

My Crafting Project Became Critical Infrastructure

Elizabeth Zagroba

Agile Testing Days 2022

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Context time

Web app in
our cloud

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Build package from
latest revision

The Cloud UI

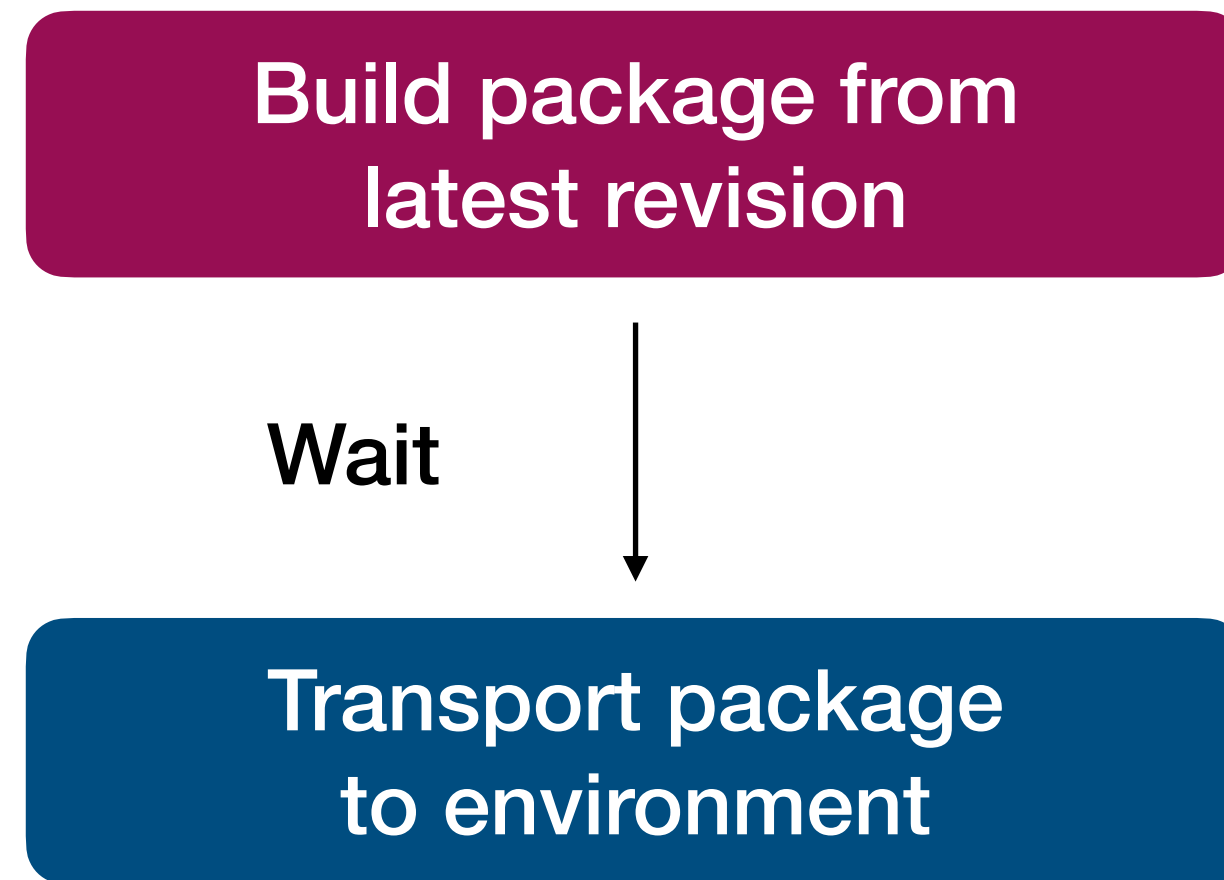
and why that was so slow

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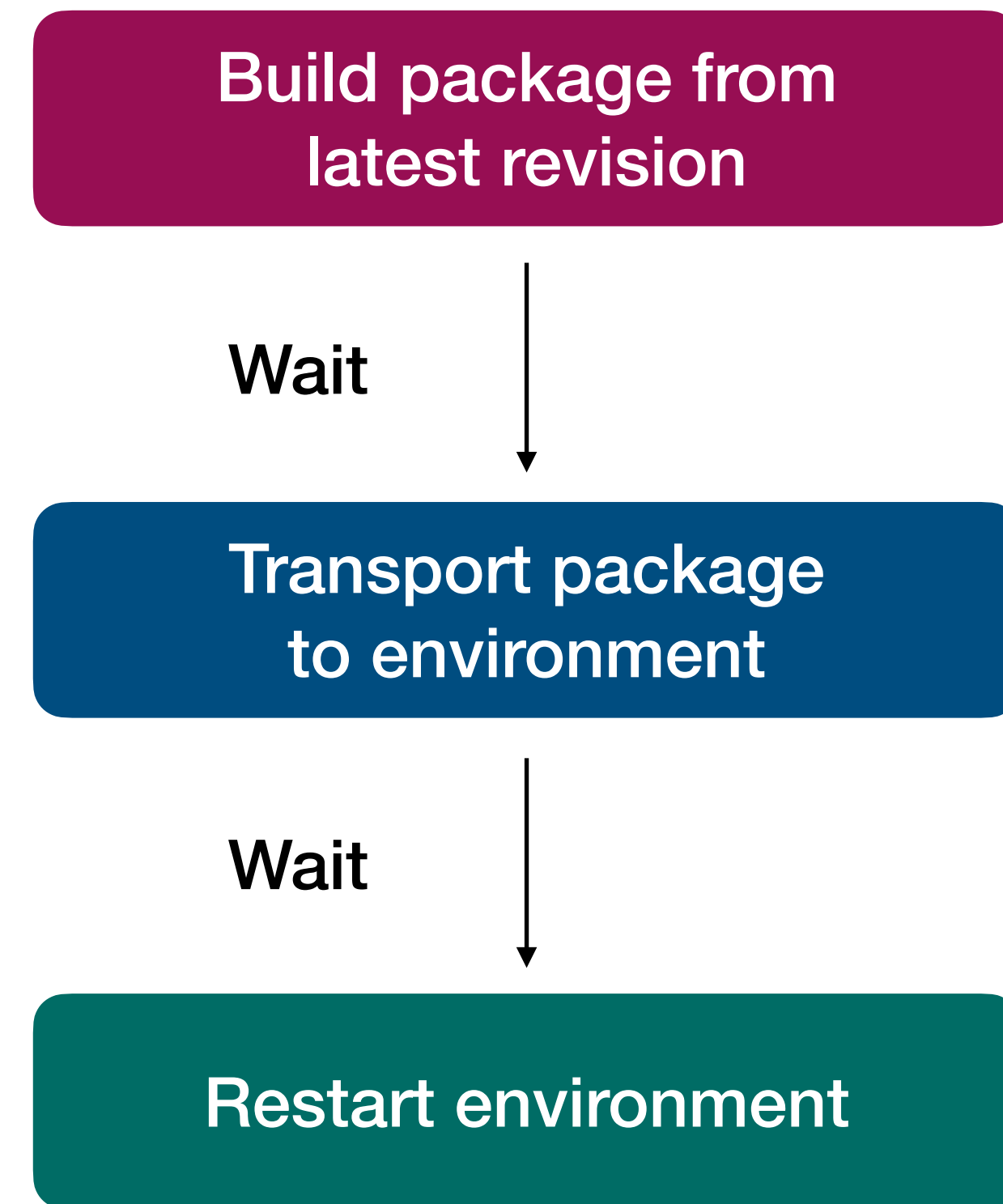
The Cloud UI

and why that was so slow



The Cloud UI

and why that was so slow

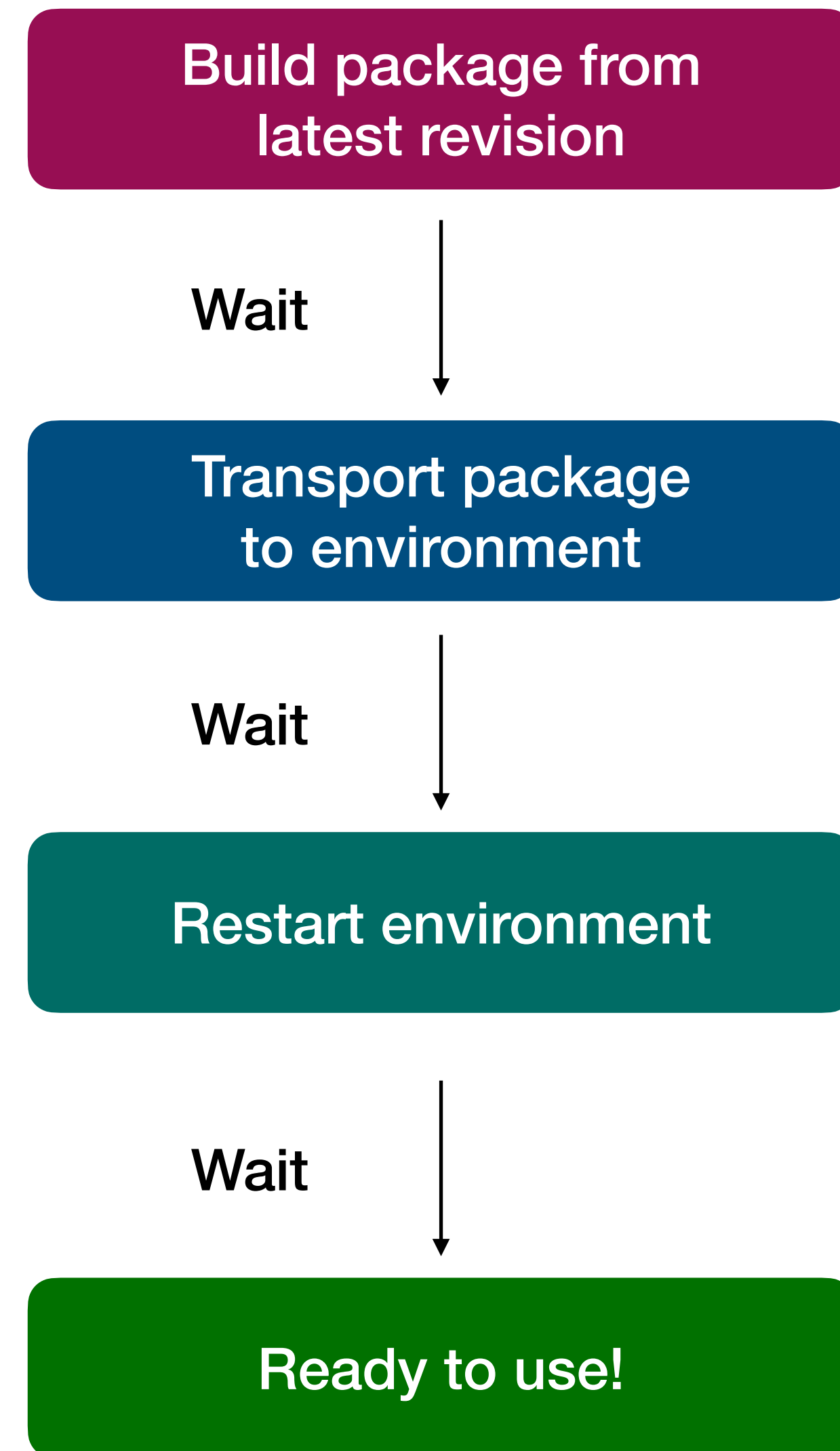


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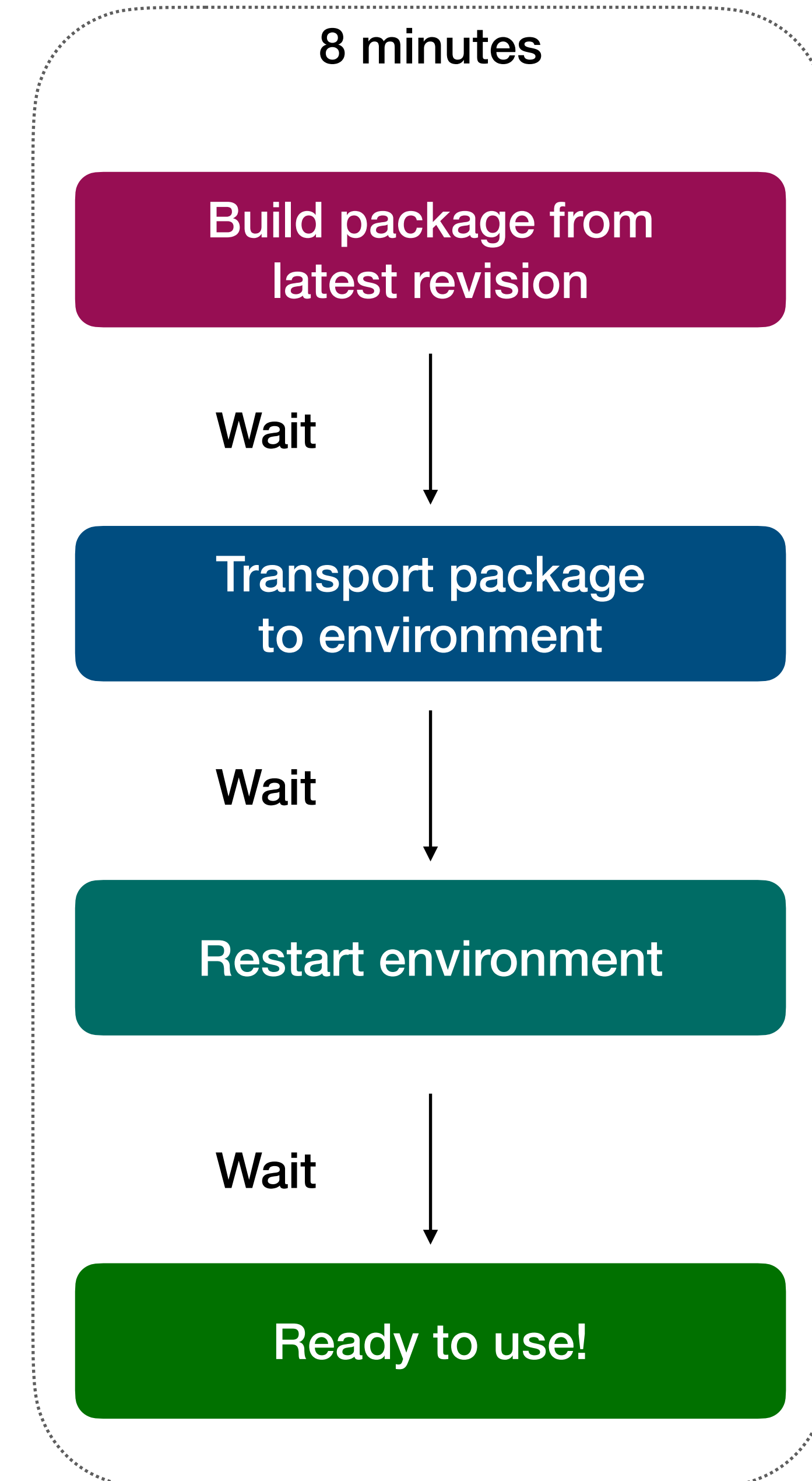
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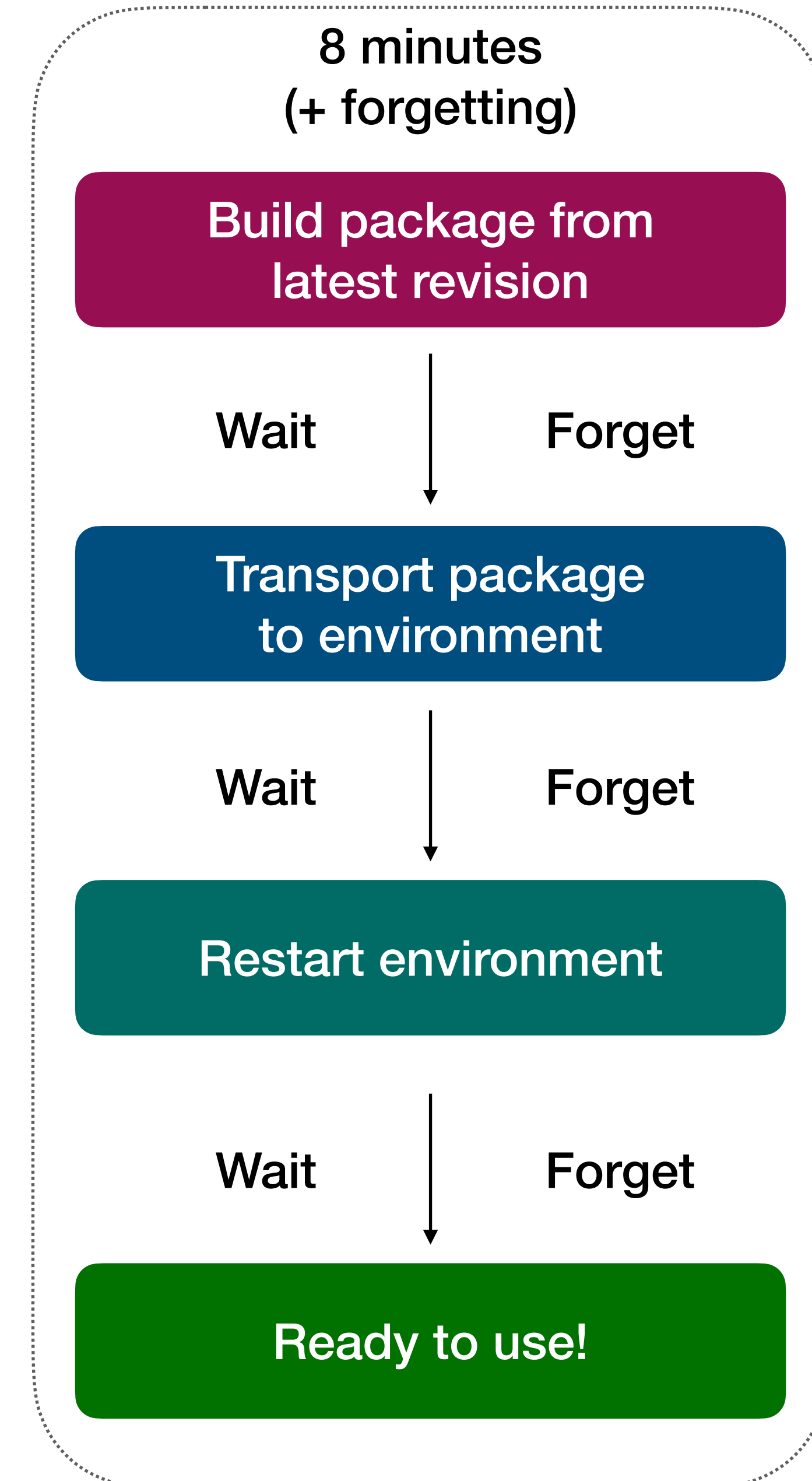
The Cloud UI

and why that was so slow



The Cloud UI

and why that was so slow



The Dream

calling the APIs

Run Python script

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The Dream

calling the APIs

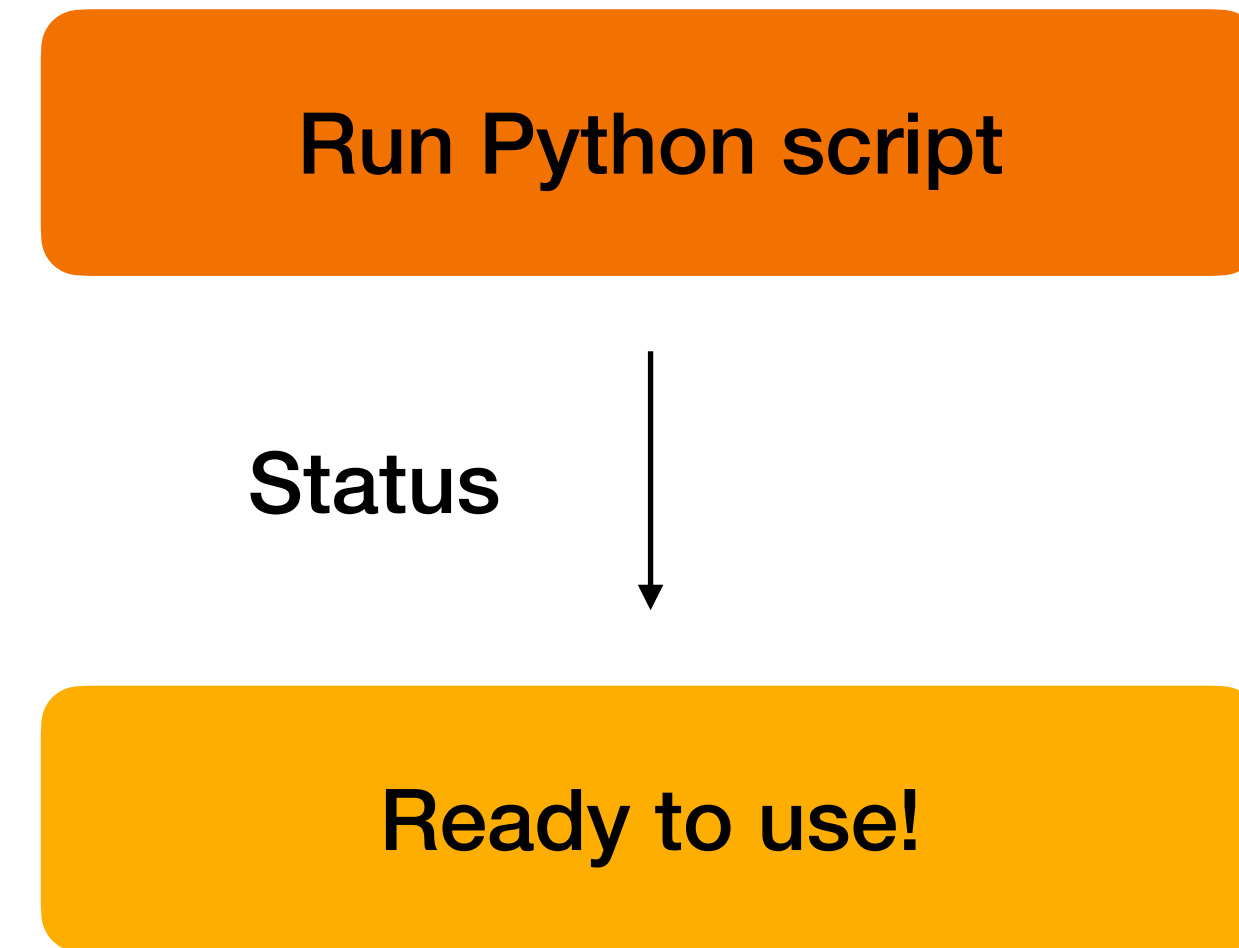
Run Python script

Status



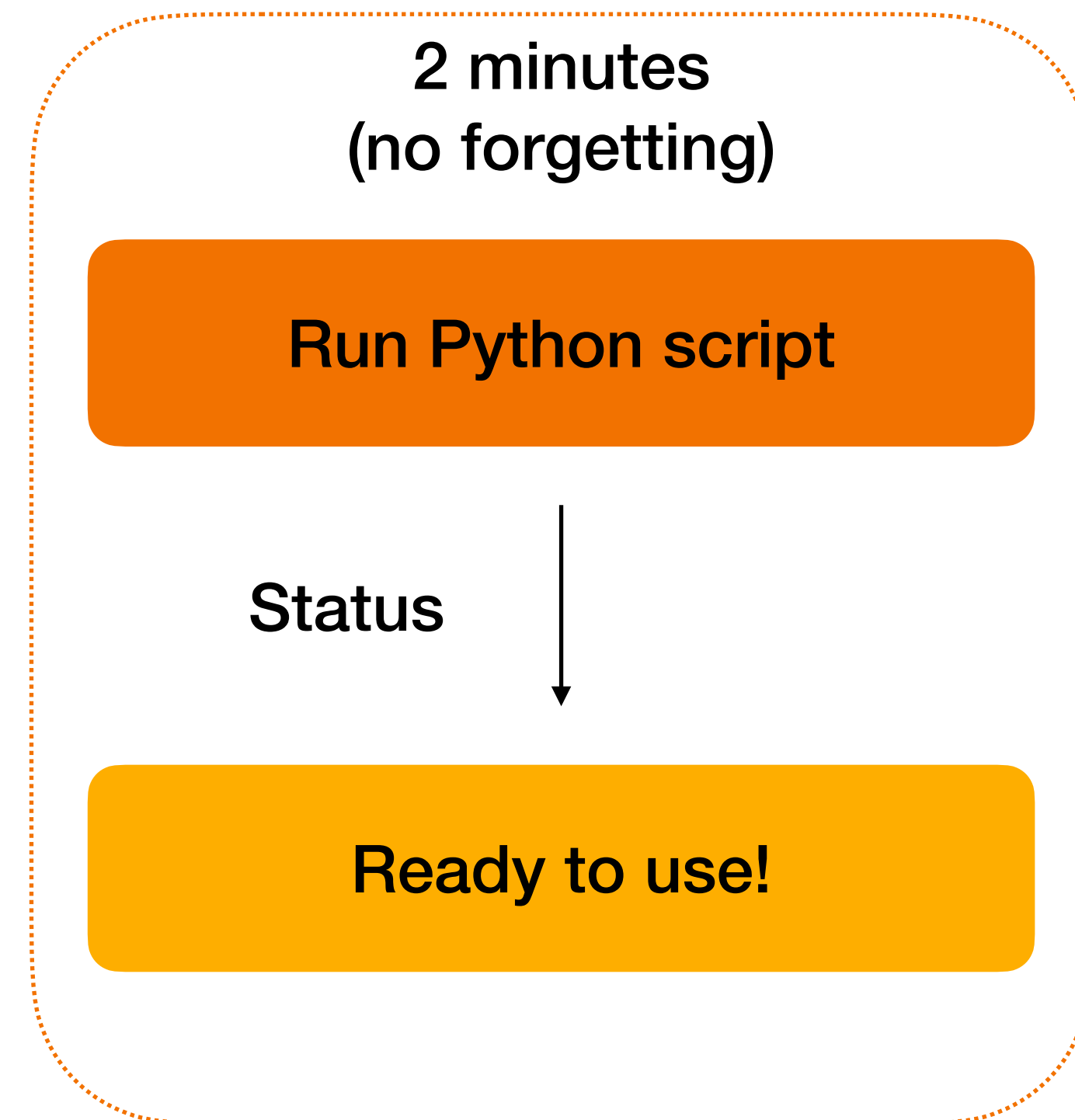
The Dream

calling the APIs



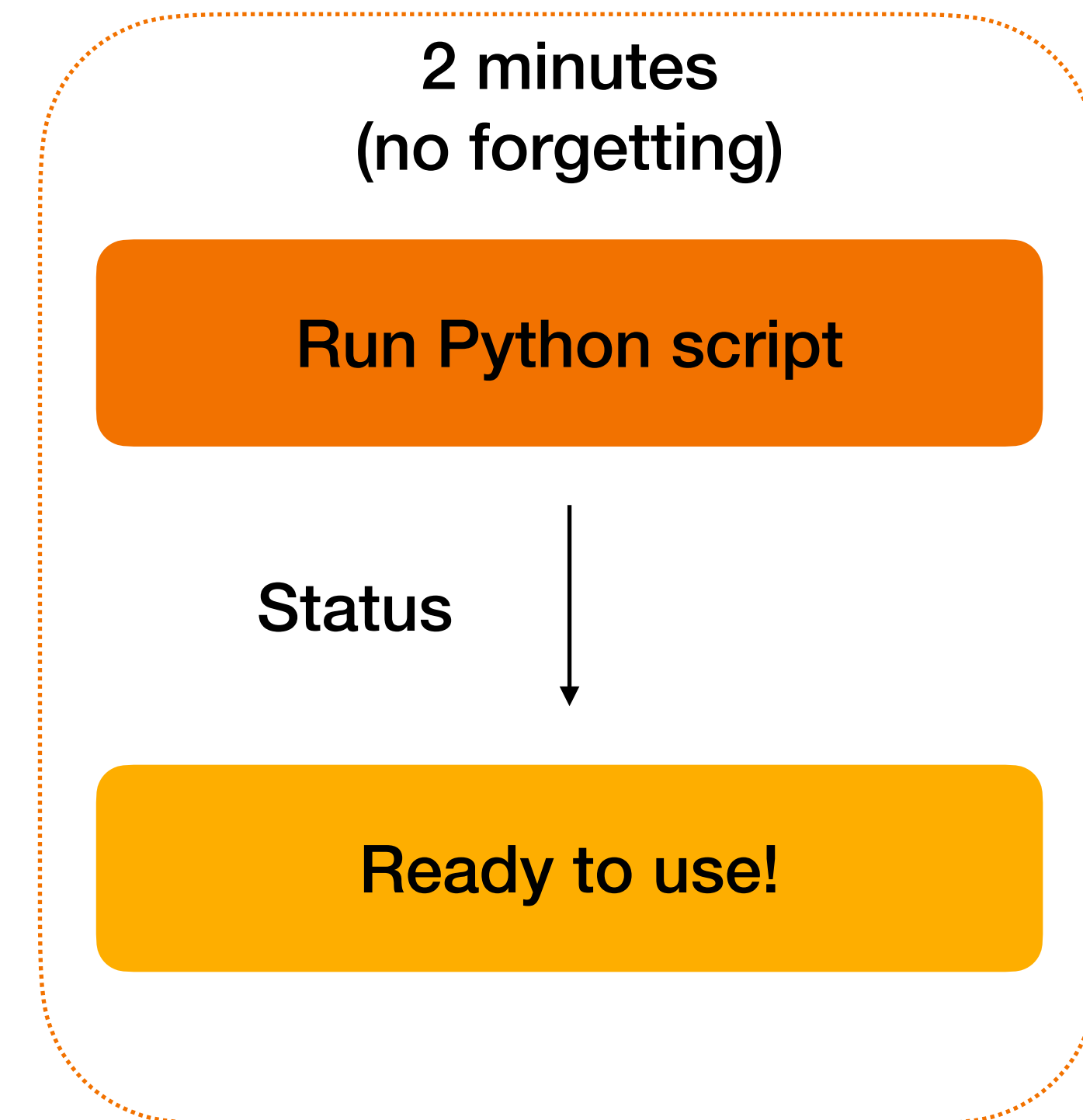
The Dream

calling the APIs



The Dream

calling the APIs



5x per day
6 minutes per day

1/2 hour saved per day

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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
```

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Validate environment name

I needed this script
to build & deploy in the cloud

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I needed this script
to build & deploy in the cloud

Validate environment name

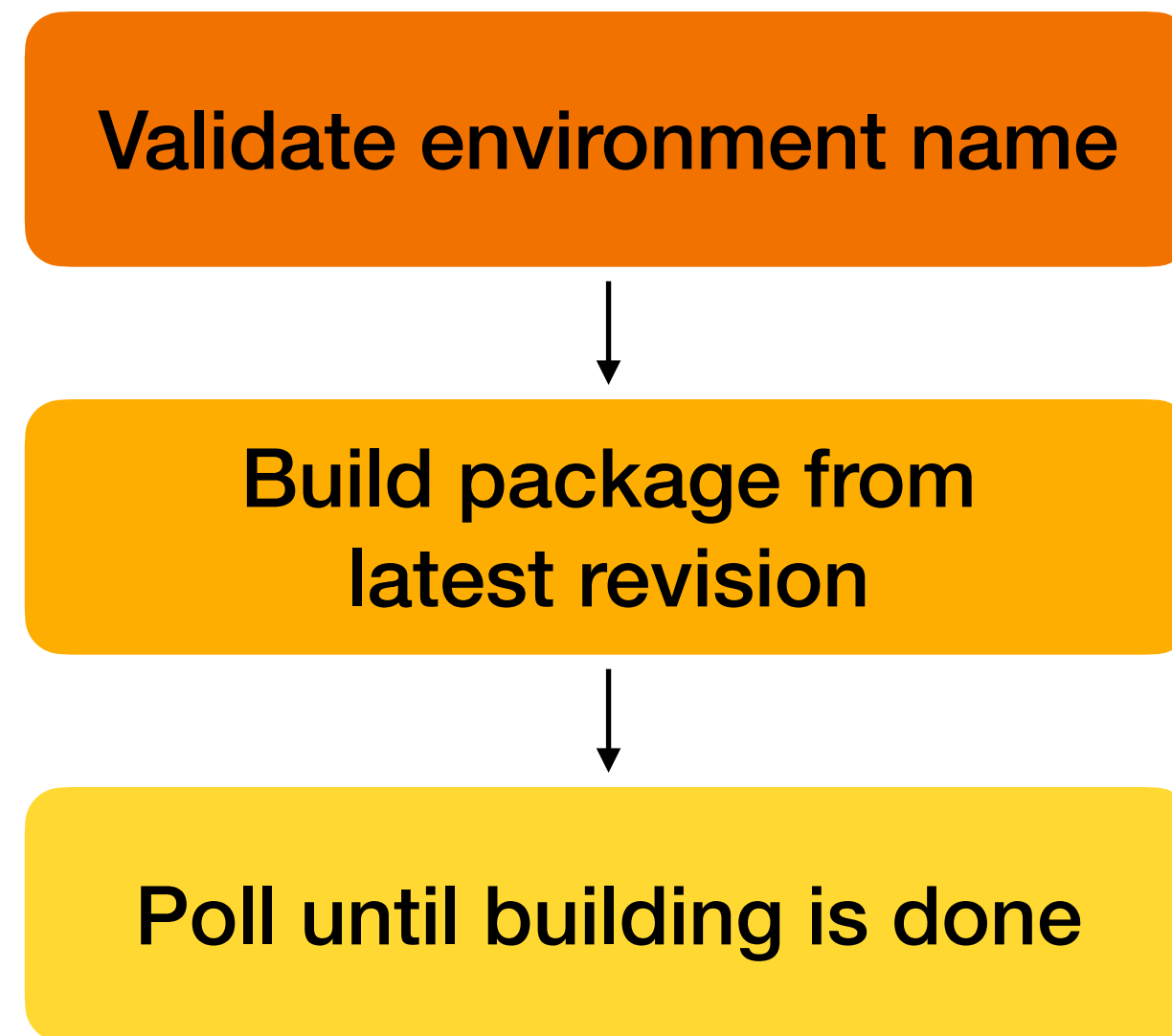


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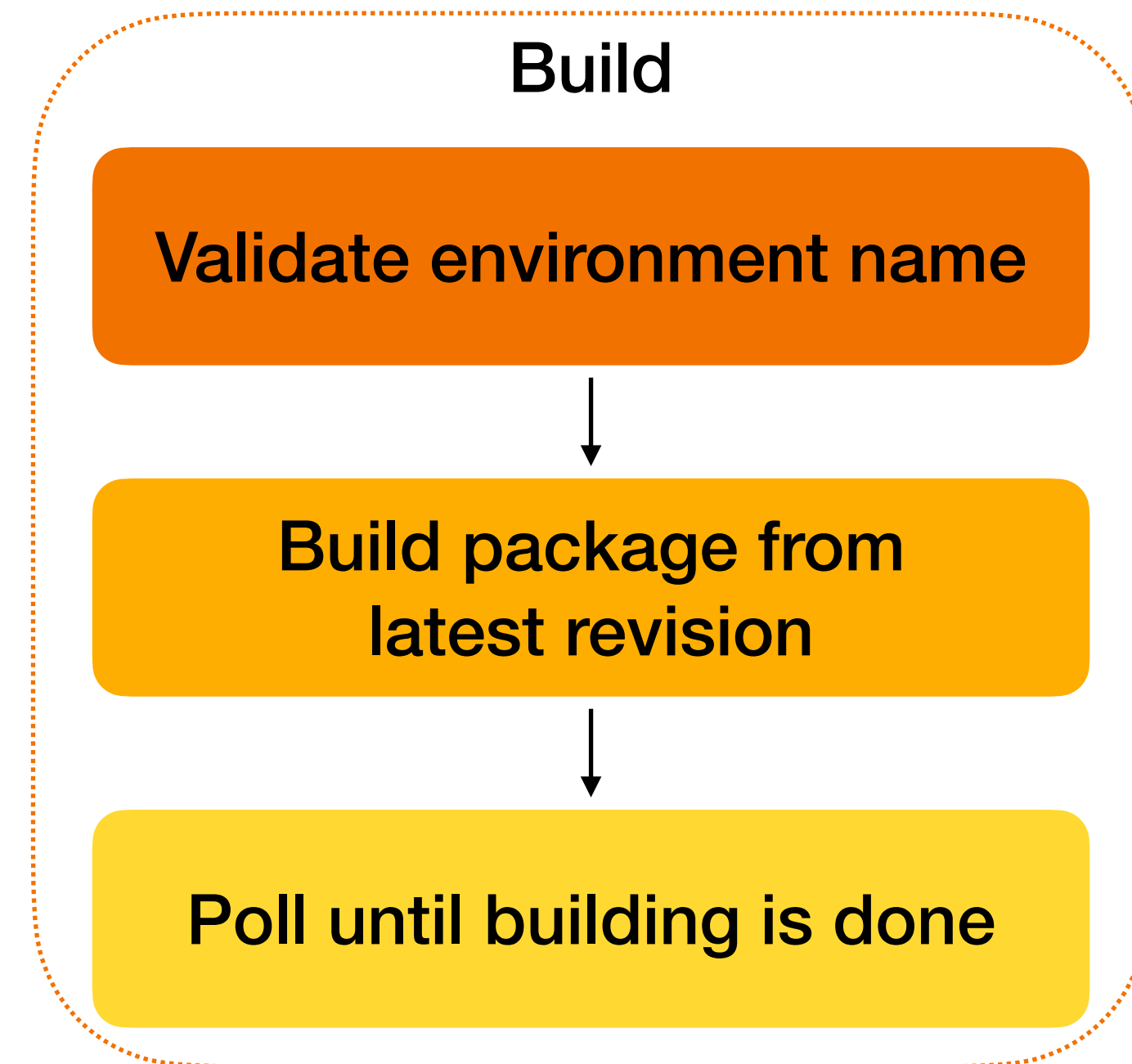
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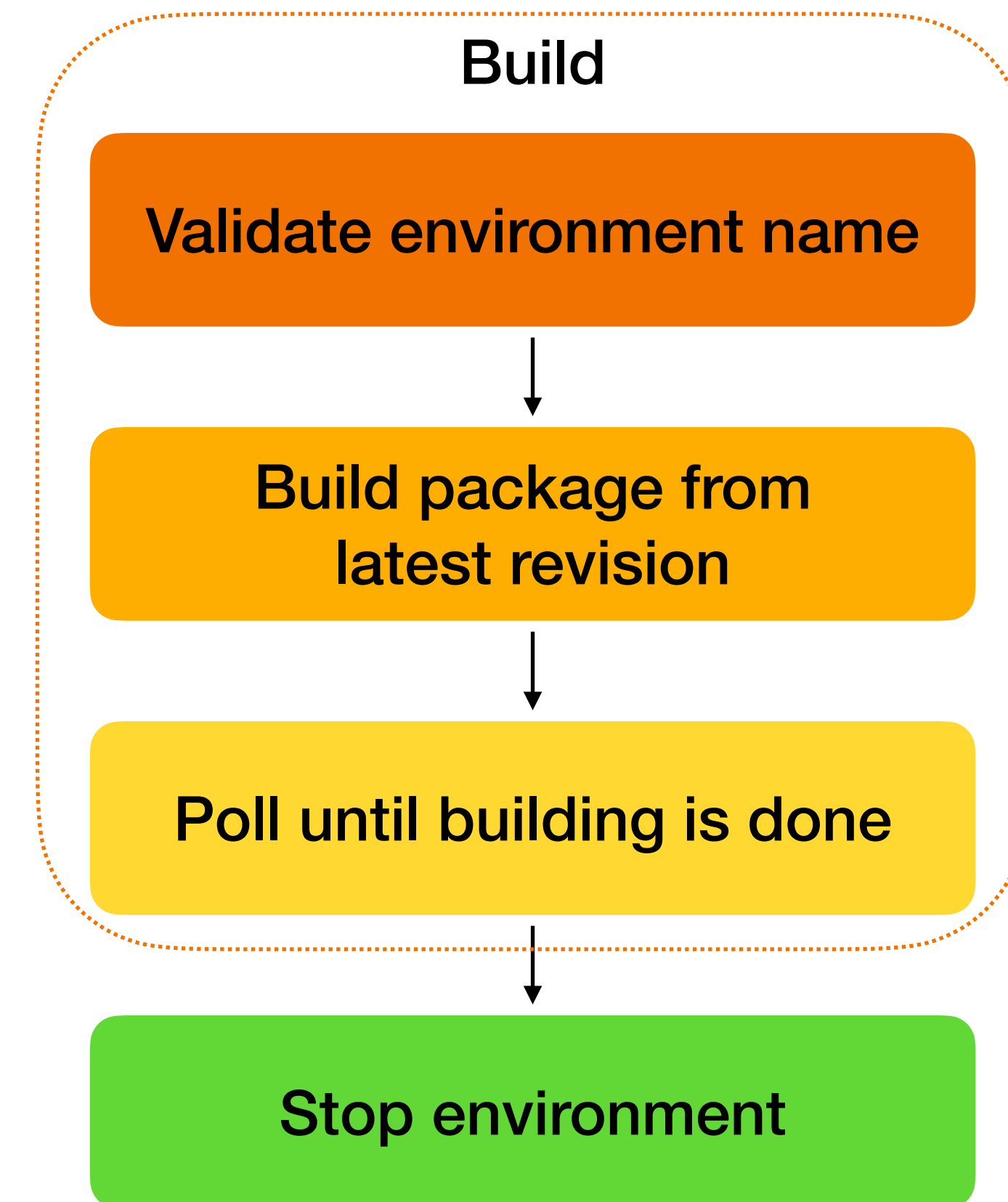
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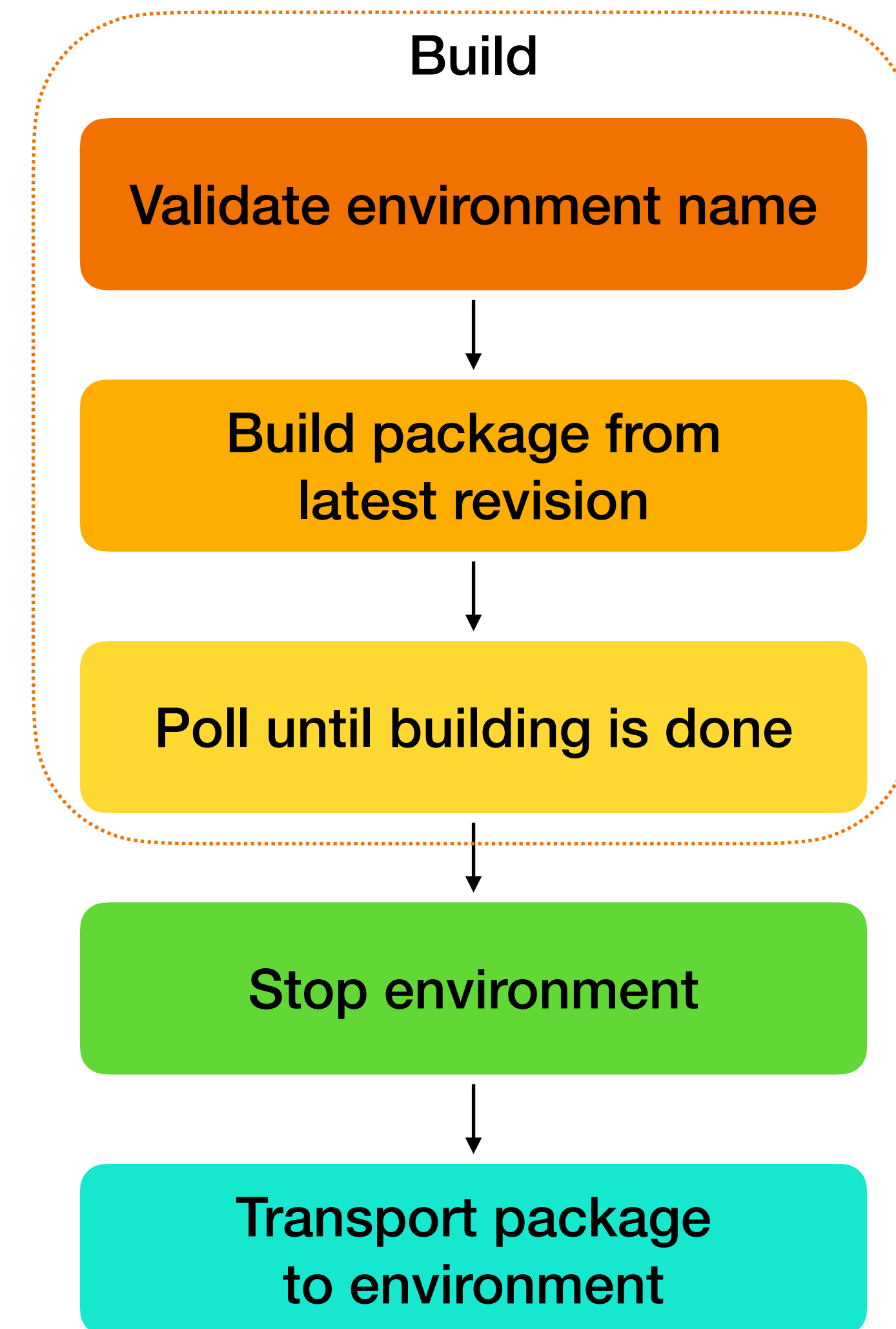
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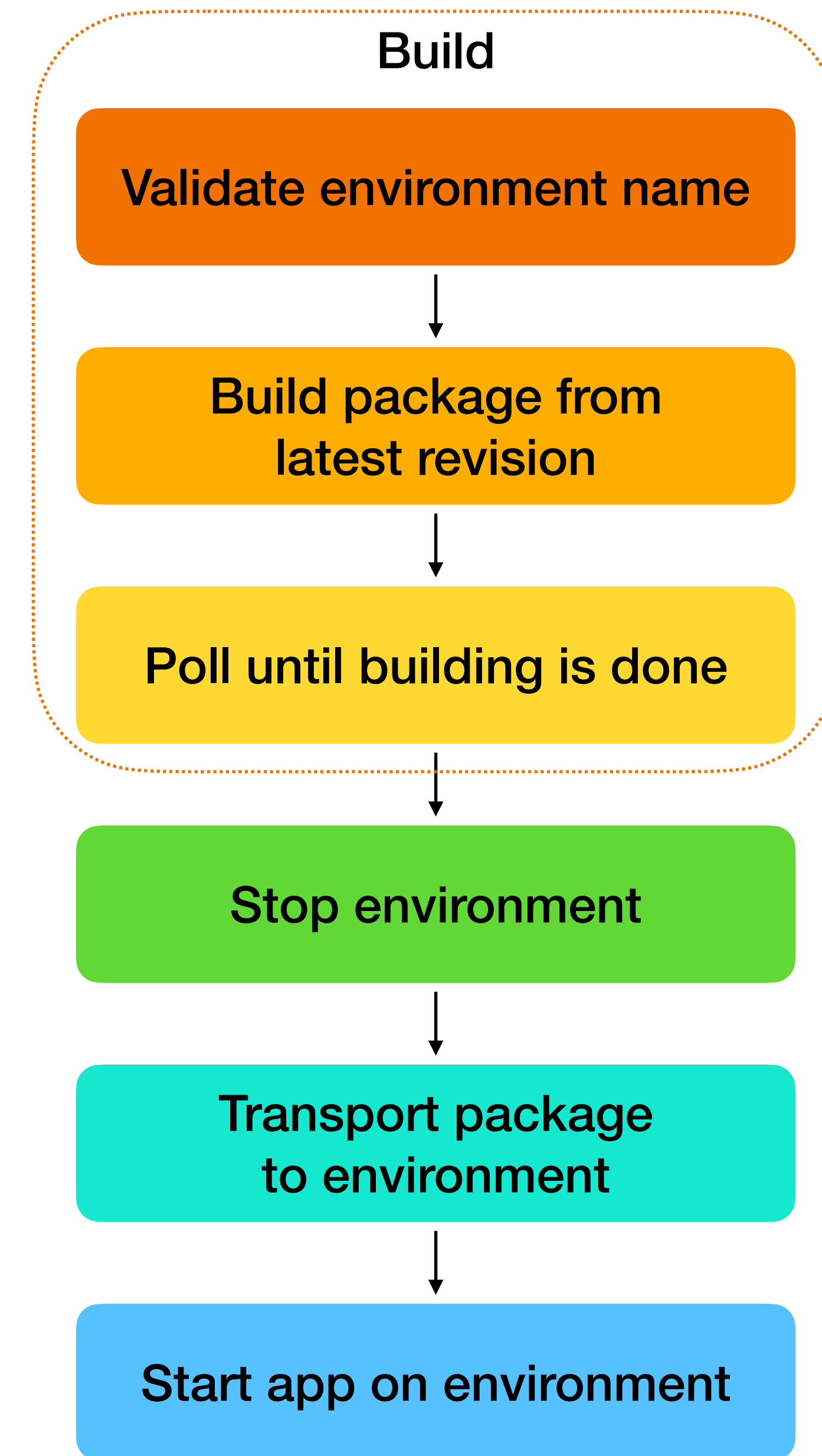
**I needed this script
to build & deploy in the cloud**



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



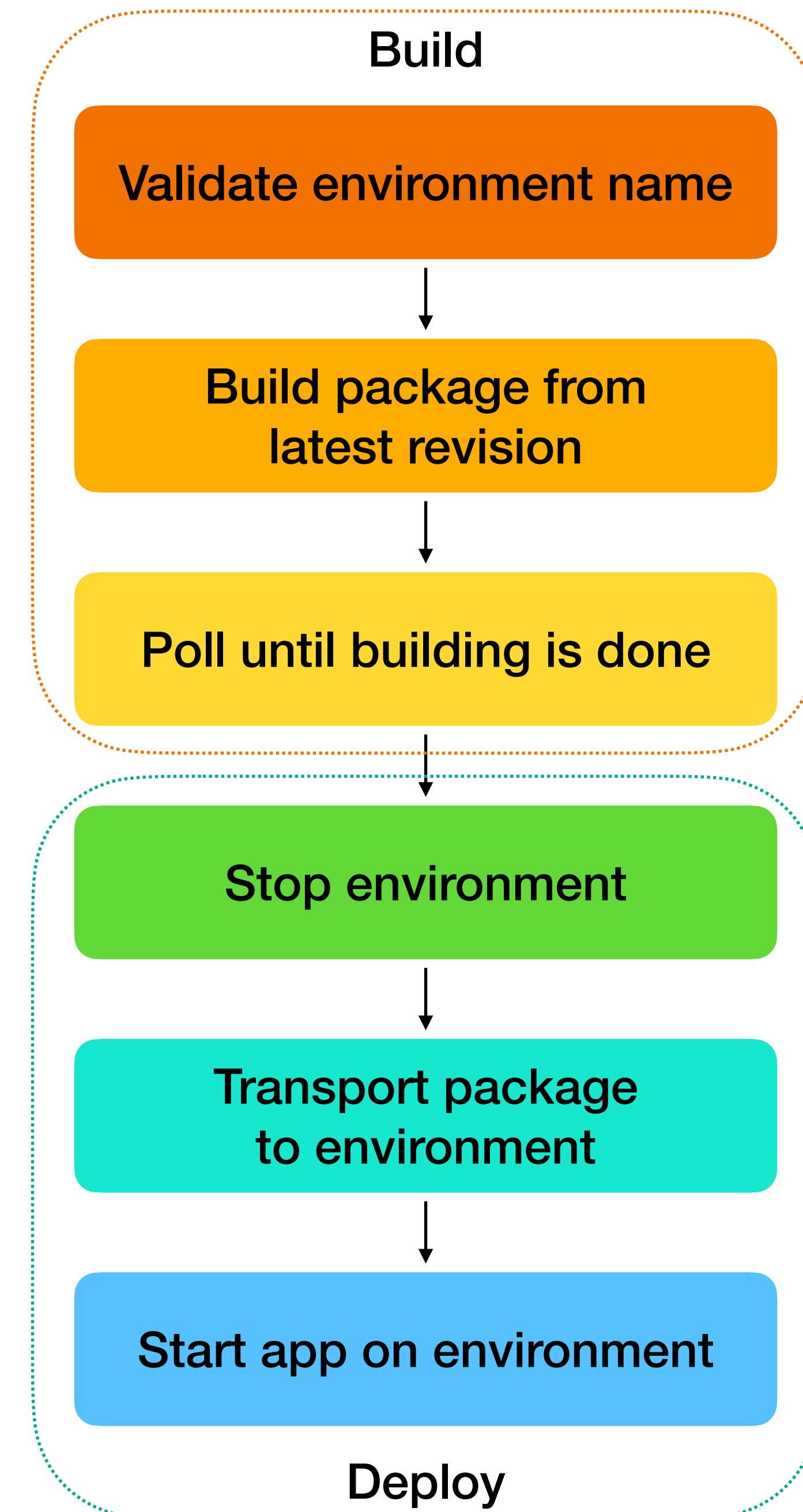
**I needed this script
to build & deploy in the cloud**



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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

```
82
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         }
```

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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',
	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")

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Code review

Refactoring and using it locally

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126	131	print ("Stopped the test environment")

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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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My team's pipeline

**Motivated by our
corporate overlords**

VERACODE

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My team's developer's pipeline

Erasing git history

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Data and Landscape

datahub-ci > Repository


cbbbfbc42bcb4...

datahub-ci / deployment_script

Lock


History











Find file



Clone

Name has been hidden to protect the guilty

cbbbfbc4 

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

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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_disct' is not defined (when doing a deploy action) #18 · created 2 years ago by Ann Ye

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me	h Zagroba
Read credentials from local file instead of command-line arguments #2 · created 2 years ago by Joep Schuurkes	
me	h 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	
me	dependencies for Data Hub h Zagroba
me	g h Zagroba
me	-line argument inputs h 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	
me	ion number to the build for release candidates h Zagroba
me	atching current build 404s), transport the package anyway h Zagroba
me	make a new build even if one with the same revision number already exists h Zagroba
Unable to locate the Slack channel for the acceptance environment #15 · created 2 years ago by Ann Ye	
me	ands h 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't is not defined (when doing a deploy action) #18 · created 2 years ago by Ann Ye	

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More pipelines



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patient tester	
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patient tester	
patient tester	
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More pipelines



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patient tester	
me	h Zagroba
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patient tester	
patient tester	
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impatient developer	
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impatient developer	
me	ands h Zagroba
impatient developer)
impatient developer	ploy action)

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

Delete

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

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%



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
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test for build action



test for restart action



test for clean action



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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

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**World's Slowest
DevOps Engineer**

What happened

In short

- Couldn't deploy locally

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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

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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

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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!

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and give your rating!

