The Container Analysis Project

Gather info about images from DockerHub

https://github.com/mtarsel/ContainerAnalysis

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GOAL

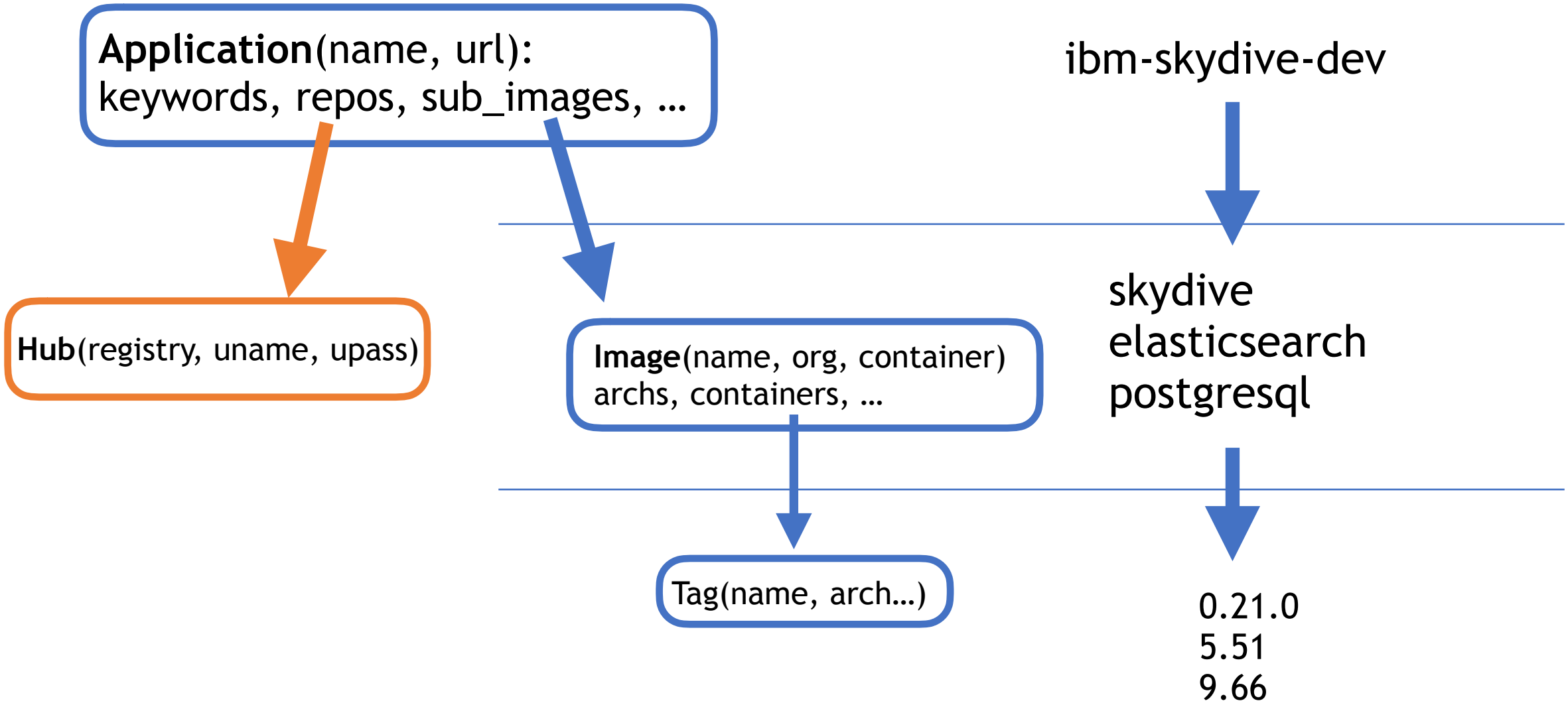
- Execute it
- Development info
- Discuss features

App	amd64	ppc64le	s390x	Images	Container	amd64	ppc64le	s390x	Tag Exists?
ibm-redis-ha-dev	Y	Y	N						
				redis-ha	4.0.6-r0	Y	Y	N	Y
ibm-rabbitmq-dev	Y	Y	Y						
				rabbitmq NOT FOUND IN REPO	3.7.3-management-alpine	N	N	N	N
ibm-open-liberty	Y	Y	Y						
				open-liberty NOT FOUND IN REPO	javaee8	N	N	N	N
				hazelcast	3.10.6	N	N	N	Y
ibm-skydive-dev	Y	Y	Y						
				skydive	0.21.0	Y	Y	Y	Y
				elasticsearch	5.5.1	Y	Y	N	Y
				postgresql	9.6.6	Y	Y	Y	Y
ibm-was-vm-quickstarter-dev	Y	N	N						
				wasaas-console	2.0.5	N	N	N	Y
				couchdb NOT FOUND IN REPO	2.1.1	N	N	N	N
				wasaas-cloudsm	2.0.5	N	N	N	Y
				wasaas-wasdevaas	2.0.5	N	N	N	Y
				wasaas-devops	2.0.5	N	N	N	Y
				wasaas-dashboard	2.0.5	N	N	N	Y

<Code Overview >

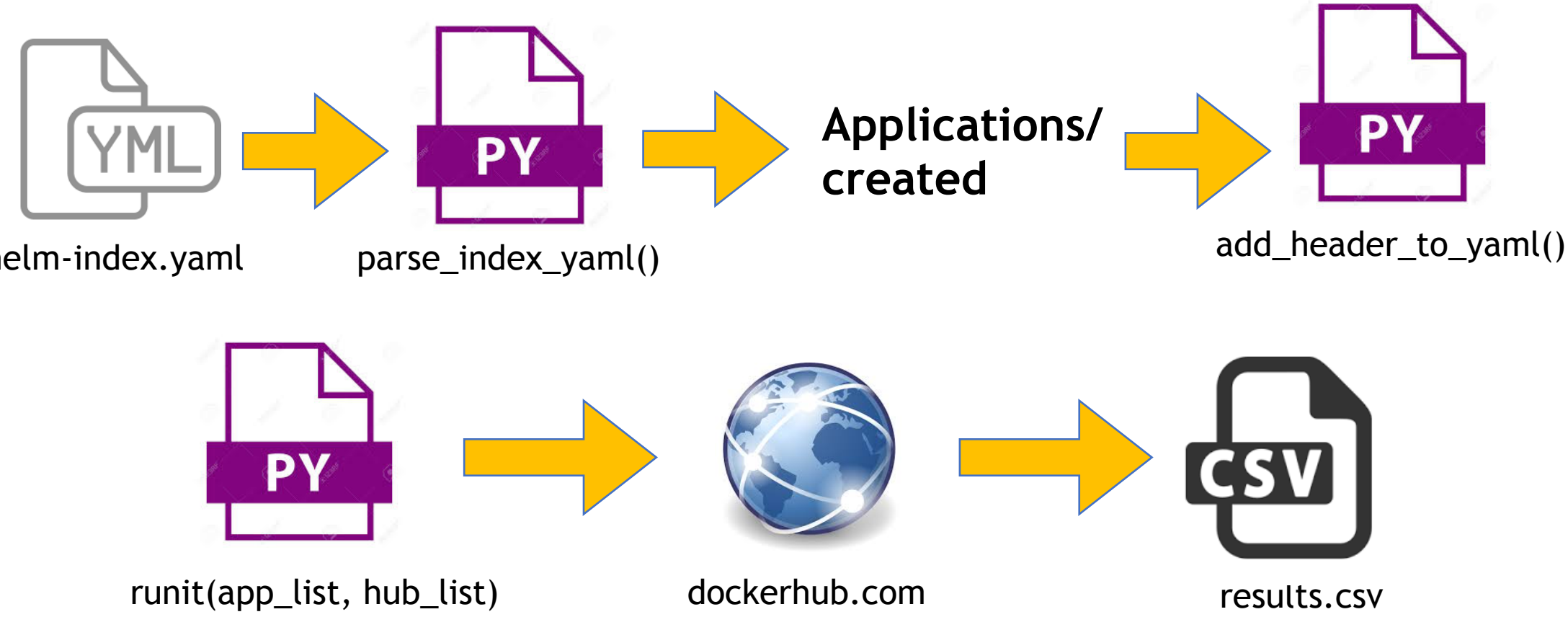
Querying DockerHub

Objects!


Application(name, url):
keywords, repos, sub_images, …
Hub(registry, uname, upass)
Image(name, org, container)
archs, containers, …
Tag(name, arch…)
ibm-skydive-dev
skydive
elasticsearch
postgresql
0.21.0
5.51
9.66

Code Execution

Read the wiki



DockerHub v2 API

- Obtain Image manifest file online using URLs
- Manifest format: an HTML page with JSON
- https://docs.docker.com/registry/spec/api/
- https://github.com/IBM/charts/tree/master/stable

Examples:

No tags for an image:https://hub.docker.com/v2/repositories/ppc64le/couchdb/tags/?page_size=100
1 tag for the image: https://hub.docker.com/v2/repositories/ppc64le/elk/tags/?page_size=100

Most detailed info we can get: https://hub.docker.com/v2/repositories/ppc64le/ibmjava/tags/latest/
Note: the url specifies a repo, image name, and tag

Future Work

- Enabling more repos
- Results cross-check
- Adding Product Name to Application
- Output
- Increased Documentation

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Thank you :)

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