

Progressive
Delivery -
Experimenting with
features in
production while
minimizing risk

Orit Golowinski

Senior Product Manager



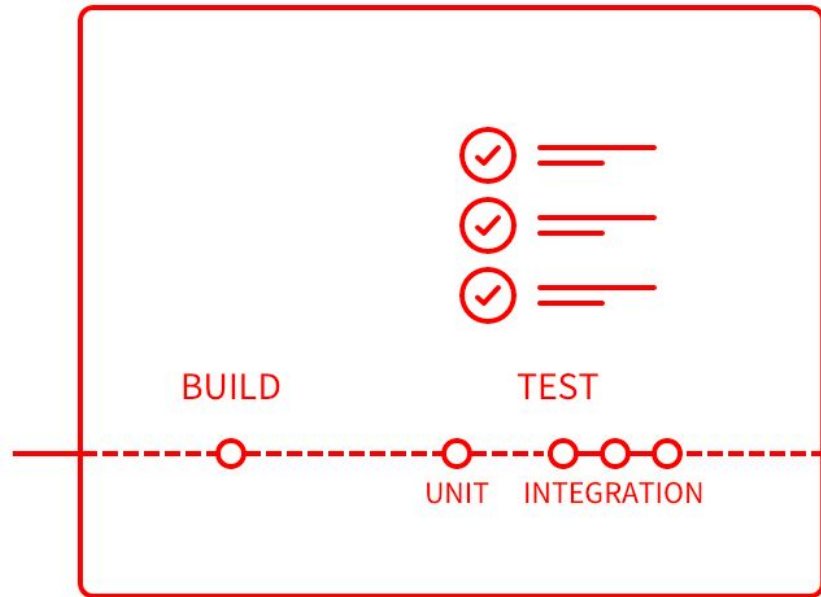
GitLab



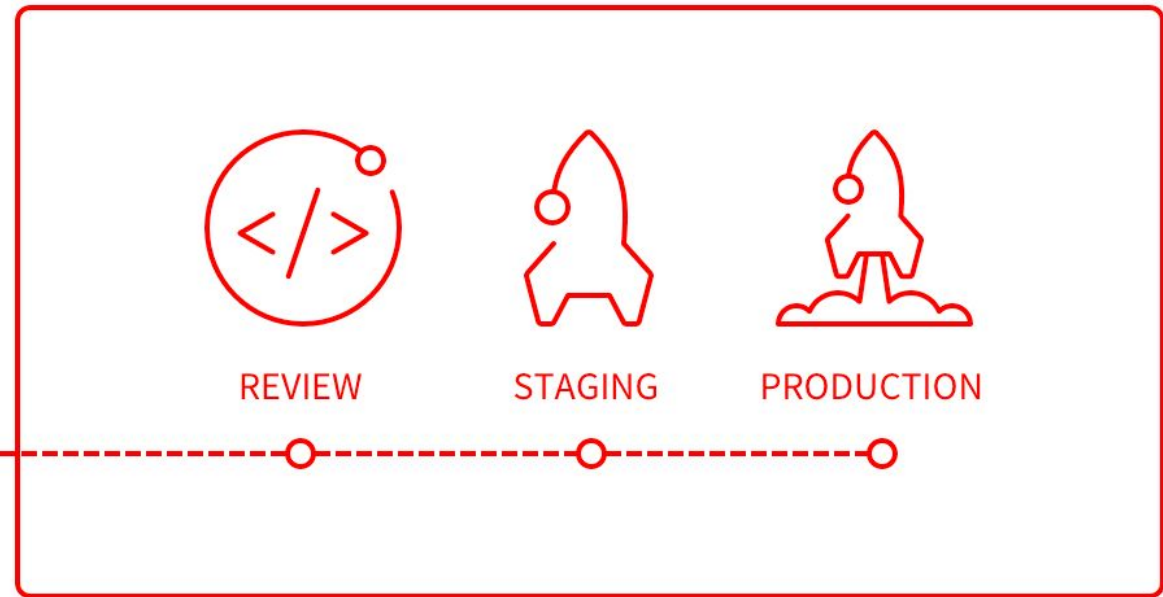
About Me

- My name is Orit Golowinski.
- I Senior Product Manager of Progressive Delivery at GitLab.
- I have a B.Sc. in computer Engineering and am in the final semester of my MBA, specializing in Data Systems
- I have over 15 years of experience in the Hi-tech industry, previous roles included director of R&D infrastructure and director of QA
- I have three girls
- I am a certified pastry chef but never worked as one





CI PIPELINE



CD PIPELINE

Continuous Delivery

Software can be released to production at any time.

Progressive Delivery



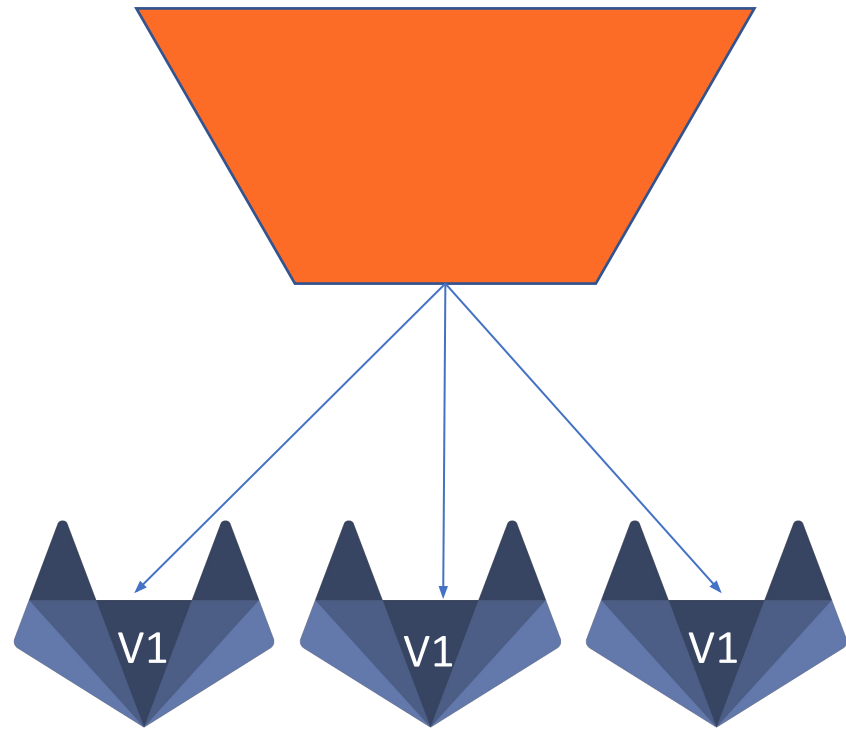
“Progressive delivery is continuous delivery with fine-grained control over the blast radius.”
— *James Governor, RedMonk*

I DON'T ALWAYS TEST MY CODE

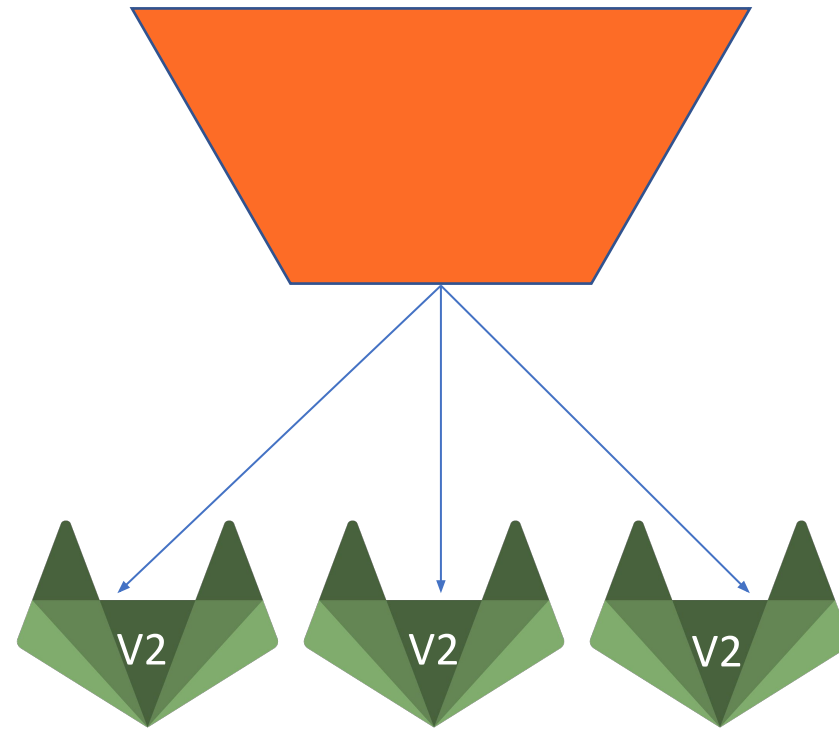
**BUT WHEN I DO, I DO IT IN
PRODUCTION**

Blue/Green Deployments

Before

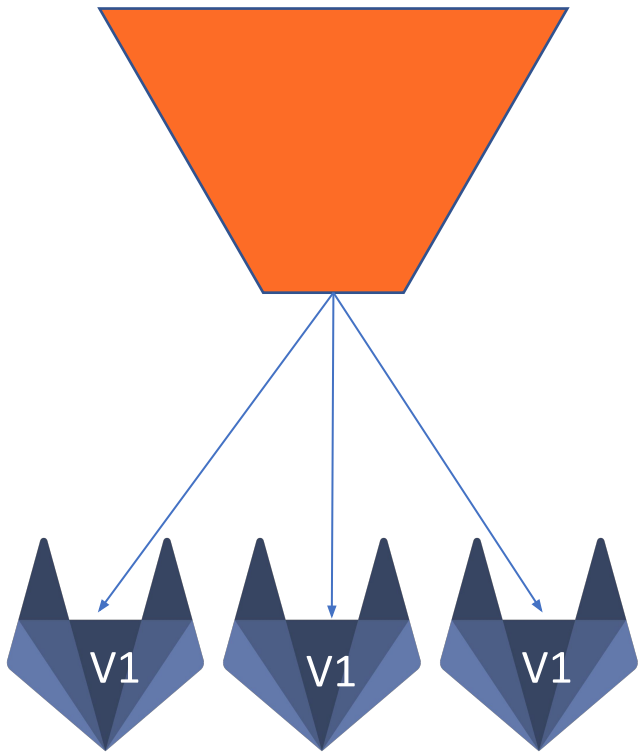


After

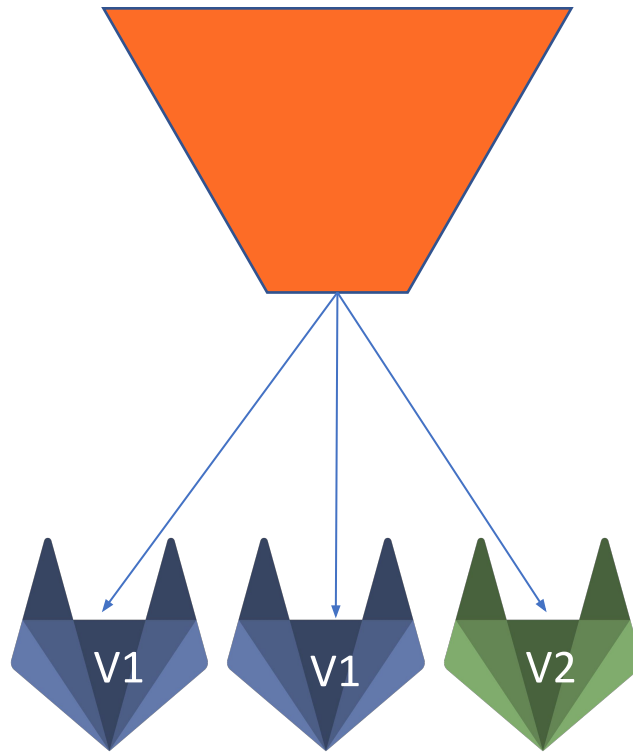


Canary Release

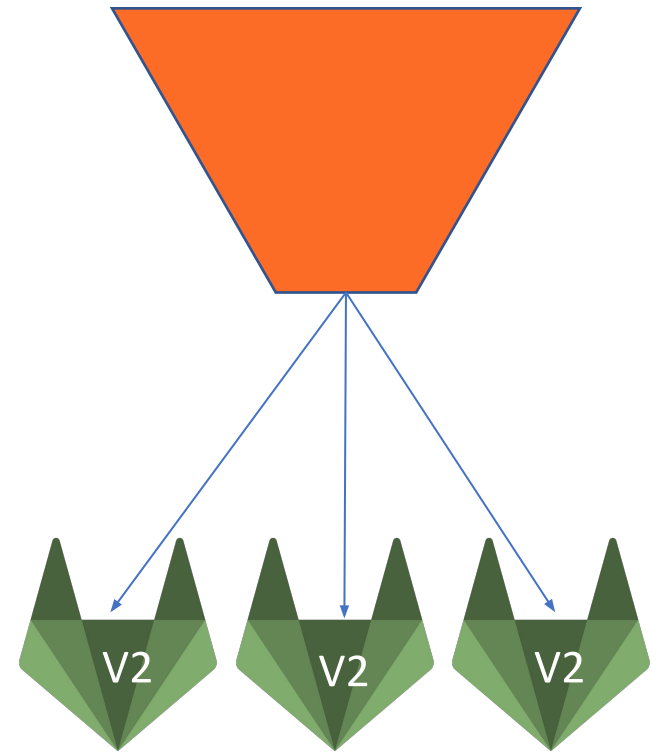
Before



During



After



Available 100 Stopped 200 All 300

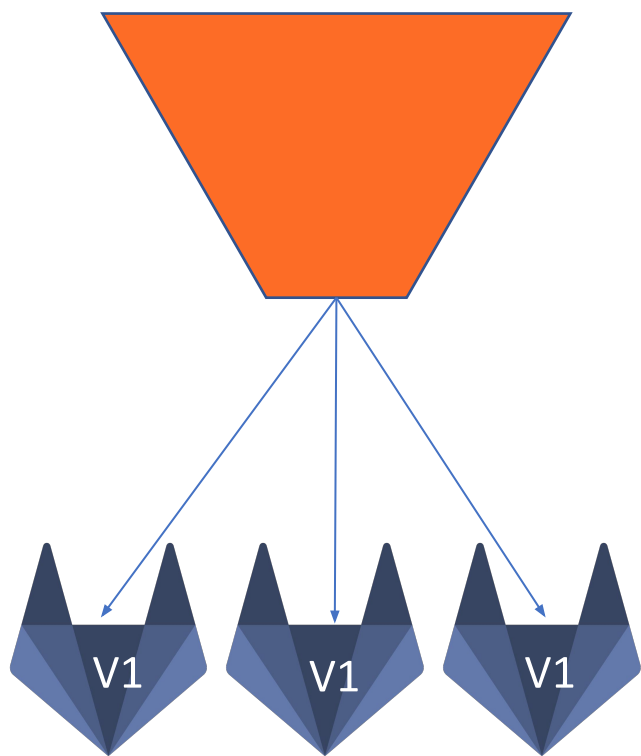
New environment

Environment	Last Deployment	Build	Commit	
production	#1982 by	production (#29838928)	master -> 872ba22c Update profiles	Today
59% Complete				Roll back Abort
staging	#1980 by	staging (#3223827)	master -> 586b44ec Update MR2 link	1 day ago
100% Complete				Roll back Abort
review 98				
add-information	#1829 by	review (#29830918)	master -> 323eb288 Edit information on tabs	1 day ago
hello-world	#1823 by	review (#19280928)	master -> 277ab281 Work on new environment	3 days ago
12397-implement-feature	#1821 by	review (#29810928)	master -> 417b88e6 Implement new feature	3 days ago

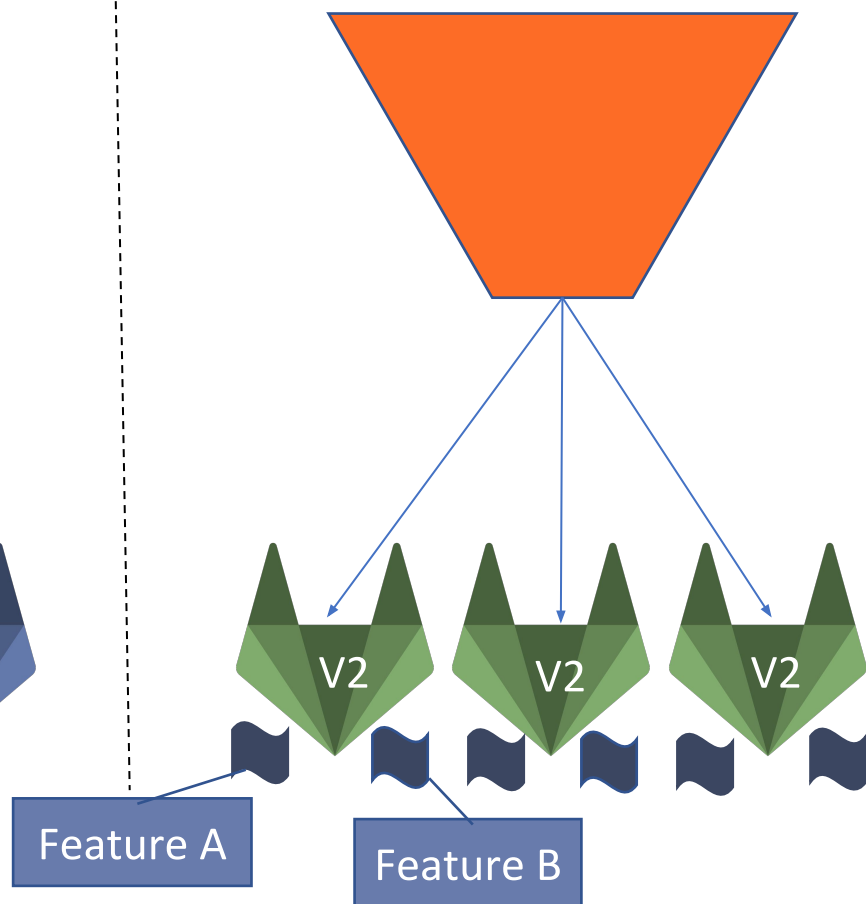
Canary Release in GitLab

Feature Flags

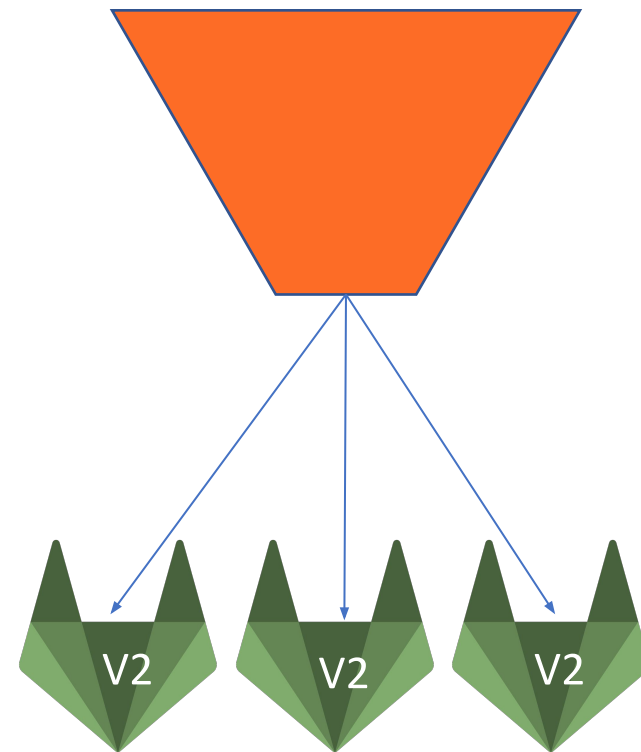
Before



During



After











Feature Flags

Configure

New feature flag

All 4 Enabled 4 Disabled 0

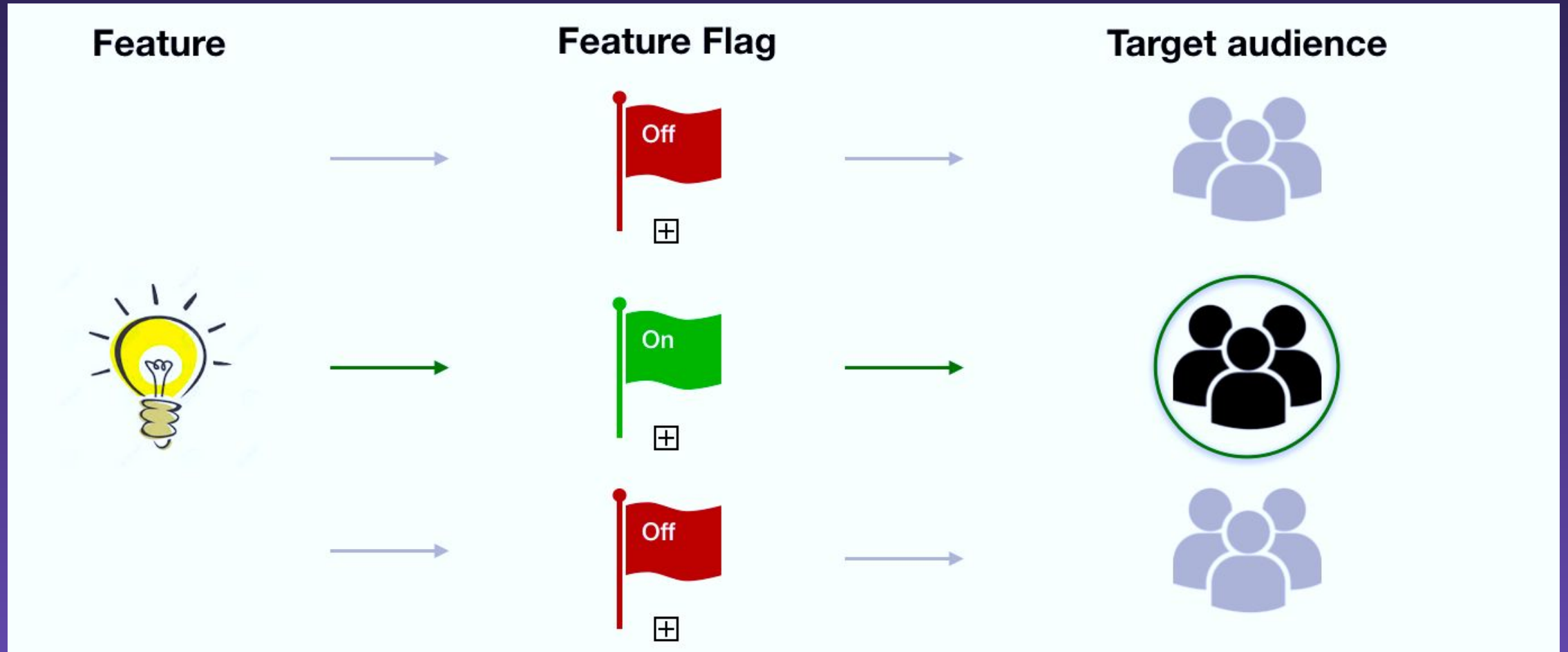
ID	Status	Feature Flag	Environment Specs	
^1	<input checked="" type="checkbox"/>	demo ⓘ demo for % rollout ff	* (All environments) testing: 50% production: 15%	 
^2	<input checked="" type="checkbox"/>	new_ff ⓘ	* (All environments) testing	 
^5	<input checked="" type="checkbox"/>	user_id_flag ⓘ testing userid	* (All environments)	 
^12	<input checked="" type="checkbox"/>	user_id_v2_ff Feature Flag based on userID - ne...		 

Feature Flags in GitLab

Comparison between feature flags and canary

	Feature Flags	Canary
Placement	Application	infrastructure networking layer
Orchestrated by	developers, product managers, QA	DevOps, SREs
percentage of traffic/users	V	V
Whitelisting IP addresses	V	V
Rule based (application rules - # of songs in a playlist)	V	X
Group based (domain/tier etc.)	V	X
Rollback	Granular - Specific feature	Entire Deployment

Combining Feature Flags with Canary



A/B Testing



Progressive Delivery Pros



Ability to control feature distribution



In case of failure, only a small group of users are exposed



Ability to test in production before rolling out to all users



Fast Feedback and Metrics for new features



More roles on the team can manage new features in production



Fast rollback in case needed

Progressive Delivery Cons



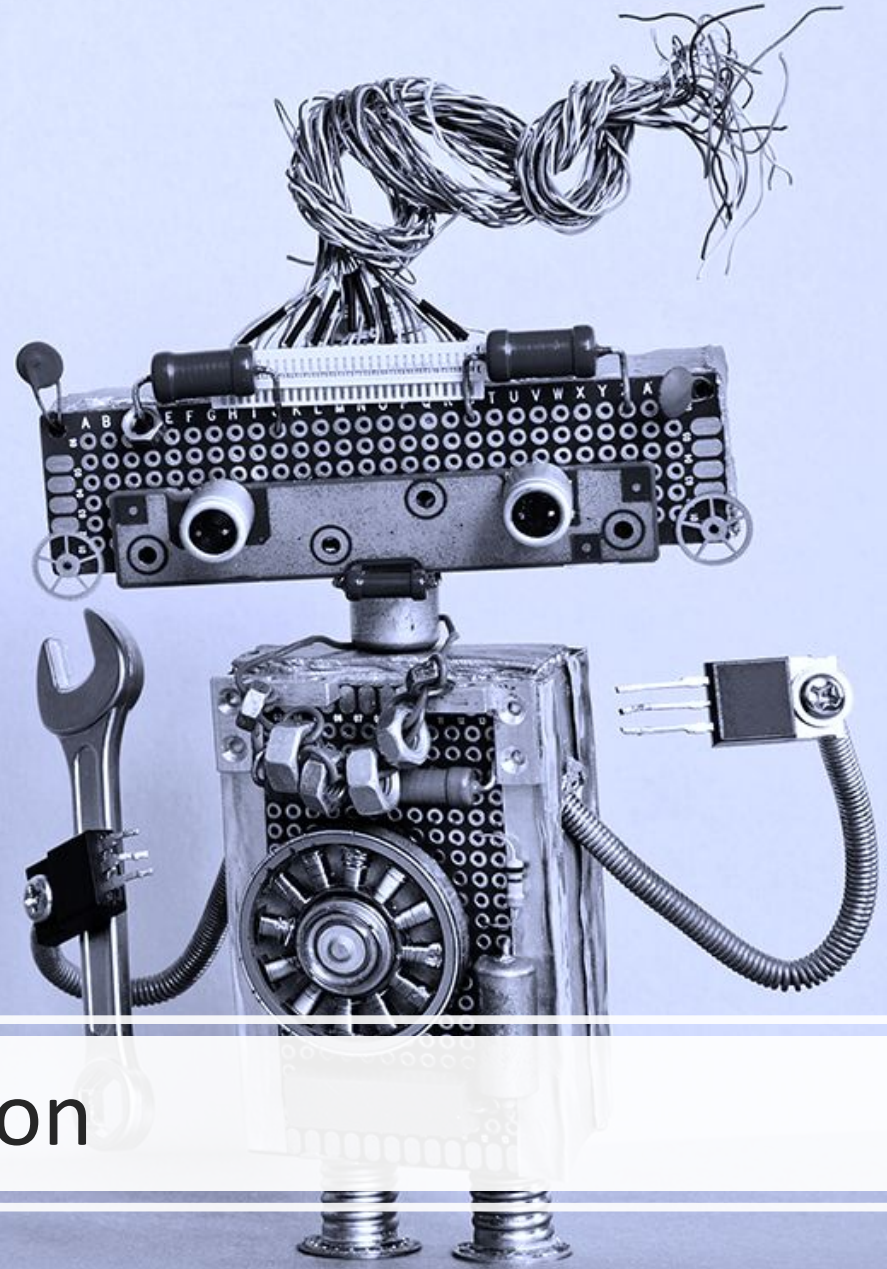
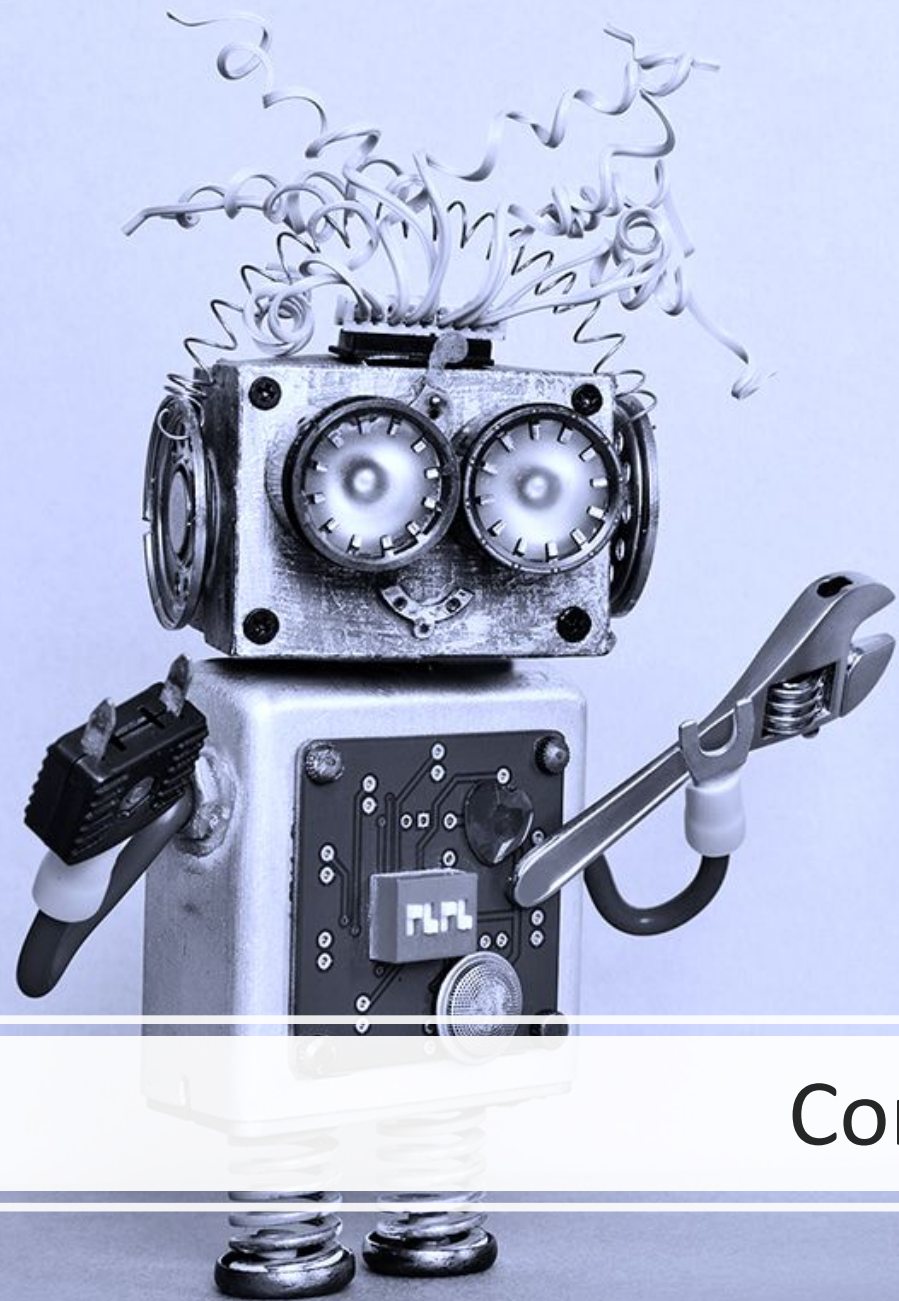
Need to monitor Latency,
Traffic, Errors and saturation



Can introduce technical debt




More complexity to understand
customer scenarios



Conclusion

Thank you!

- For feedback, comments or questions, please feel free to contact me:
- Email: ogolowinski@gitlab.com
- : GO_Orit

