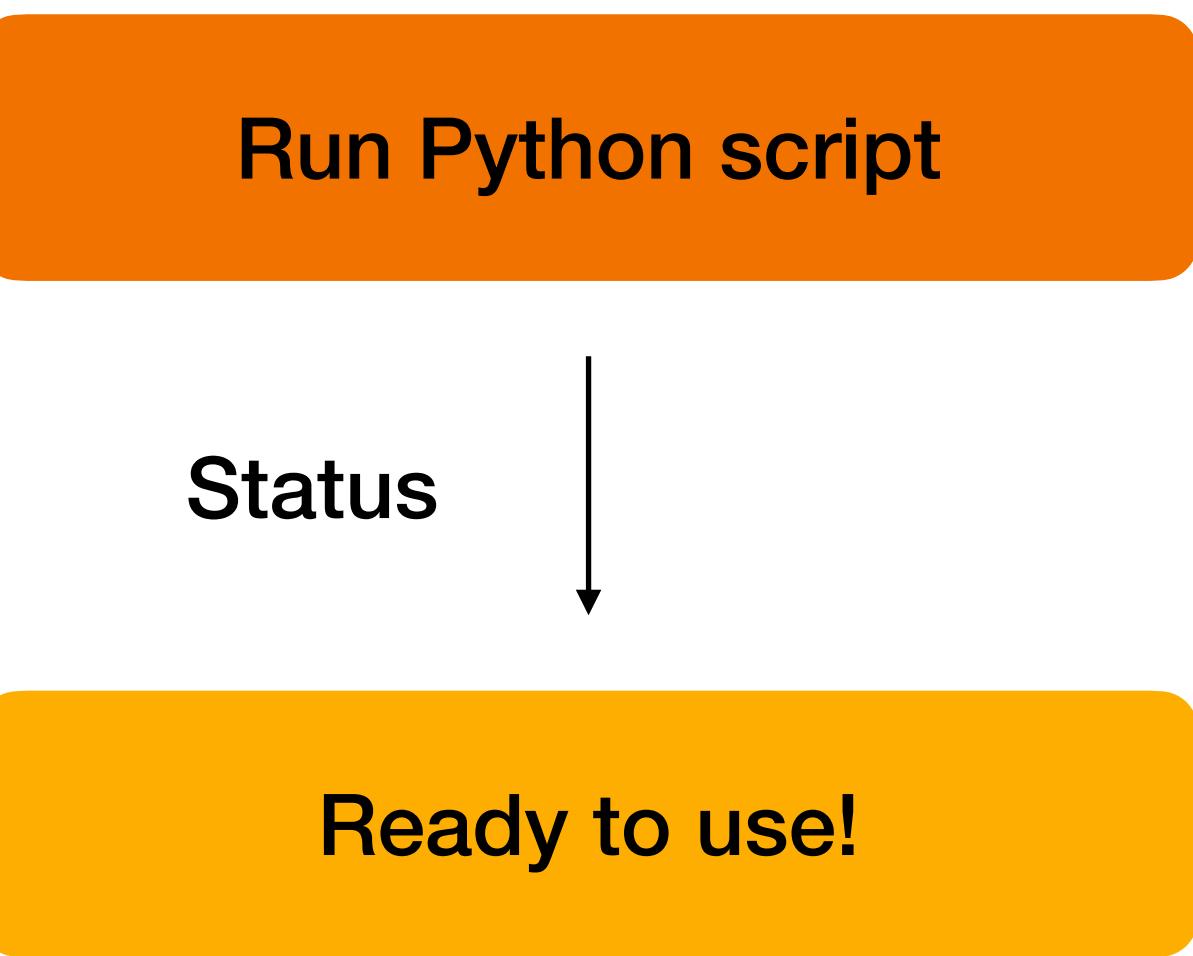
Run Python script

The Dream calling the APIs

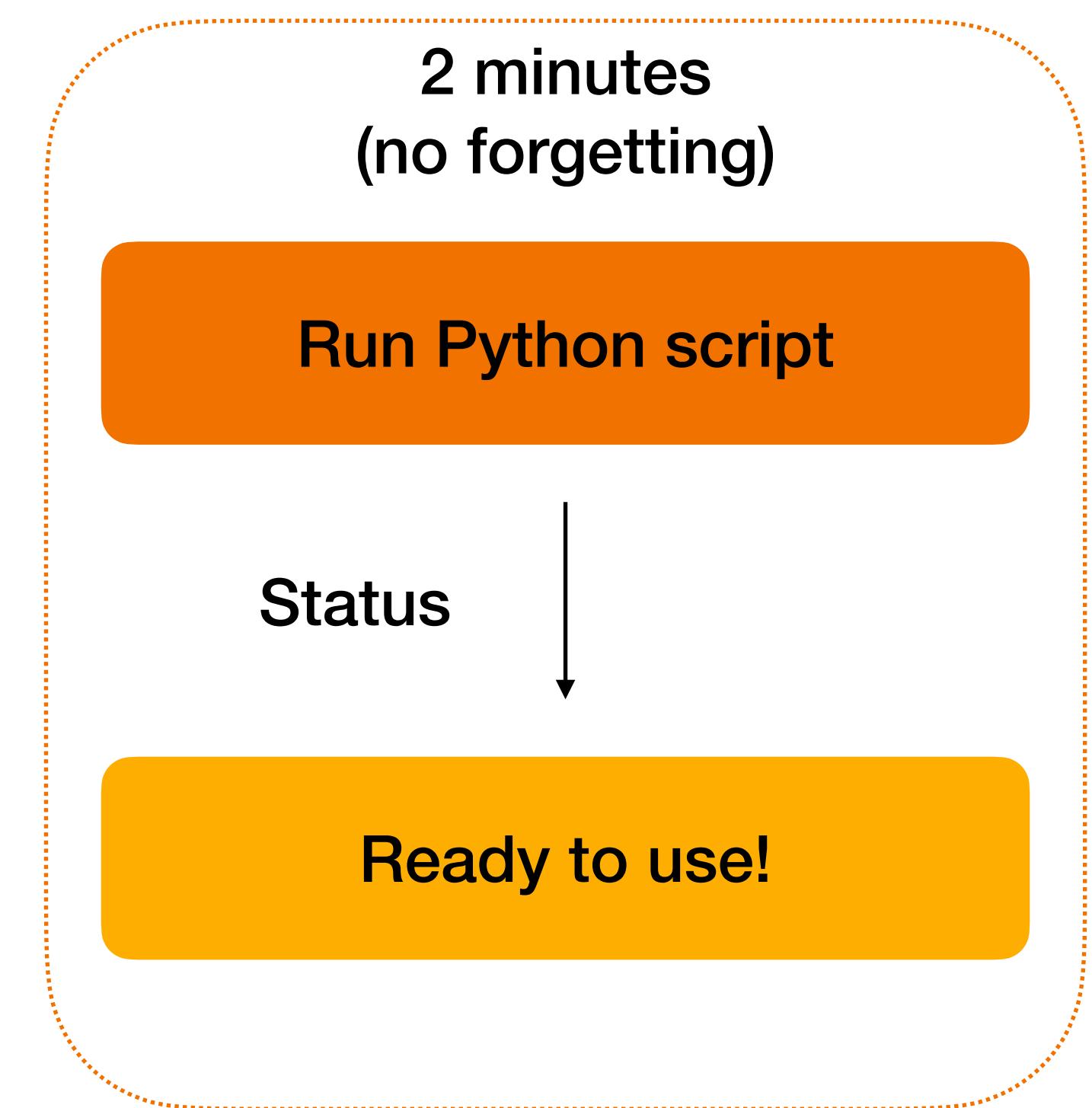
Run Python script

Status

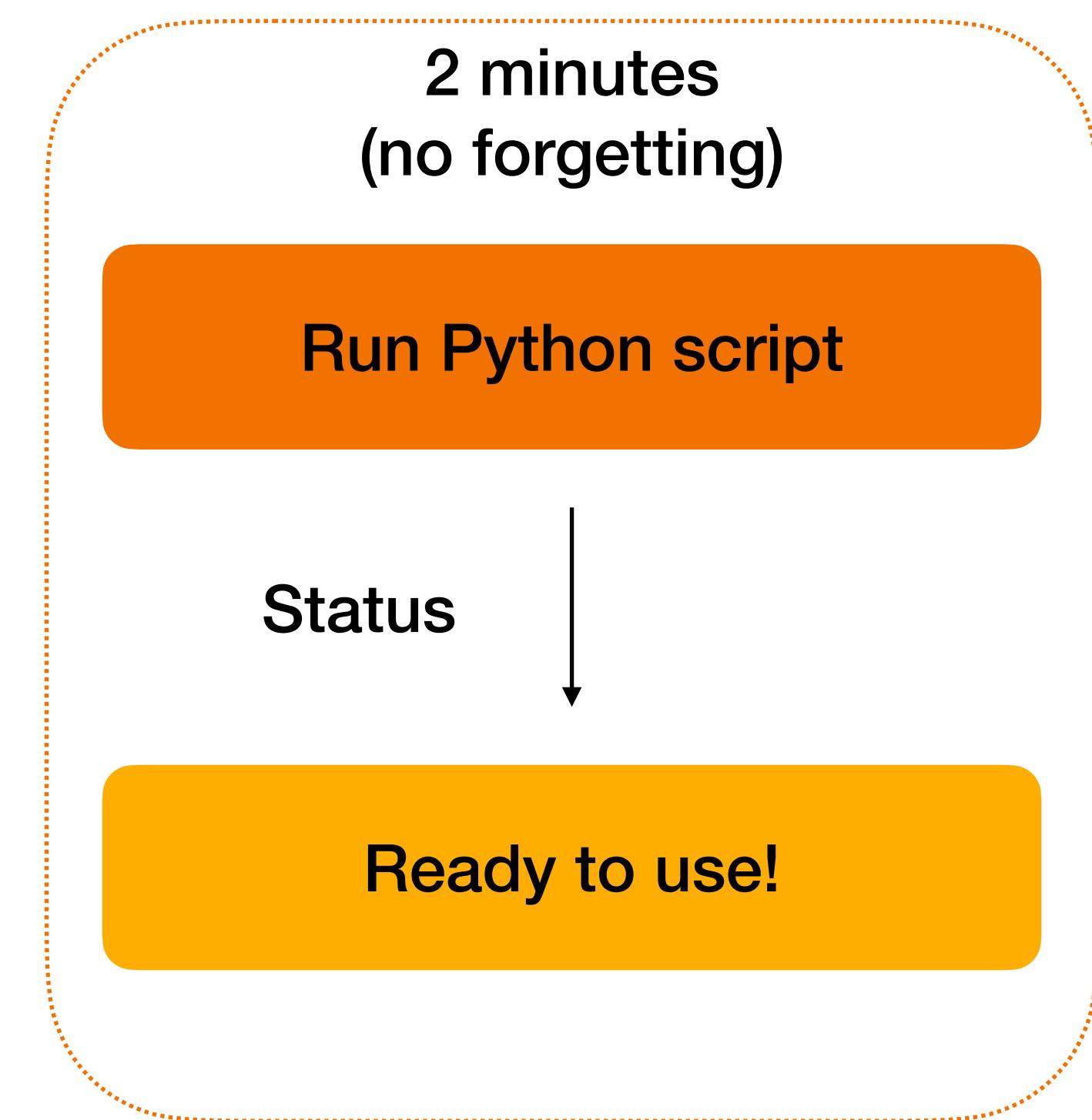
The Dream calling the APIs



The Dream calling the APIs



The Dream calling the APIs



5x per day
6 minutes per day

1/2 hour saved per day

I needed this script to build & deploy in the cloud

```
151
152     def deploy_app_to_environment():
153         validate_env_name(sprintr_app_name)
154         package_id = build_package_from_latest_revision(app_id, branch_name)
155         poll_until_building_is_done(app_id, package_id)
156         see_if_stopped_and_stop_environment(app_id, environment)
157         transport_package_to_environment(app_id, package_id, environment)
158         start_app_on_environment(app_id, environment)
159
160     if __name__ == '__main__':
161         deploy_app_to_environment()
162
```

Validate environment name

I needed this script
to build & deploy in the cloud



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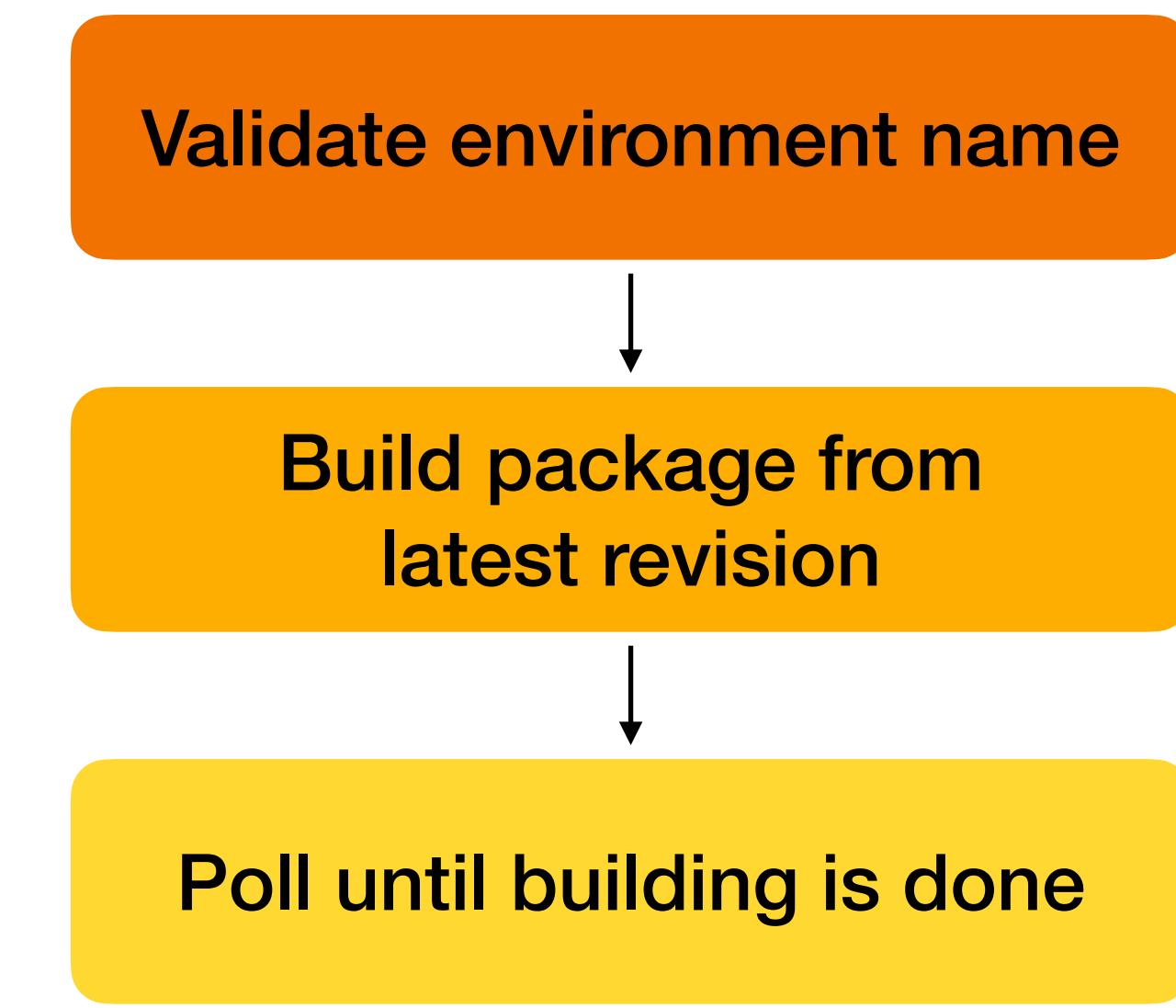
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**I needed this script
to build & deploy in the cloud**

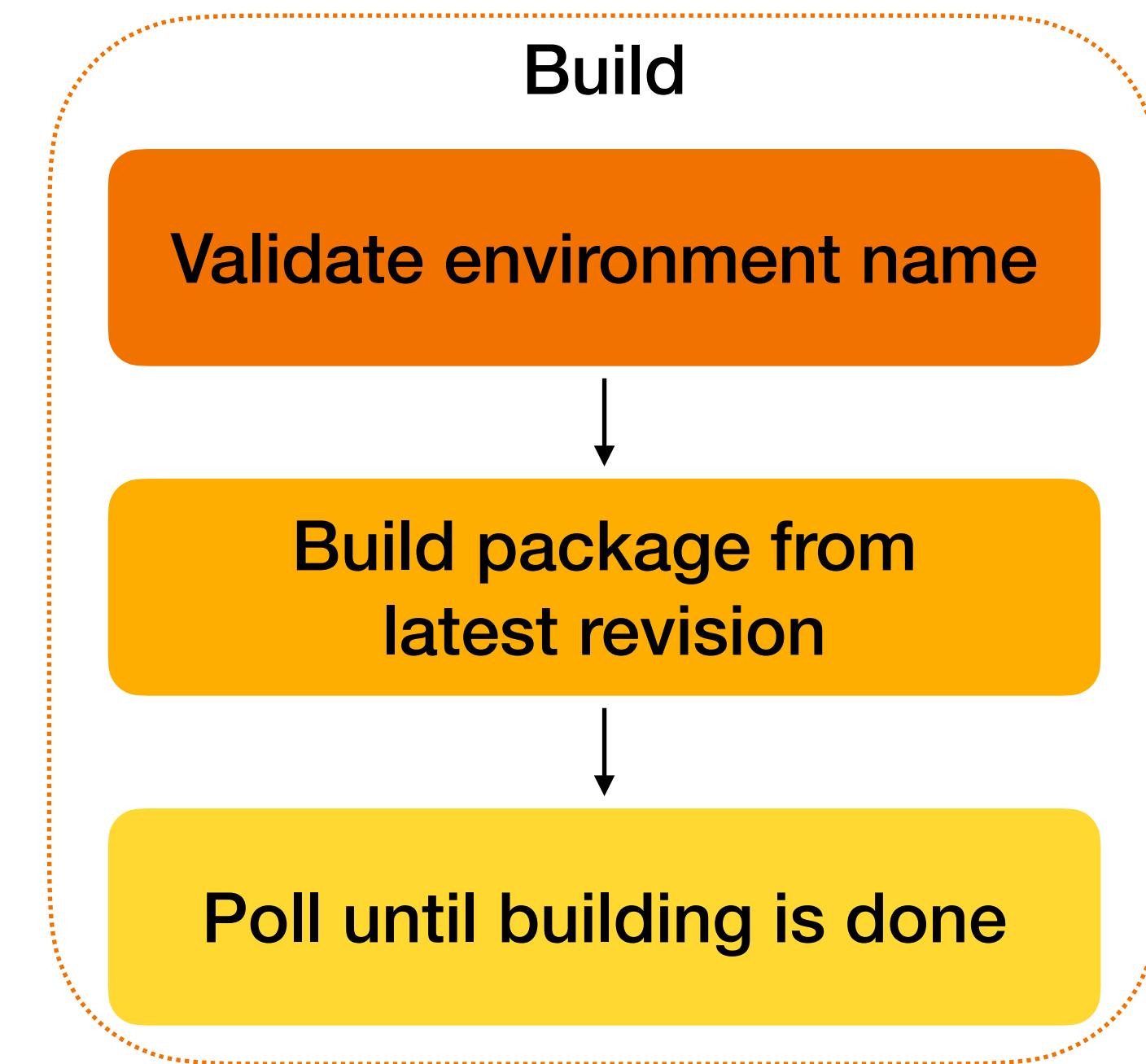
Validate environment name

Build package from
latest revision

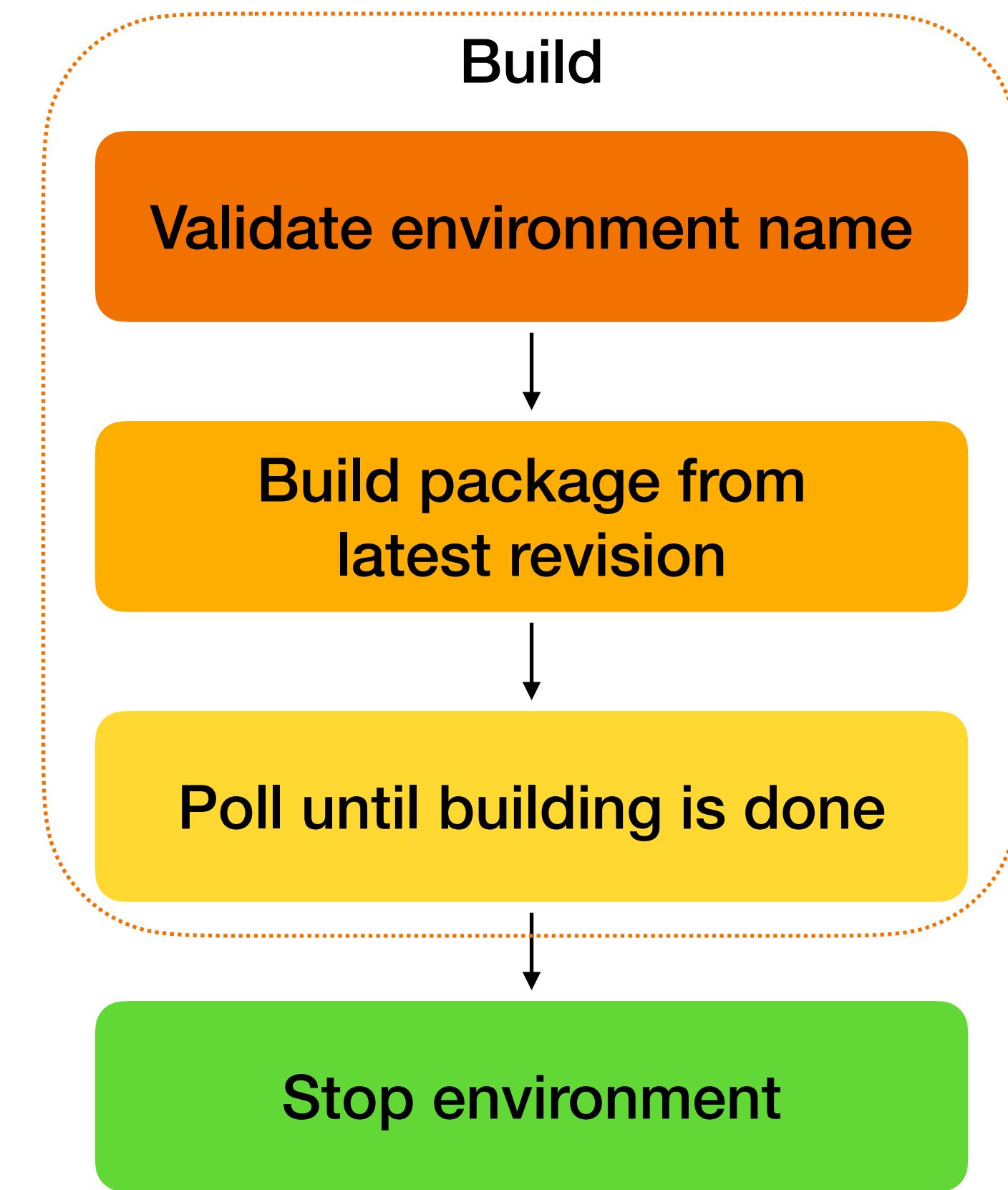
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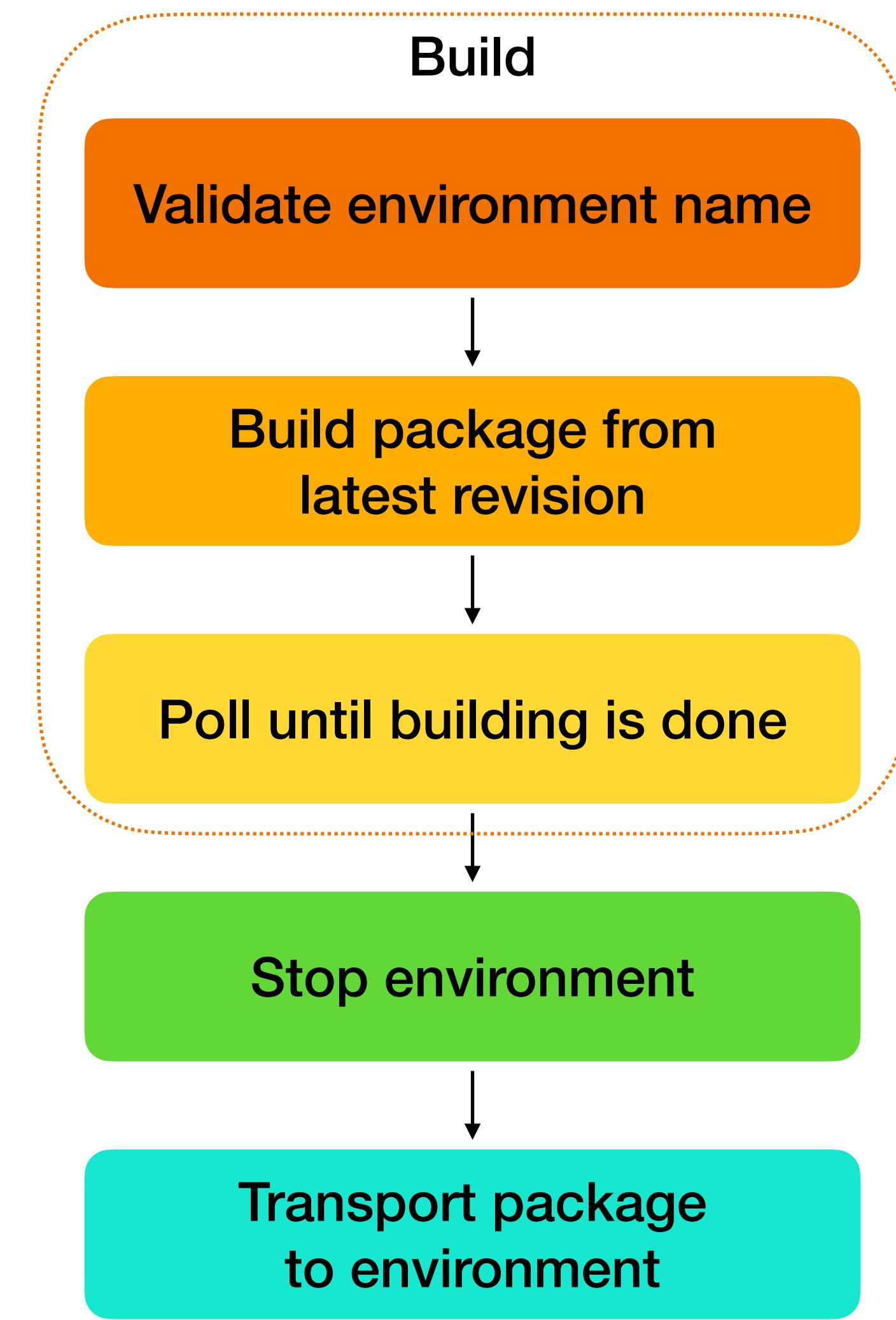
**I needed this script
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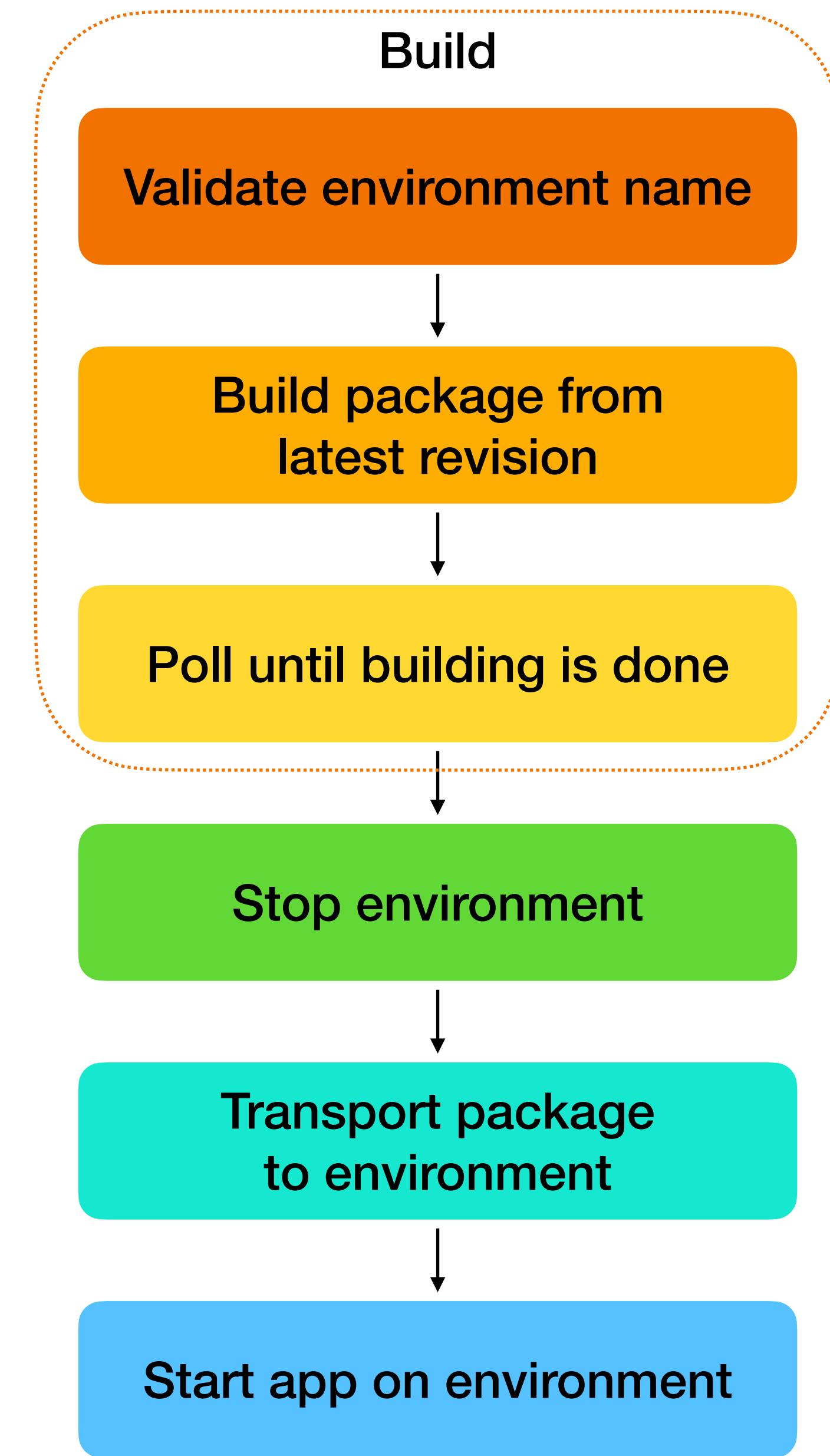
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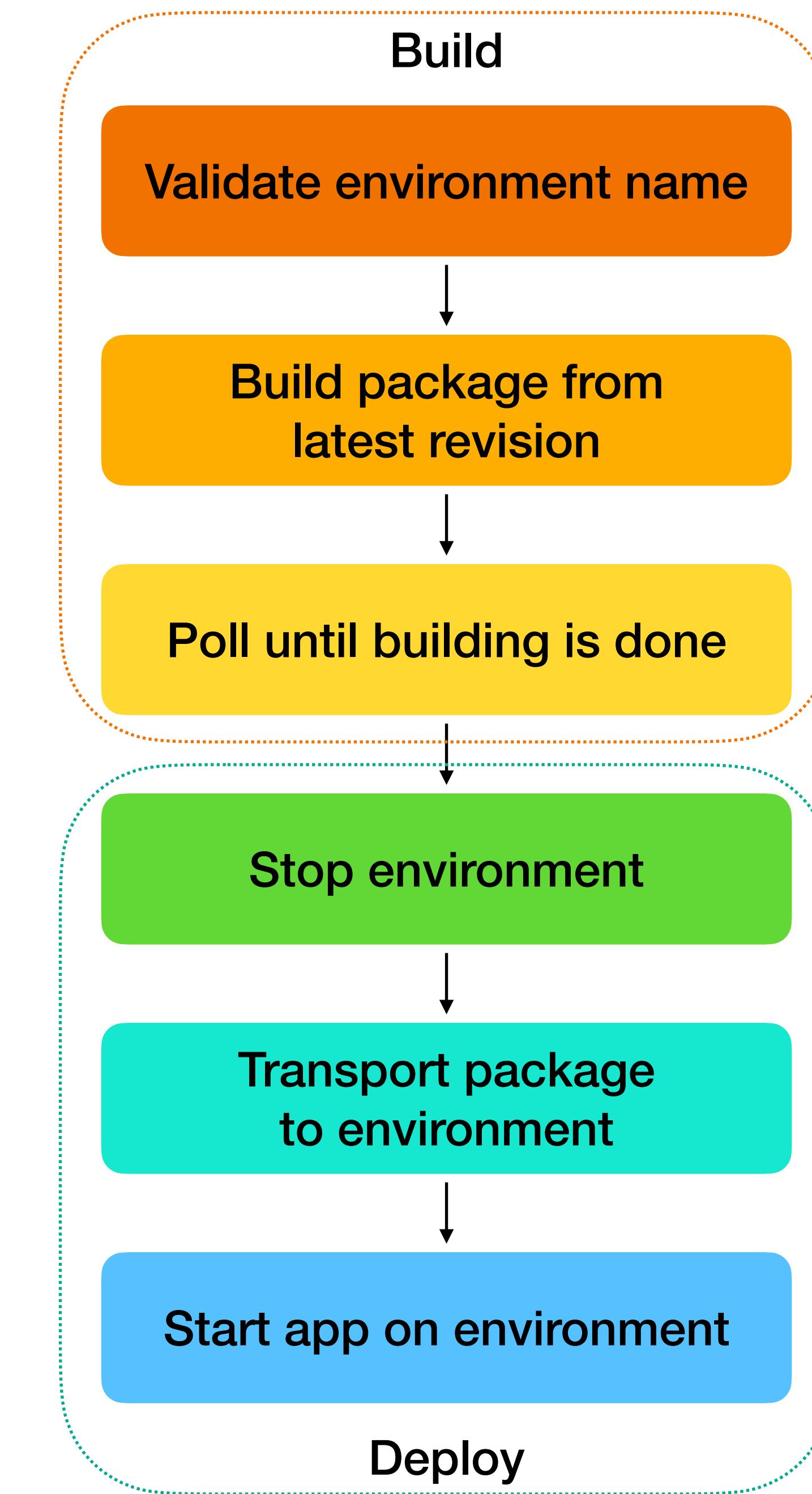
**I needed this script
to build & deploy in the cloud**



I needed this script to build & deploy in the cloud



**I needed this script
to build & deploy in the cloud**



Code review

Weird Python

```
16 credentials = {  
17     'Mendix-Username': args.user,  
18     'Mendix-ApiKey': args.apikey  
19 }  
20  
21 branch_name = args.branch  
22  
23 deploy_base_url = 'https://deploy.mendix.com/api/1/apps'  
24
```



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Code review

Less weird Python

```
o2
83 class DeployApi():
84     def __init__(self, user, api_key, app_id, environment):
85         self.url = f'https://deploy.mendix.com/api/1/apps/{app_id}/environments/{environment}'
86         self.credentials = {
87             'Mendix-Username': user,
88             'Mendix-ApiKey': api_key
89         }
90
```

Code review

Refactoring and using it locally

```
121 126 def stop_data_hub_test_environment(data_hub_id):  
122 127     response = requests.post(  
123     -         f'https://deploy.mendix.com/api/1/apps/{data_hub_id}/environments/test/stop',  
124 128     +         f'{deploy_base_url}/{data_hub_id}/environments/test/stop',  
125 130             headers=credentials_and_content_type())  
126 131     assert response.status_code == 200, f"{response.status_code}, {response.text}"  
127     print("Stopped the test environment")
```



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Code review

Refactoring and using it locally

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124 128     +         f'{deploy_base_url}/{data_hub_id}/environments/test/stop',  
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Code review

Refactoring and using it locally

| | | |
|-----|-----|--|
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Code review

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| 123 | - | f'https://deploy.mendix.com/api/1/apps/{data_hub_id}/environments/test/stop', |
| | 128 | f'{deploy_base_url}/{data_hub_id}/environments/test/stop', |
| 124 | 129 | headers=credentials_and_content_type()) |
| 125 | 130 | assert response.status_code == 200, f"{response.status_code}, {response.text}" |
| 126 | 131 | print("Stopped the test environment") |

What stop function looks like today

Generalized & error handling

```
70     def see_if_stopped_and_stop_environment(self, environment):
71         environment_response = requests.get(f'{self.url}/environments/{environment}', headers=self.credentials)
72         if environment_response.status_code != 200:
73             sys.exit(f'{environment_response.status_code} response, Unable to retrieve environment information')
74
75         if environment_response.json()['Status'] == 'Stopped':
76             print(f'{environment.title()} environment was already stopped')
77         else:
78             response = requests.post(f'{self.url}/environments/{environment}/stop', headers=self.credentials)
79             if response.status_code != 200:
80                 sys.exit(f'{response.status_code} response, Unable to stop environment {environment}')
81             print(f'Stopped the {environment} environment')
82
```

From local to pipeline



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snyk

My team's pipeline

Motivated by our
corporate overlords

VERACODE



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My team's developer's pipeline

Erasing git history

Name has been hidden to protect the guilty

| Name | Last commit | Last update |
|------------------|---|-------------|
| .. | | |
| arg_checkers.py | CI running tests against the test environment | 2 years ago |
| arg_parsing.py | CI running tests against the test environment | 2 years ago |
| build_api.py | CI running tests against the test environment | 2 years ago |
| clear_es.sh | CI running tests against the test environment | 2 years ago |
| deploy_api.py | CI running tests against the test environment | 2 years ago |
| deploy_script.py | CI running tests against the test environment | 2 years ago |
| requirements.txt | CI running tests against the test environment | 2 years ago |
| slack_api.py | CI running tests against the test environment | 2 years ago |
| tox.ini | CI running tests against the test environment | 2 years ago |
| user-config.ini | CI running tests against the test environment | 2 years ago |

More teams

More pipelines

footage not found

More teams

More pipelines

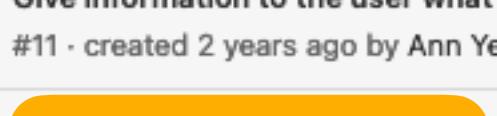
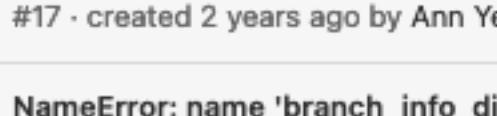
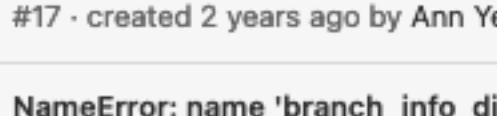
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| |
|---|
| Add Slack integration #1 · created 2 years ago by Elizabeth Zagroba |
| Read credentials from local file instead of command-line arguments #2 · created 2 years ago by Joep Schuurkes |
| Overwrite Cloud Portal constants #3 · created 2 years ago by Elizabeth Zagroba |
| Select a specific revision number of a branch to deploy #4 · created 2 years ago by Tamilkavitha Vaithianathan |
| Transport package from Test to Accp #5 · created 2 years ago by Tamilkavitha Vaithianathan |
| Deploy only option #6 · created 2 years ago by Tamilkavitha Vaithianathan |
| Include Gradle script for Java dependencies for Data Hub #7 · created 2 years ago by Elizabeth Zagroba |
| Add error-handling for build failing #8 · created 2 years ago by Elizabeth Zagroba |
| Add type-checking on command-line argument inputs #9 · created 2 years ago by Elizabeth Zagroba |
| Add Tests for the Script #10 · created 2 years ago by Ann Ye |
| Give information to the user what arguments are needed for a given action #11 · created 2 years ago by Ann Ye |
| Add an option for adding the version number to the build for release candidates #12 · created 2 years ago by Elizabeth Zagroba |
| If the environment is stopped (fetching current build 404s), transport the package anyway #13 · created 2 years ago by Elizabeth Zagroba |
| If you provide a version number, make a new build even if one with the same revision number already exists #14 · created 2 years ago by Elizabeth Zagroba |
| Unable to locate the Slack channel for the acceptance environment #15 · created 2 years ago by Ann Ye |
| Add clean to deploy script commands #16 · created 2 years ago by Elizabeth Zagroba |
| Slack BotToken - have it saved so user doesn't need to specify it (ever) #17 · created 2 years ago by Ann Ye |
| NameError: name 'branch_info_disc' is not defined (when doing a deploy action) #18 · created 2 years ago by Ann Ye |

More teams

More pipelines

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| | | |
|---|----|--|
|  | me | Read credentials from local file instead of command-line arguments #2 · created 2 years ago by Joep Schuurkes |
|  | me | Select a specific revision number of a branch to deploy #4 · created 2 years ago by Tamilkavitha Vaithianathan |
|  | me | Transport package from Test to Accp #5 · created 2 years ago by Tamilkavitha Vaithianathan |
|  | me | Deploy only option #6 · created 2 years ago by Tamilkavitha Vaithianathan |
|  | me | Dependencies for Data Hub #7 · created 2 years ago by Joep Schuurkes |
|  | me | Add dependency #8 · created 2 years ago by Joep Schuurkes |
|  | me | line argument inputs #9 · created 2 years ago by Joep Schuurkes |
|  | me | Add Tests for the Script #10 · created 2 years ago by Ann Ye |
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|  | me | Add Revision number to the build for release candidates #12 · created 2 years ago by Joep Schuurkes |
|  | me | Handle 404 errors (watching current build 404s), transport the package anyway #13 · created 2 years ago by Joep Schuurkes |
|  | me | Create a new build even if one with the same revision number already exists #14 · created 2 years ago by Joep Schuurkes |
|  | me | Unable to locate the Slack channel for the acceptance environment #15 · created 2 years ago by Ann Ye |
|  | me | Send Slack message #16 · created 2 years ago by Joep Schuurkes |
|  | me | Slack BotToken - have it saved so user doesn't need to specify it (ever) #17 · created 2 years ago by Ann Ye |
| | | NameError: name 'branch_info_disc' is not defined (when doing a deploy action) #18 · created 2 years ago by Ann Ye |

More teams

More pipelines

| | |
|--|---|
| me | Author: Beth Zagroba Dependencies for Data Hub |
| patient tester | |
| me | Author: Beth Zagroba Dependencies for Data Hub |
| patient tester | |
| patient tester | |
| patient tester | |
| me | Author: Beth Zagroba Add Tests for the Script |
| me | Author: Beth Zagroba #10 · created 2 years ago by Ann Ye |
| me | Author: Beth Zagroba Give information to the user what arguments are needed for a given action |
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More teams

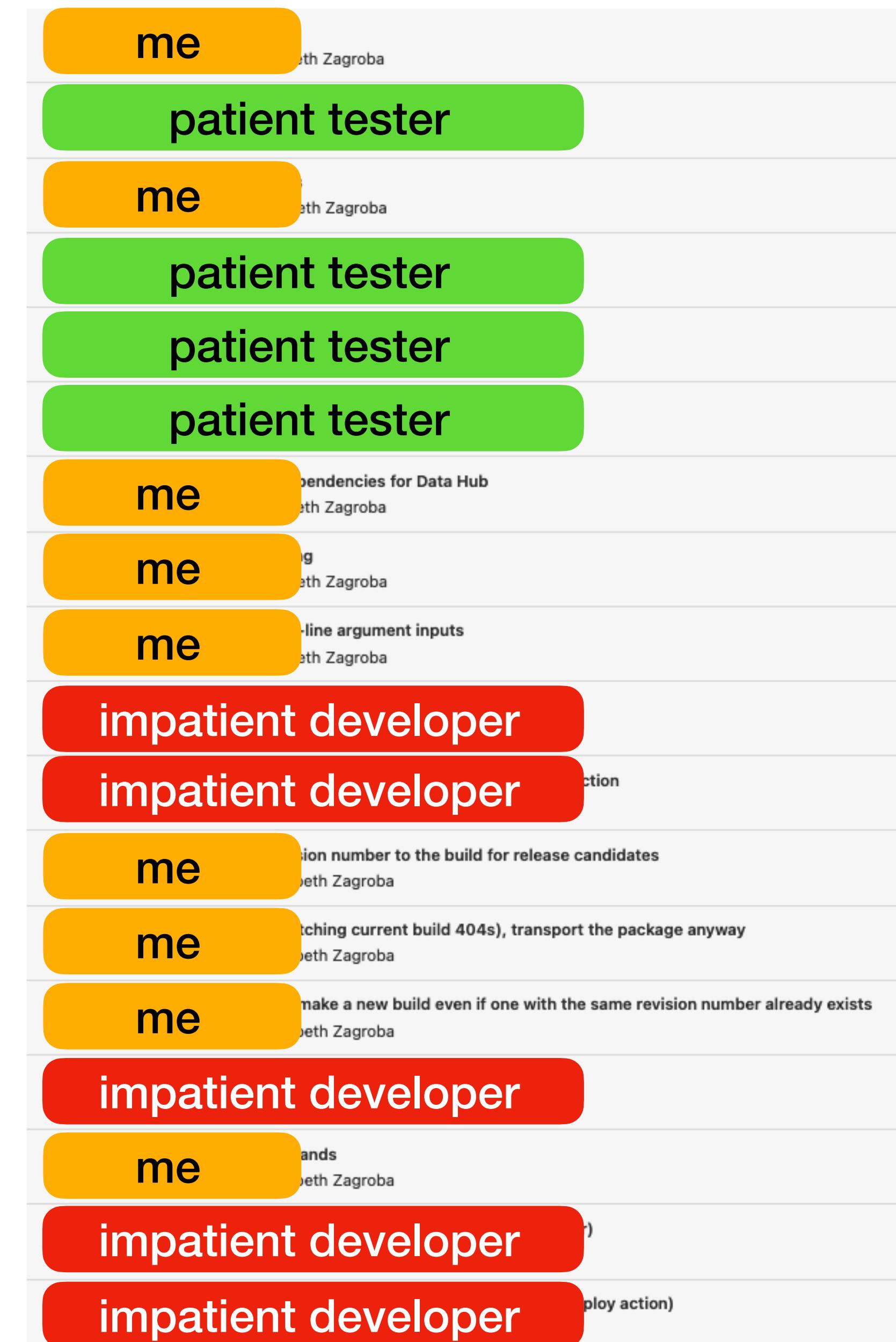
More pipelines



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2020 & 2021

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Fork the repo

Do whatever you want!



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Summer 2022

Time to craft



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Plans

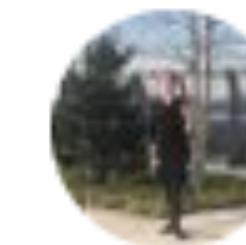
0%

- flake8 formatting
- remove stars on fields that can be saved in the user config file.
they all can be!
- add contribution section to README re: forking
- reorder all instances of actions to appear in alphabetical order
- see if Cloud issue with building from branch is fixed, add feature if it is
- test for build action
- test for restart action
- test for clean action
- test for backup action
- test for transport action
- test for deploy action
- pytest print stdout as it's coming in through the console
- account for project but not node access
- error handling for unconfirmed package uploaded to team server
- successfully add a settings file for a constant
- remove dictionary to tuple translation
- update restart test to check steps from stdout

Delete

Summer 2022

Time to craft



Elizabeth Zagroba
@ezagroba

...

I think I turned a conversation that started with "Can you approve this code? I didn't read what was already there, added random stuff, and didn't try it out." into a collaborative effort towards something good.

Can I be immature the rest of the week? I'm exhausted.



4:41 PM · Jun 1, 2022 · Twitter Web App



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Summer 2022

Time to craft



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Plans

Hide checked items

Delete

88%

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World's Slowest DevOps Engineer

What happened

In short

- Couldn't deploy locally



What happened

In short

- Couldn't deploy locally
- Wrote script to deploy to cloud,
Saved myself 1/2 hour a day



What happened

In short

- Couldn't deploy locally
- Wrote script to deploy to cloud,
Saved myself 1/2 hour a day
- Became part of team(+s) pipeline



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What happened

In short

- Couldn't deploy locally
- Wrote script to deploy to cloud,
Saved myself 1/2 hour a day
- Became part of team(+s) pipeline
- Lost hope



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What happened

In short

- Couldn't deploy locally
- Wrote script to deploy to cloud,
Saved myself 1/2 hour a day
- Became part of team(+s) pipeline
- Lost hope
- Regained hope



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Lessons and Takeaways

Notes for my future self

- Small things with one use can grow into bigger things with many uses



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Lessons and Takeaways

Notes for my future self

- Small things with one use can grow into bigger things with many uses
- Good collaboration takes time and energy



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Lessons and Takeaways

Notes for my future self

- Small things with one use can grow into bigger things with many uses
- Good collaboration takes time and energy
- Pick up the work for the skills you want to build



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Thank you.

Time for questions and opinions.



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Thanks for your attention!
Feedback welcome!

Go to **agiletestingdays.com/session-ratings**
and give your rating!

