

Deploying Automated Testing for Infrastructure Changes



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Overview



Command-line outputs

Integrating testing libraries into CI/CDs

Terraform-specific validation



Command-line Inputs and Outputs



Standard Input, Output, Error

stdin

Input to a command,
most frequently text
commands

stdout

Normal output from a
command, often
processing and result
messages

stderr

Error messages output
to the stderr



An exit code is a numerical value set after a program runs indicating success or failure.



Demo



See stdin, stdout, and stderr in action

Test success and failure exit codes



Writing Custom Tests in CI/CDs



Some phases fail
immediately on error

Some phases continue
even on error

Some phases don't
affect build result

Breaking the Build

If any of the commands in the first four phases of the job lifecycle return a non-zero exit code, the build is broken:

- If `before_install`, `install` or `before_script` returns a non-zero exit code, the build is **errored** and stops immediately.
- If `script` returns a non-zero exit code, the build is **failed**, but continues to run before being marked as **failed**.

The exit code of `after_success`, `after_failure`, `after_script`, `after_deploy` and subsequent stages do not affect the build result. However, if one of these stages times out, the build is marked as **failed**.



Demo



Remove debugging commands

Install TFLint for validation

Change terraform failure rules



Terraform Validation and Planning



Demo



Uncomment very large terraform change

Review terraform plan

Deploy Cisco ASAv stack



Summary



Uncommented a very large PR

Pushed PR to Git, reviewed Travis run

Fixed cloud issues around SSH key

Downloaded SSH key file



Terraform Validation and Planning – Part 2



Summary



Execute terraform apply again to build resources

Find IOS config applied to device

Set permissions on SSH key file

Connected to our ASAv

Destroy resources to save \$\$

