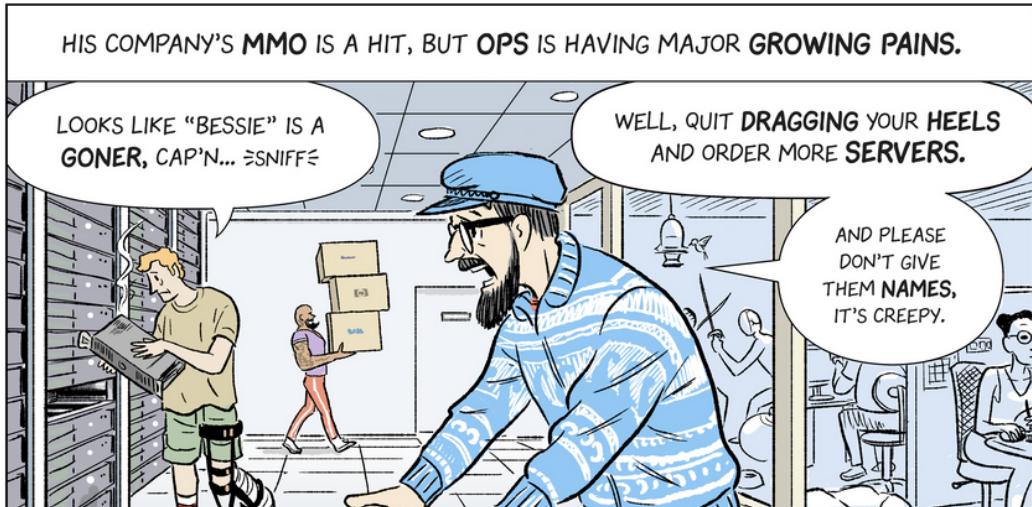
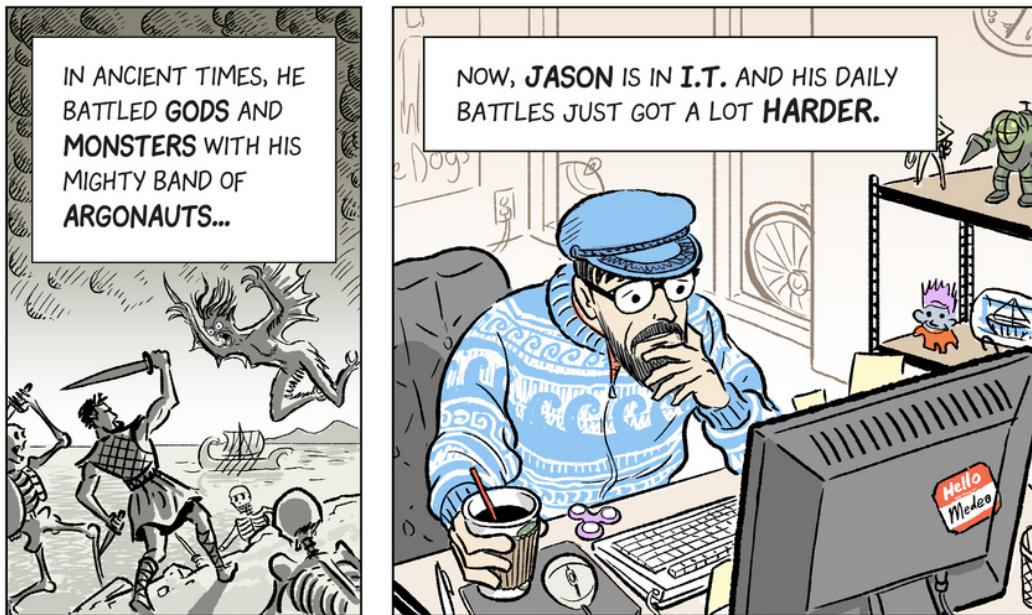
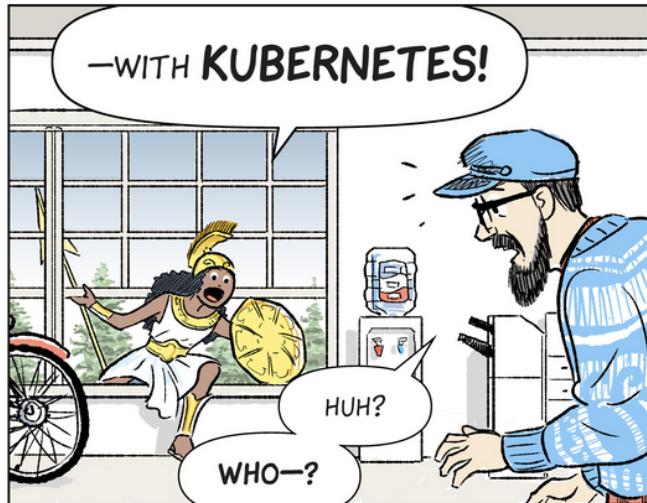
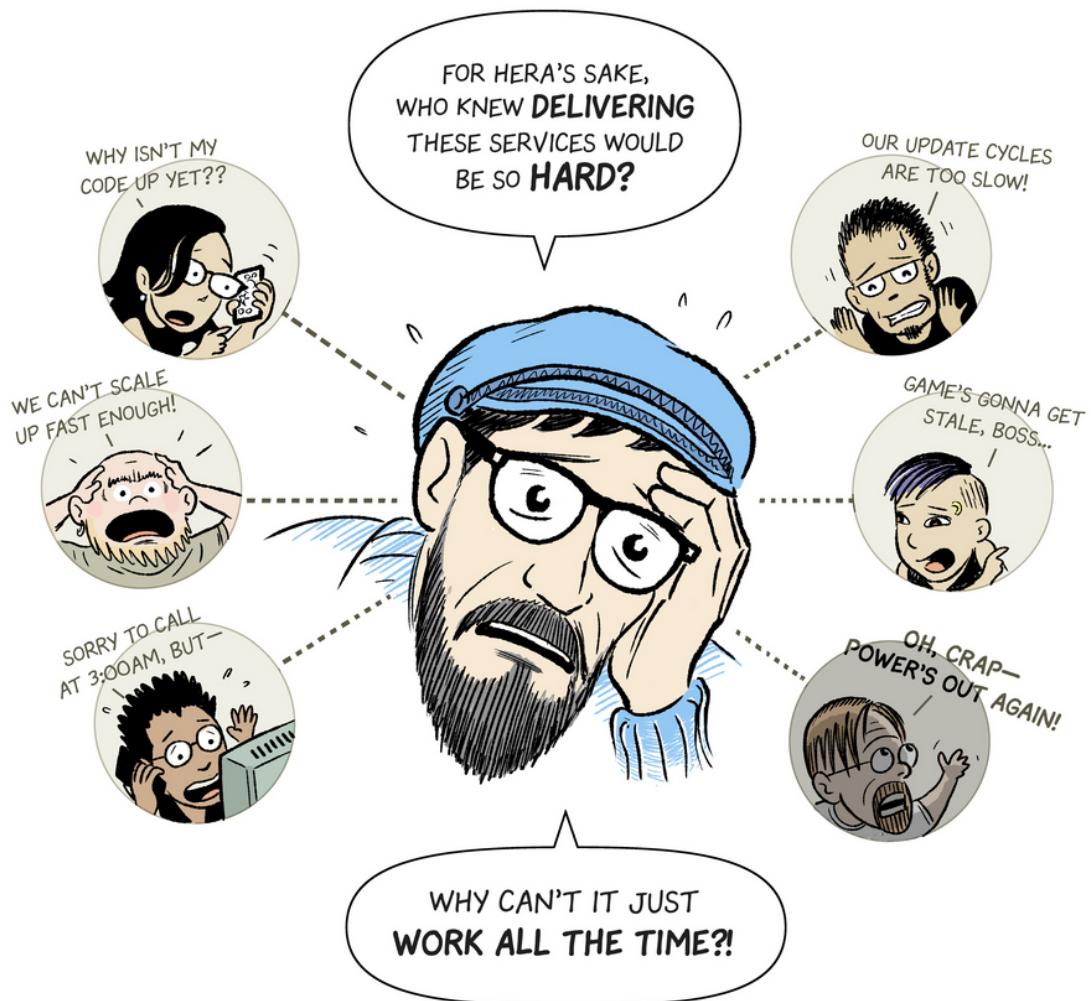




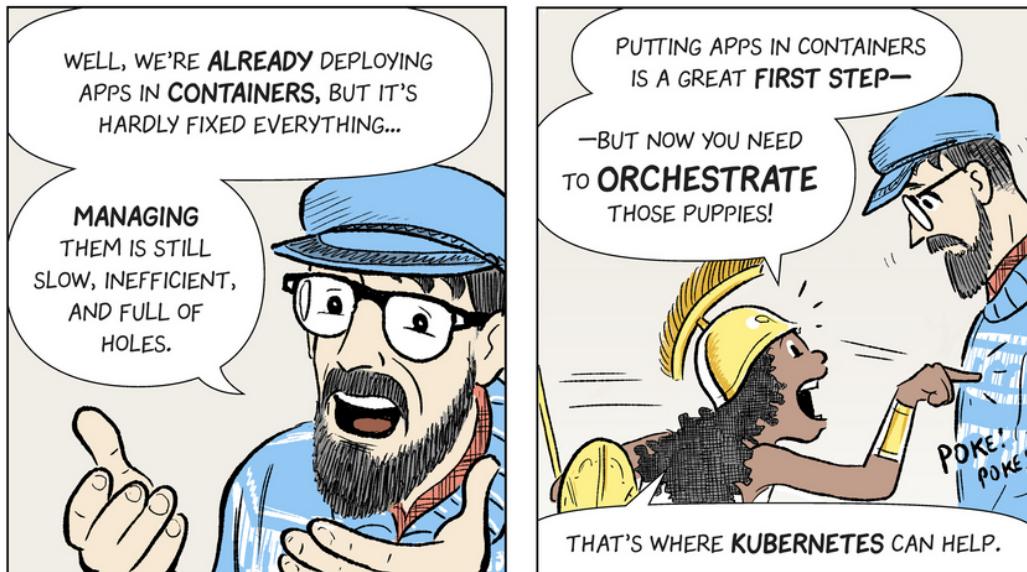
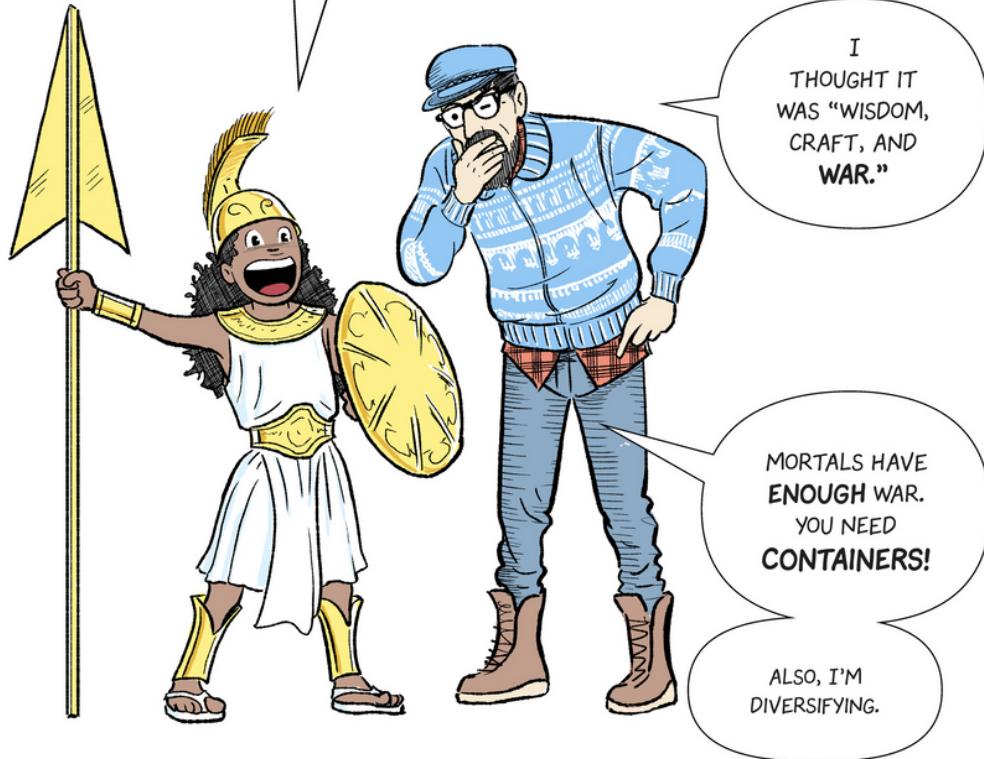
# SMOOTH SAILING WITH **kubernetes**

LEARN ABOUT KUBERNETES AND HOW YOU CAN USE IT  
FOR CONTINUOUS INTEGRATION AND DELIVERY.





IT'S ME. ATHENA! GODDESS OF WISDOM,  
CRAFT, AND CONTAINERIZED APPLICATIONS.



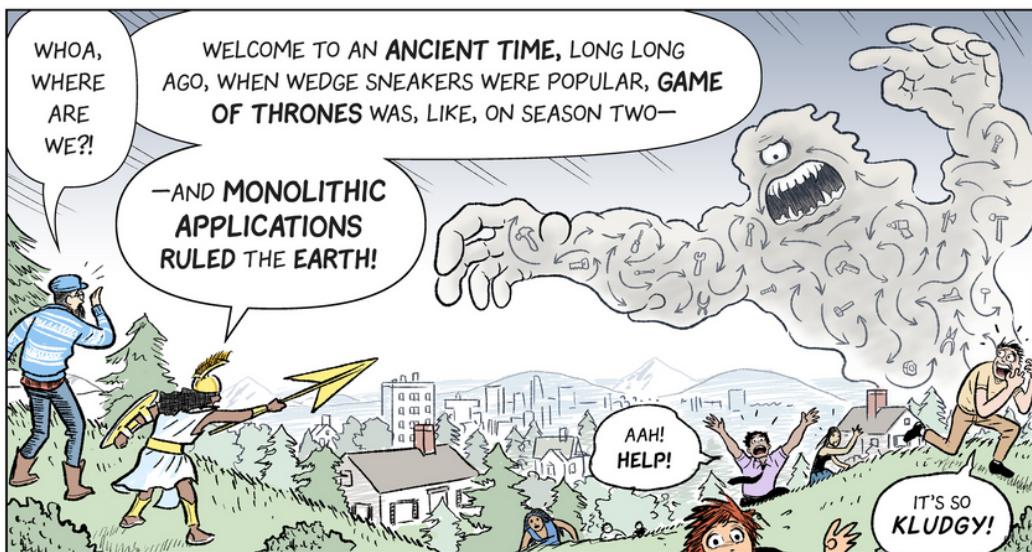
BUT FIRST A LITTLE HISTORY LESSON.

FOLLOW ME!



HEY, IF YOU'RE A GREEK GODDESS, WHY DO YOU LOOK LIKE A JUNIOR COMIC-CON COSPLAYER?

SHUT UP,  
THAT'S WHY!



MONOLITHS HAD IMPRESSIVE FEATURE SETS, BUT TOO MANY INTERDEPENDENT PARTS, SO INTEGRATION AND DEPLOYMENT WERE A NIGHTMARE.

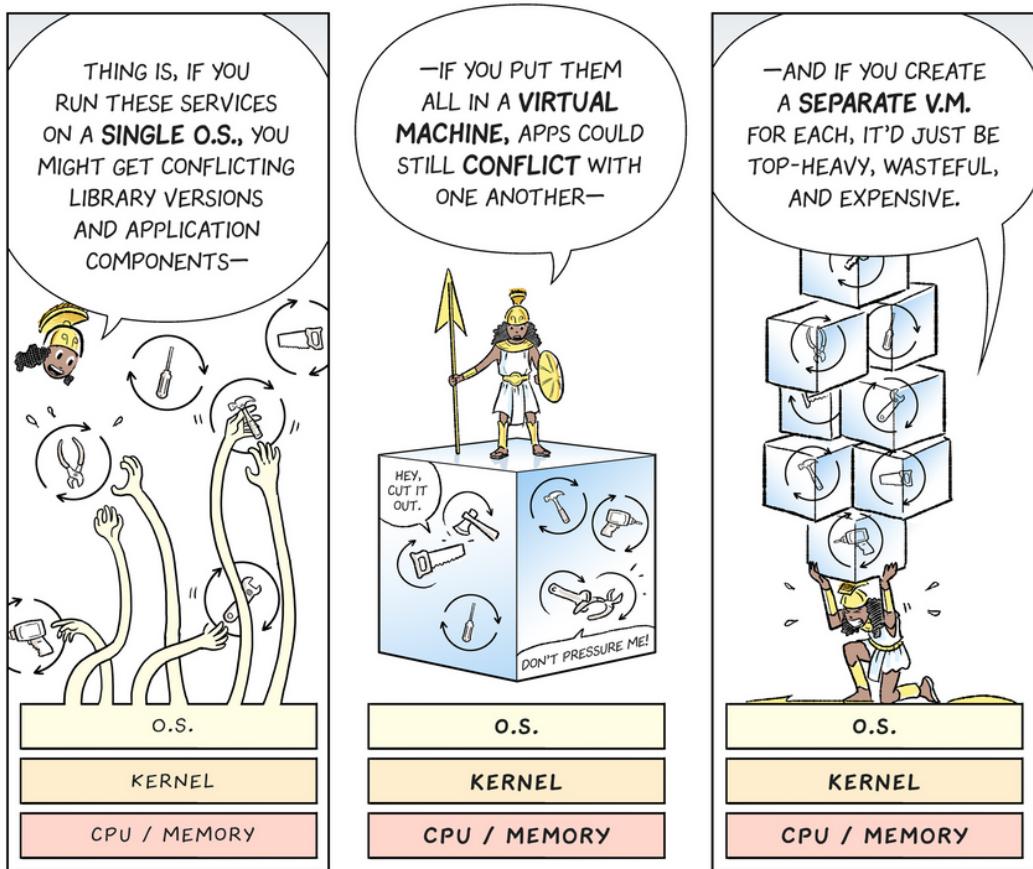
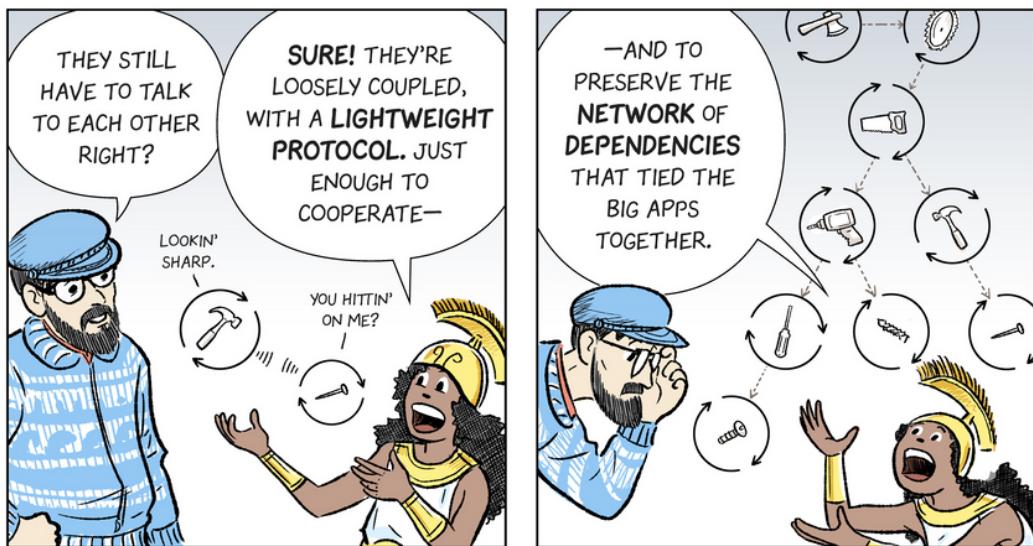
BY CHOPPING THEM INTO INDIVIDUAL PROCESSES, THOUGH, WE'VE LEARNED TO BRING THESE MONSTERS UNDER CONTROL!



EACH ONE OF THESE "MICROSERVICES" CAN NOW BE DEBUGGED, UPDATED, AND DEPLOYED INDIVIDUALLY WITHOUT THE WHOLE PROJECT COMING TO A STANDSTILL.



AN IMPORTANT STEP ON THE PATH TO CONTINUOUS INTEGRATION AND DELIVERY.

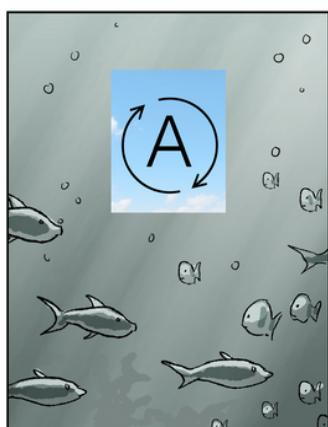


**BUT, WHAT IF EACH PROCESS COULD  
SOMEHOW BE BUILT TO RUN ON ITS OWN—**

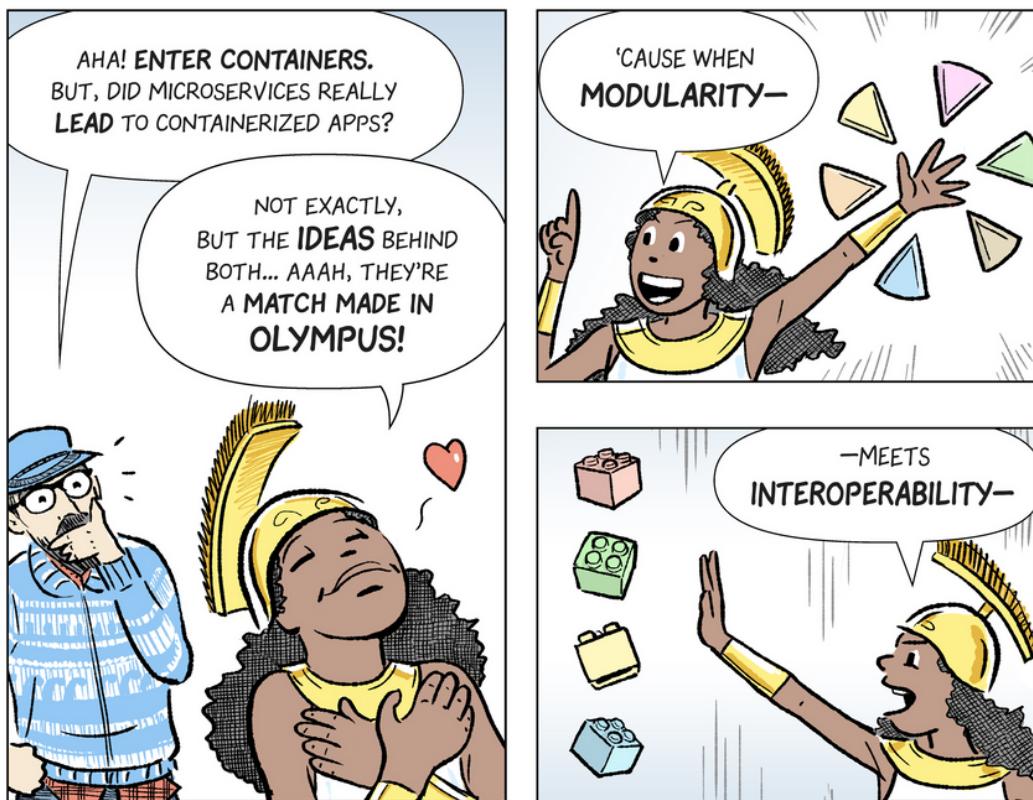
**—WITH  
ITS LIBRARIES  
AND SETTINGS  
BAKED IN?**



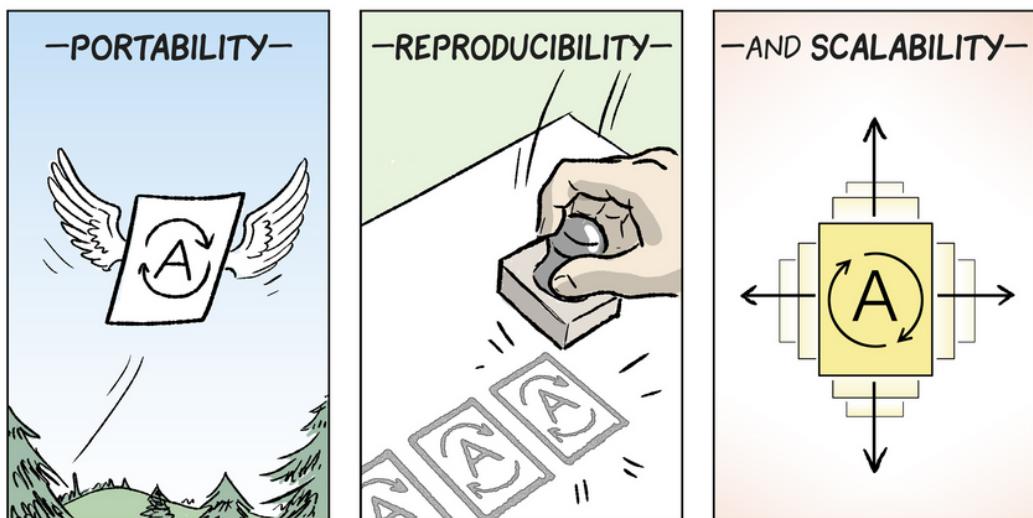
**IN SHORT, EVERYTHING EACH PROCESS NEEDS TO RUN  
ON ANY MACHINE, VIRTUAL OR BARE METAL.**



**A SELF-CONTAINED PROCESS.**



—YOU CAN START EXPLOITING WHOLE NEW LEVELS OF—



—ANYWHERE AND ANYTIME ACROSS THE WORLD!

WOHA, WOHA, SLOW DOWN...

MY TEAM CAN BARELY HANDLE  
THE CONTAINERS WE'VE GOT RUNNING **NOW**.  
IF WE RAMP THINGS UP, HOW WILL WE EVER  
**KEEP TRACK** OF THEM ALL?

**YOU DON'T!** YOU  
AUTOMATE ALL THOSE  
CONTAINERS WITH...

# kubernetes

IT'S GREEK FOR  
"HELMAN."



ALSO... STAR TREK  
IN-JOKES.

AGAIN WITH THE LOGO...

HEY, THIS ISN'T ALL  
JUST SOME BIG **SALES**  
**PITCH** FOR GOOGLE  
CLOUD, IS IT?

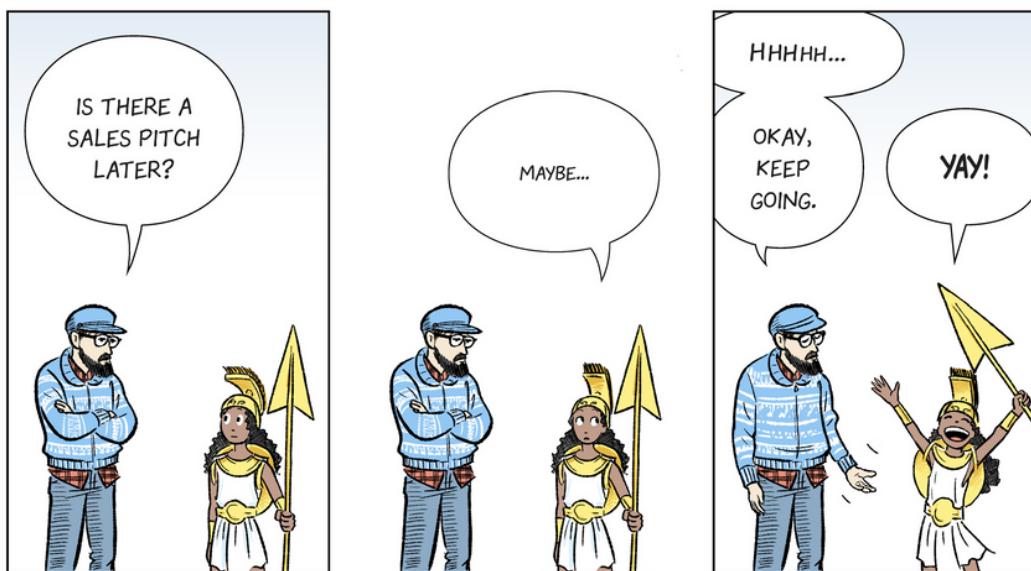


**NOPE.**  
KUBERNETES IS  
**OPEN SOURCE!**  
FREE AND OPEN TO  
ANYONE WHO WANTS  
TO USE IT.

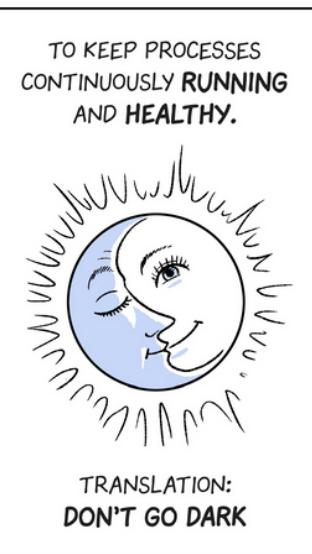
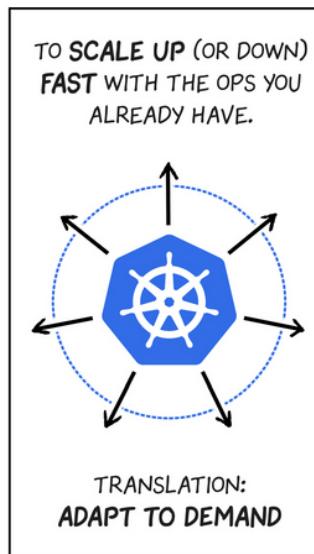
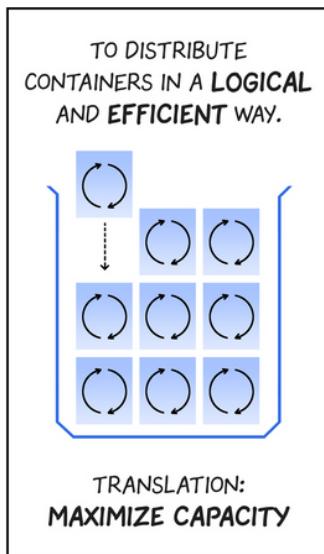


IT'S BACKED BY  
A BIG COMMUNITY  
OF DEVELOPERS.  
EVEN GITHUB  
USES IT\*





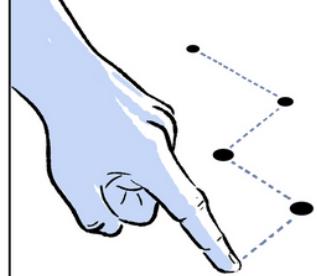
SO, KUBERNETES HAS A FEW KEY GOALS:



AND MOST  
IMPORTANTLY—



—TO GIVE YOU  
POWER OVER  
**WHAT**  
GETS DONE—



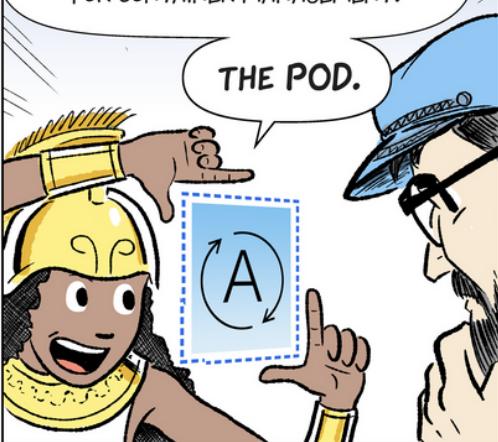
—WITHOUT  
FORCING YOU TO  
MICRO-MANAGE  
**HOW.**



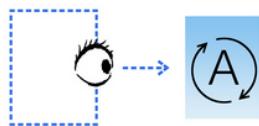
TRANSLATION:  
**OMG WEEKENDS**

TO DO THIS, KUBERNETES  
ADDS A NEW LEVEL OF **ABSTRACTION**  
FOR CONTAINER MANAGEMENT:

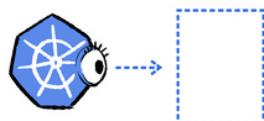
THE POD.



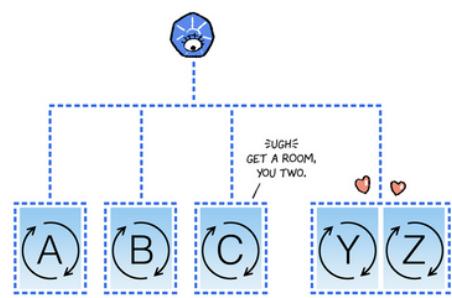
PODS ARE THE SMALLEST BUILDING BLOCK  
IN THE KUBERNETES OBJECT MODEL. THE  
POD “SEES” THE CONTAINER—



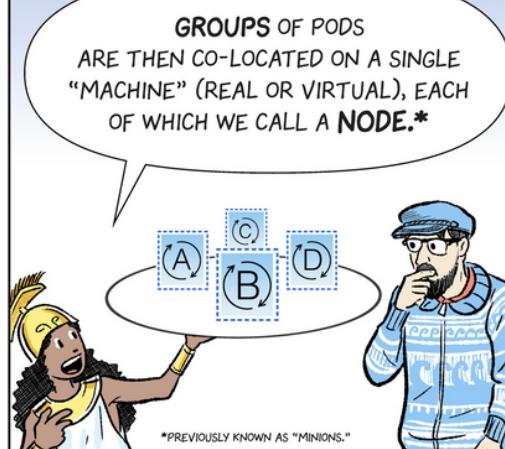
—BUT KUBERNETES ONLY SEES THE POD.

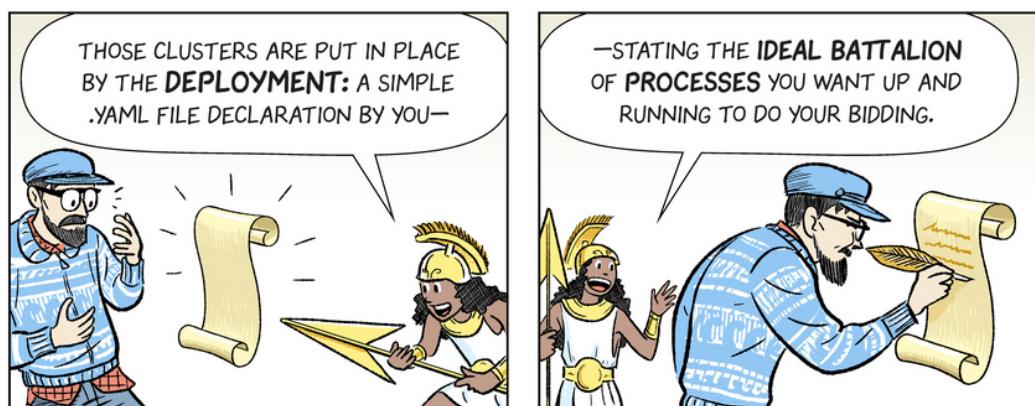
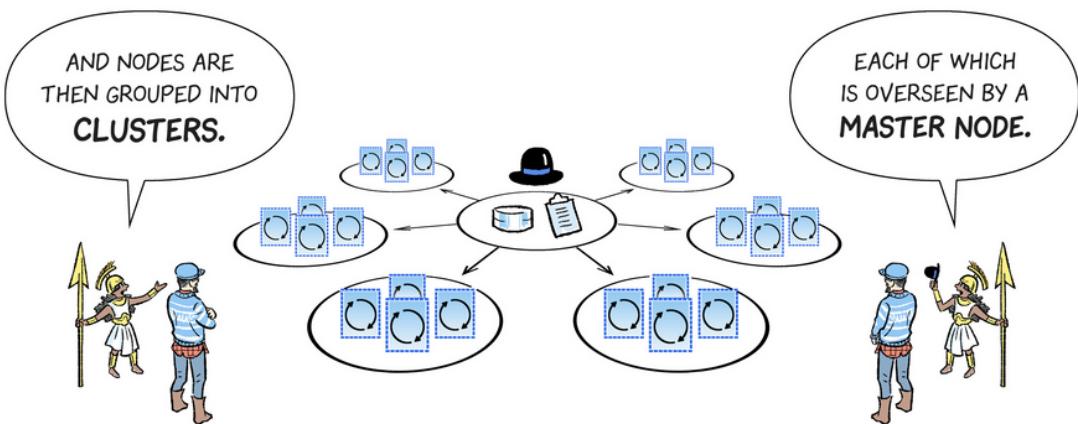


MOST PODS HOLD JUST ONE CONTAINER,  
THOUGH **TIGHTLY-COUPLED** PROCESSES  
WILL SOMETIMES SHARE A POD.

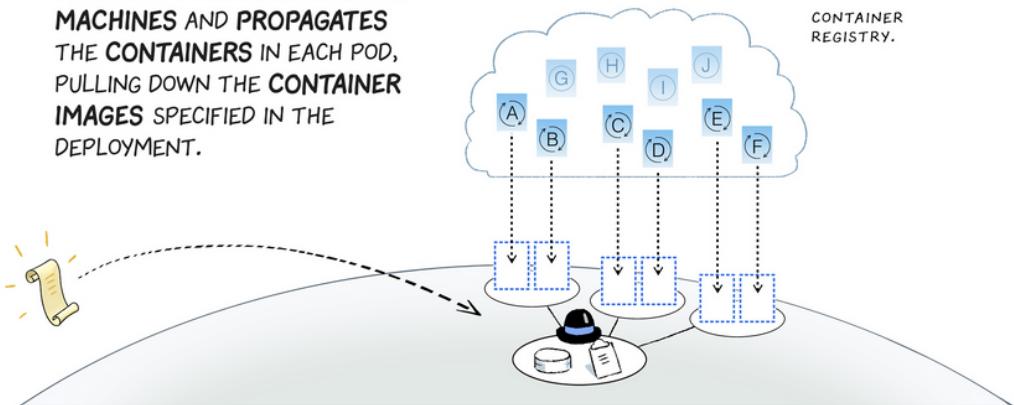


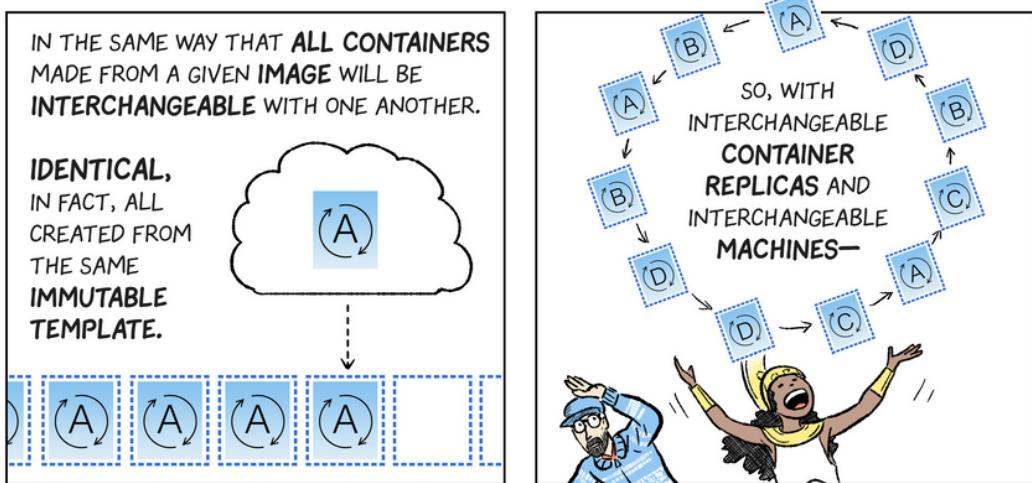
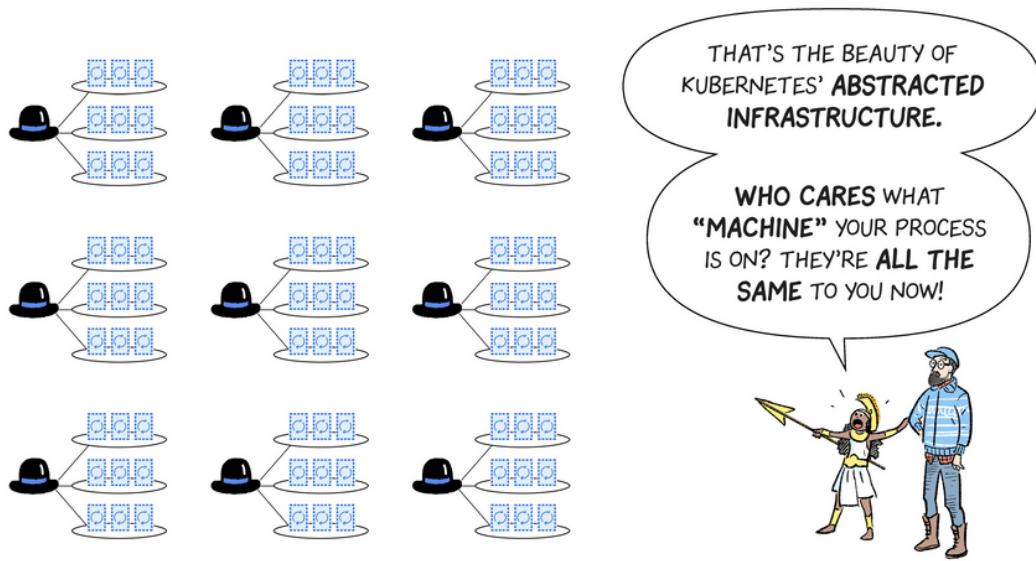
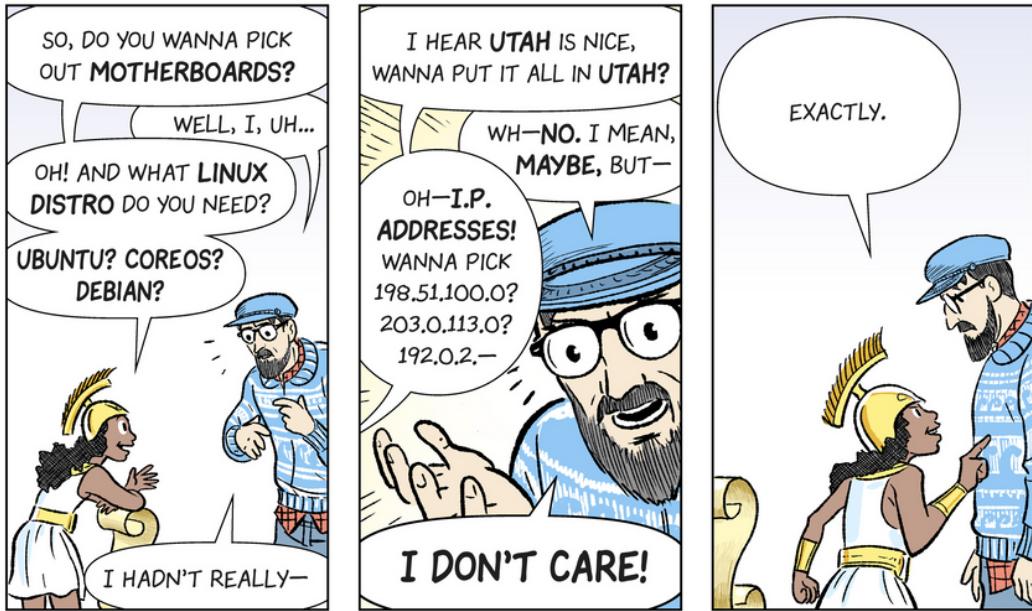
GROUPS OF PODS  
ARE THEN CO-LOCATED ON A SINGLE  
“MACHINE” (REAL OR VIRTUAL), EACH  
OF WHICH WE CALL A **NODE**.\*

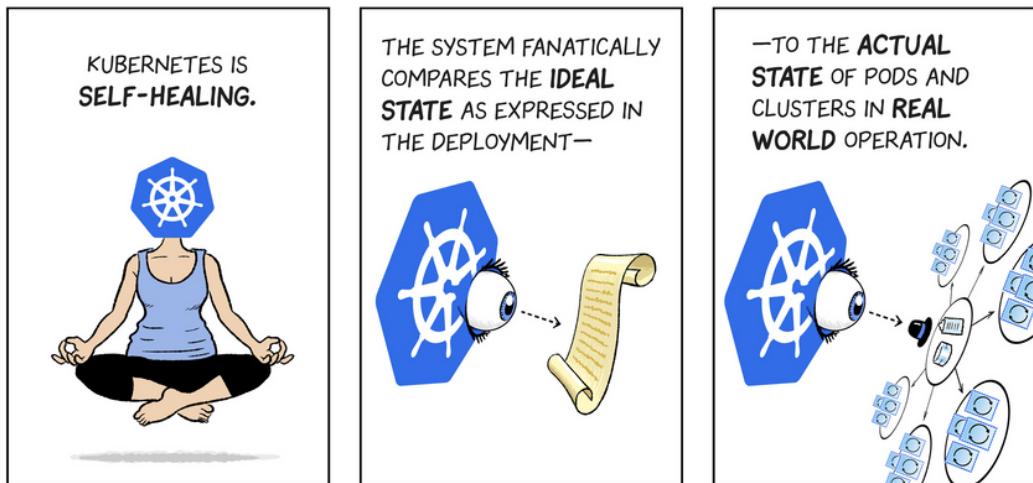
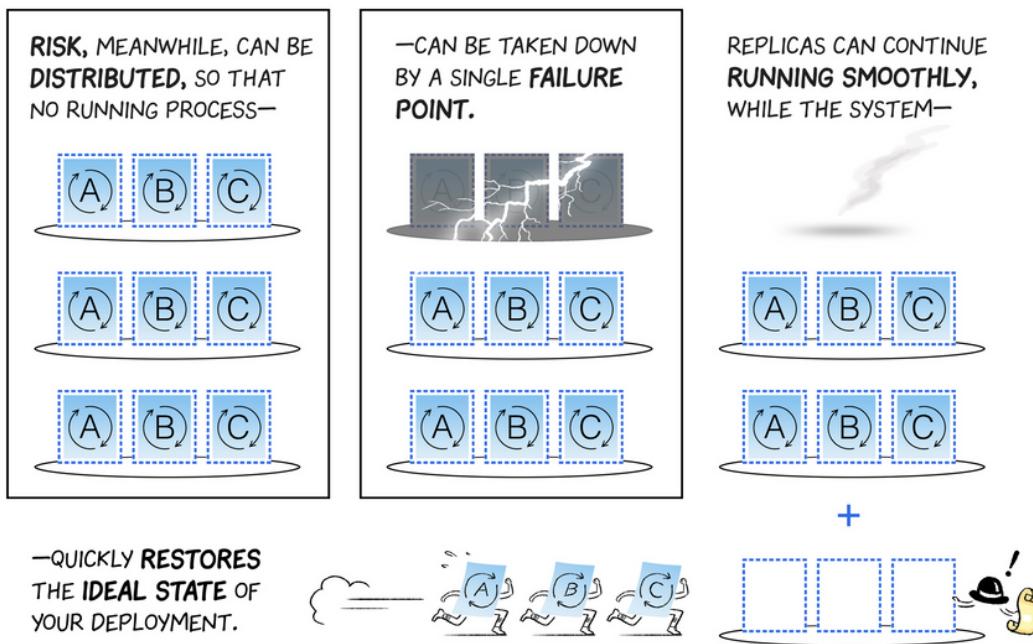
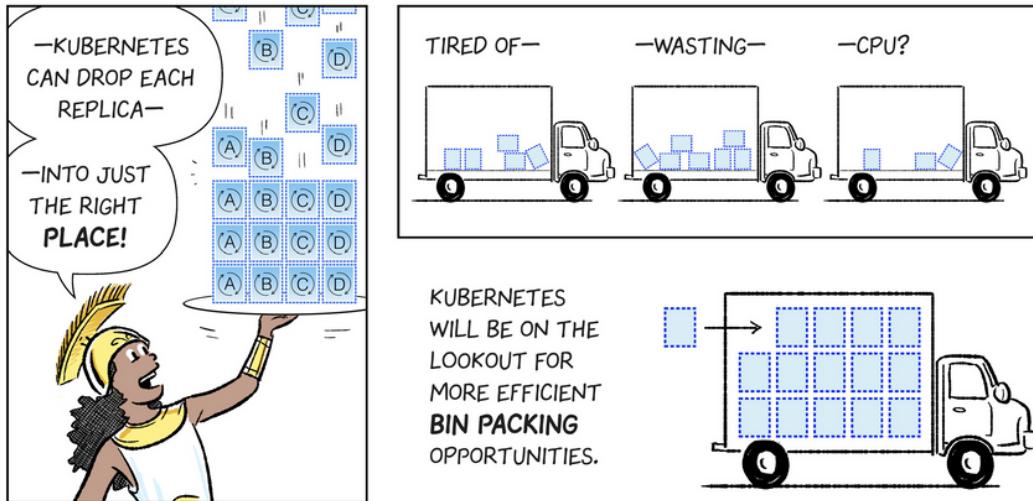


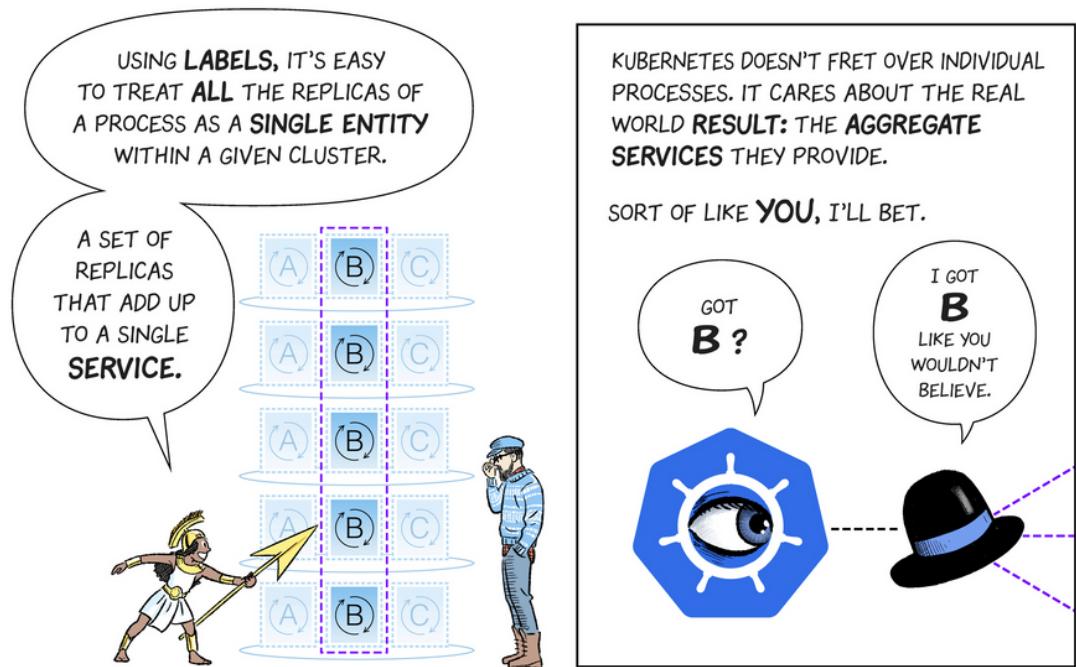
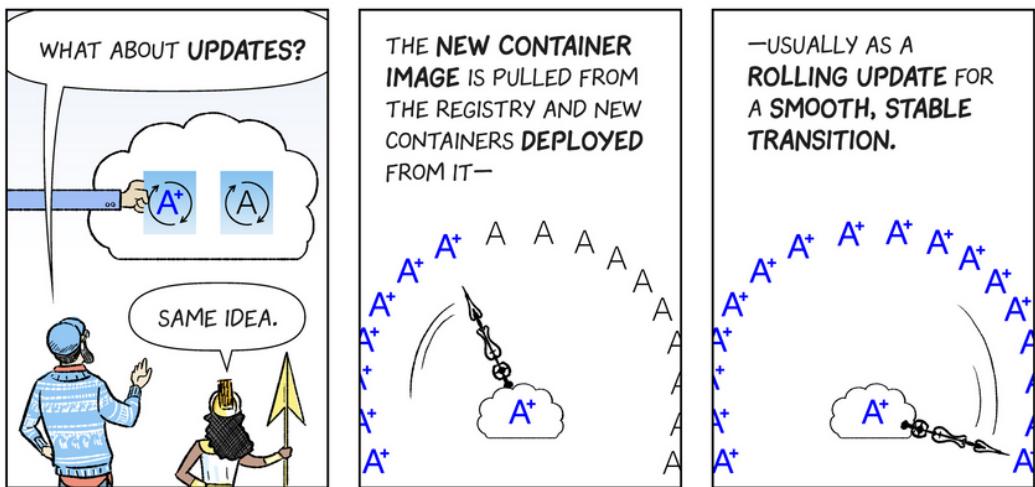
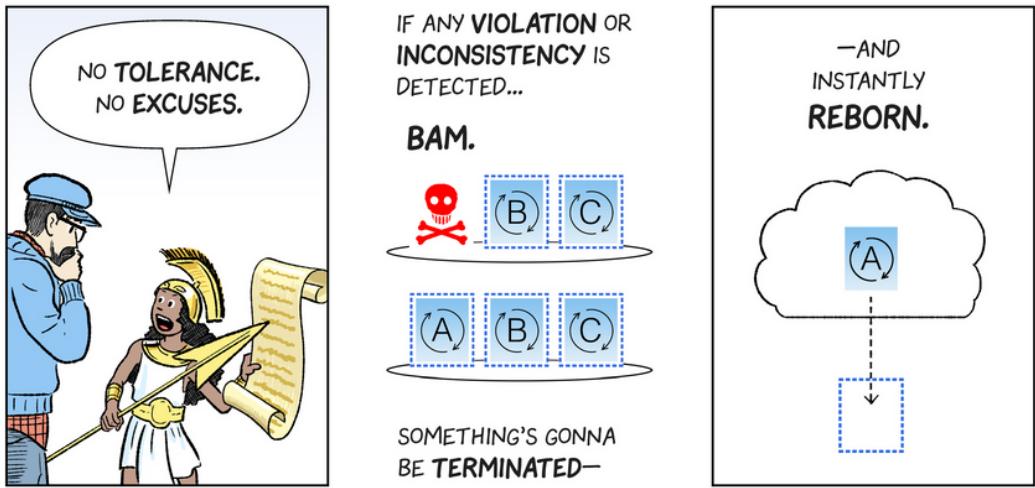


KUBERNETES THEN SELECTS THE MACHINES AND PROPAGATES THE CONTAINERS IN EACH POD, PULLING DOWN THE CONTAINER IMAGES SPECIFIED IN THE DEPLOYMENT.

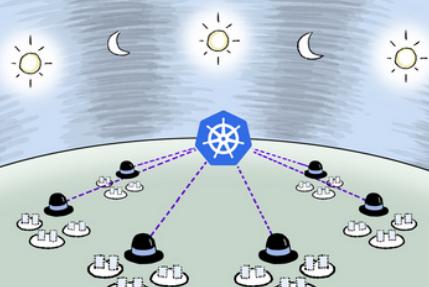








KUBERNETES IS DEDICATED TO KEEPING THOSE SERVICES RUNNING AND HEALTHY EVERY MINUTE OF THE DAY.



IT'S A NEW MILLENNIUM, OLD BOY!

NO ONE REACHES INTO THEIR POCKET WONDERING IF AN APP WILL BE "AVAILABLE."

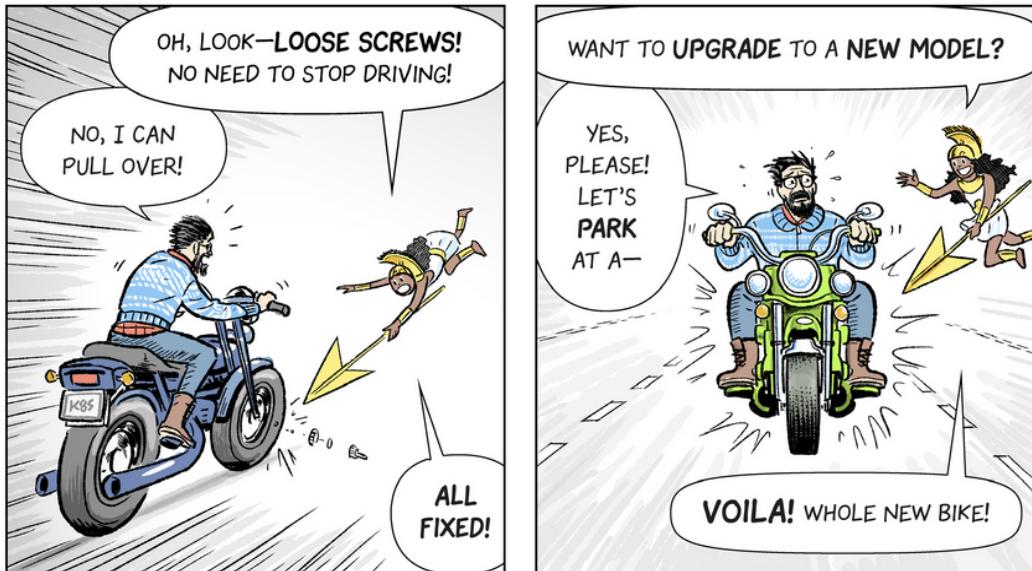
IT'S UP AND RUNNING OR YOU'RE DEAD AND BURIED.

AND WITH KUBERNETES, YOU'LL BE UP AND RUNNING FOR AS LONG AS YOU **WANT** TO BE!

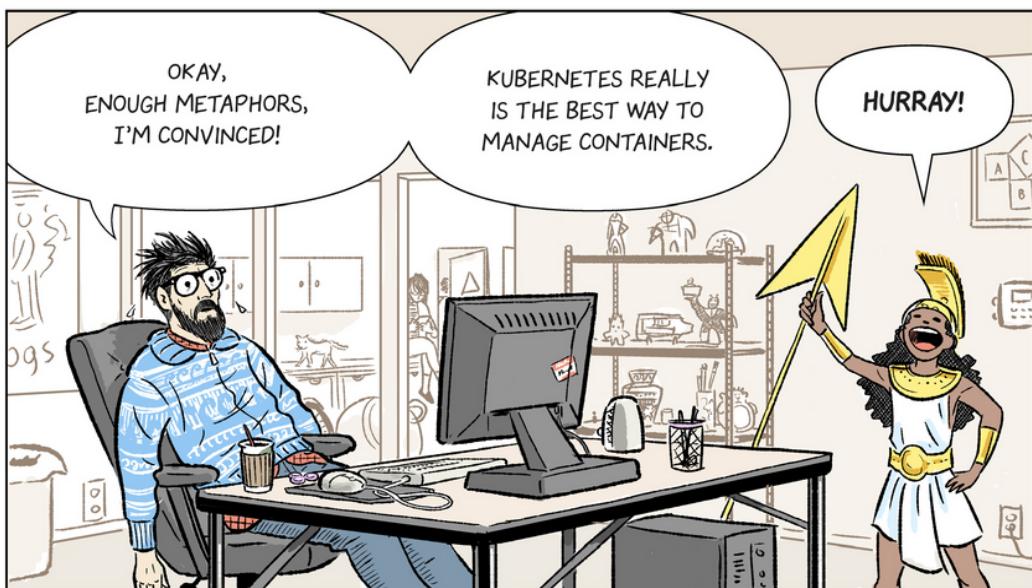
WHOA—ABRUPT TRANSITION!

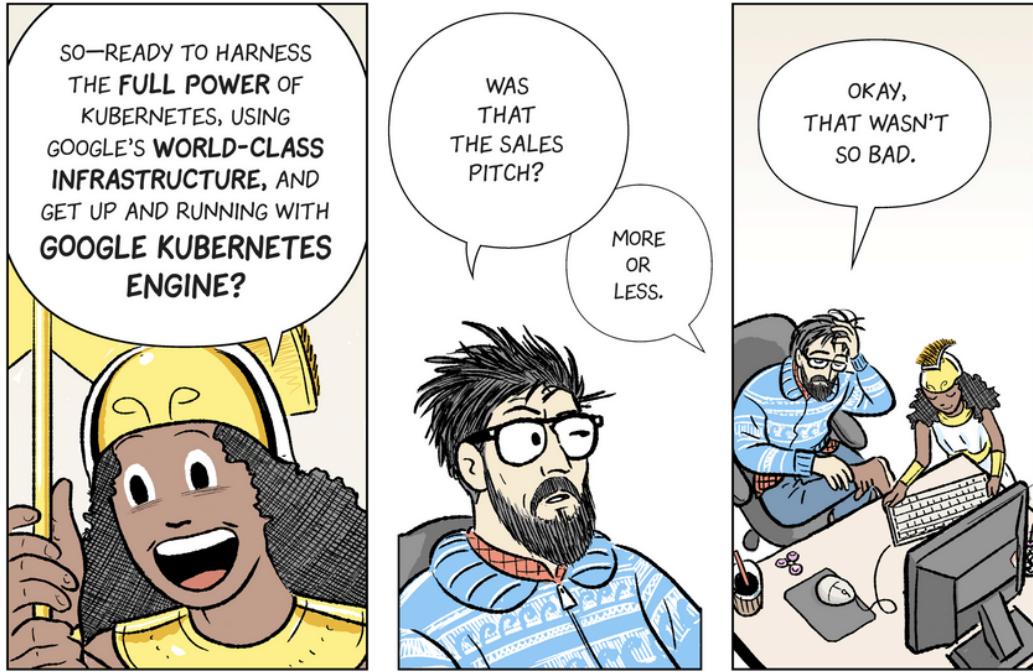
JUST AS MODULARITY AND IMMUTABILITY FOSTER CONTINUOUS INTEGRATION, CONTAINERS AND KUBERNETES ARE ENABLING CONTINUOUS DELIVERY.

YOU KNOW I'M A SAILOR, RIGHT?!



SIX HOURS LATER...





NOW IT'S YOUR TURN. TYPE COMMANDS INTO THE FOLLOWING TERMINAL EMULATOR AND LEARN HOW TO CREATE A KUBERNETES CLUSTER ON GOOGLE KUBERNETES ENGINE.

ART AND "STORY" BY SCOTT MCCLOUD

## CREATE YOUR FIRST CLUSTER

NOW THAT YOU KNOW THE BASICS, YOU'RE READY TO LAUNCH  
YOUR FIRST GOOGLE KUBERNETES ENGINE CLUSTER ON GCP!

[LAUNCH IN YOUR GCP ACCOUNT](#)

