



Introduction to DevOps



AGILE

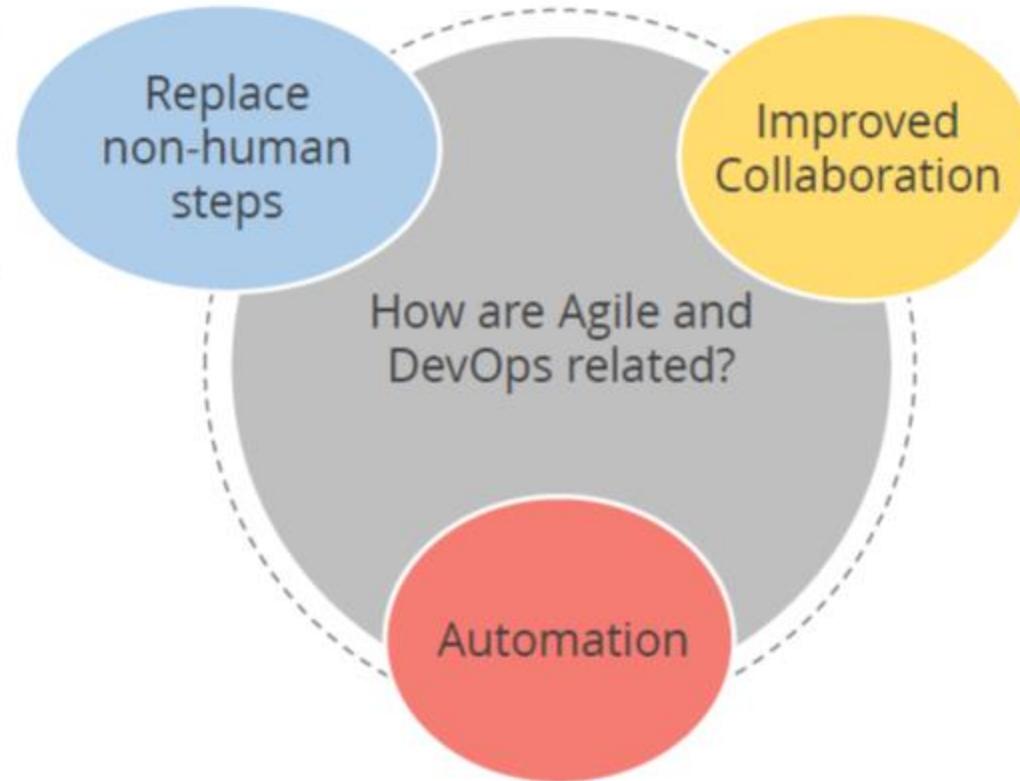
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AGILE & DEVOPS

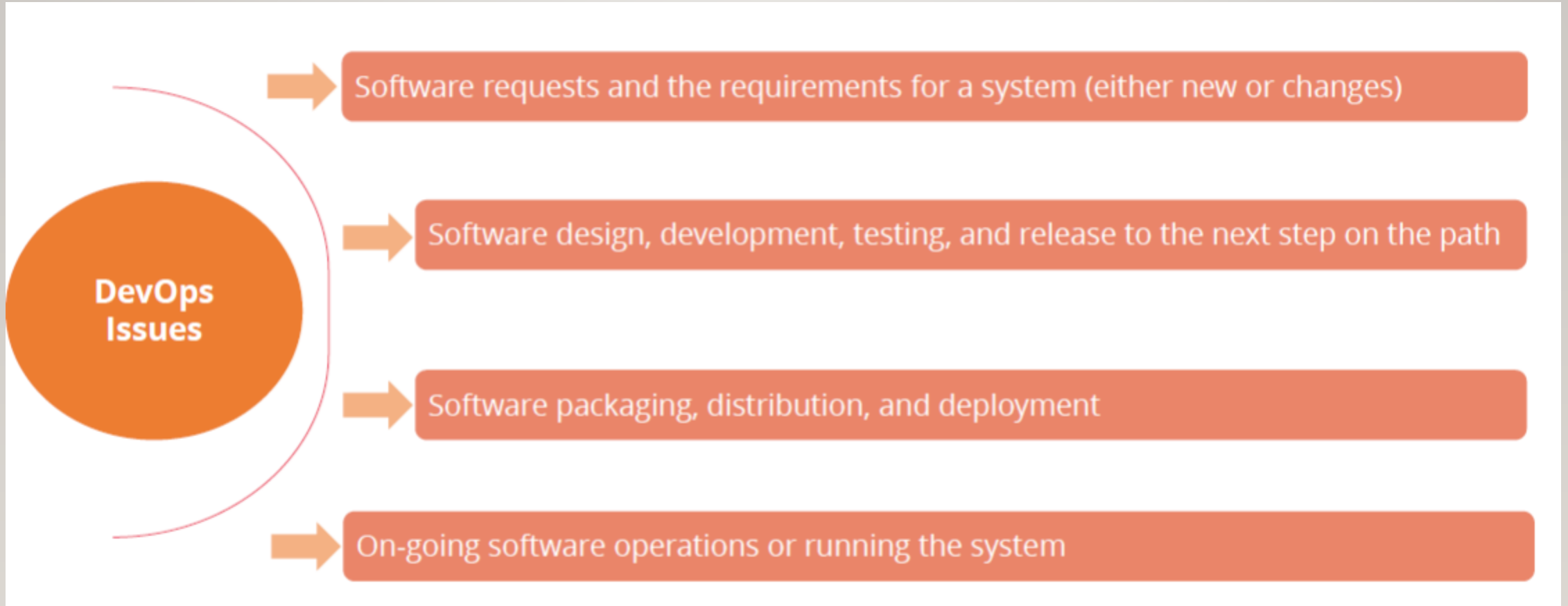
Using tools to replace non-human steps such as build creation, environment setup, trigger test cases, and automated deployments multiple times in a day



DevOps not only talks about collaboration between Development and Operations, but improved collaboration between all teams, including business

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DEVOPS ISSUES



DEVOPS

“You keep using that word. I do not think it means what you think it means”

-Inigo Montoya ([The Princess Bride](#))



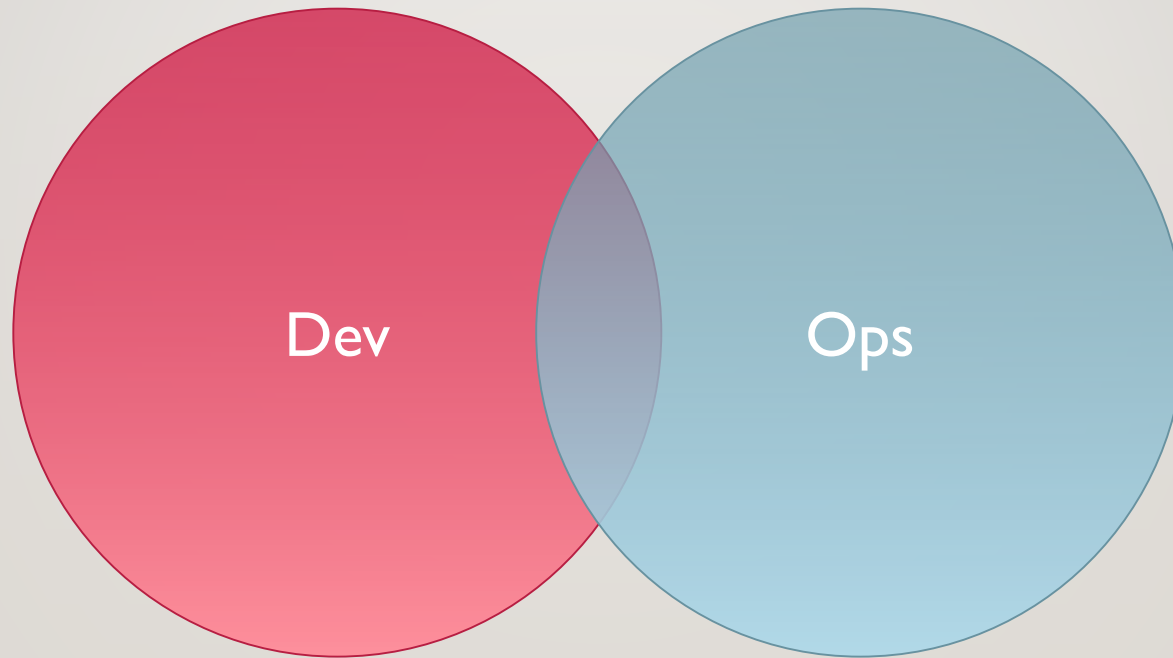
DEVOPS IS NOT ...

Separate Silos



DEVOPS IS ...

Smooth Collaboration



What is DevOps

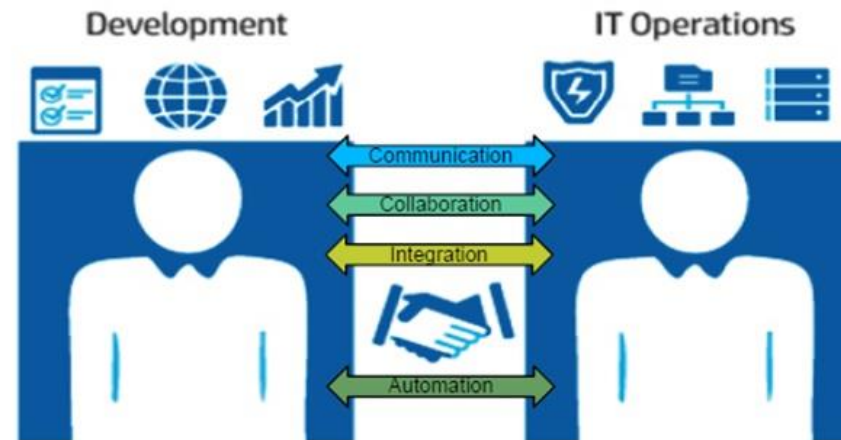
What is DevOps?

- DevOps Culture
- Agile and DevOps – hand in hand
- DevOps building blocks:

- Code
- Build
- Test
- Packaging
- Release management
- Configuration management
- Application and Infrastructure monitoring

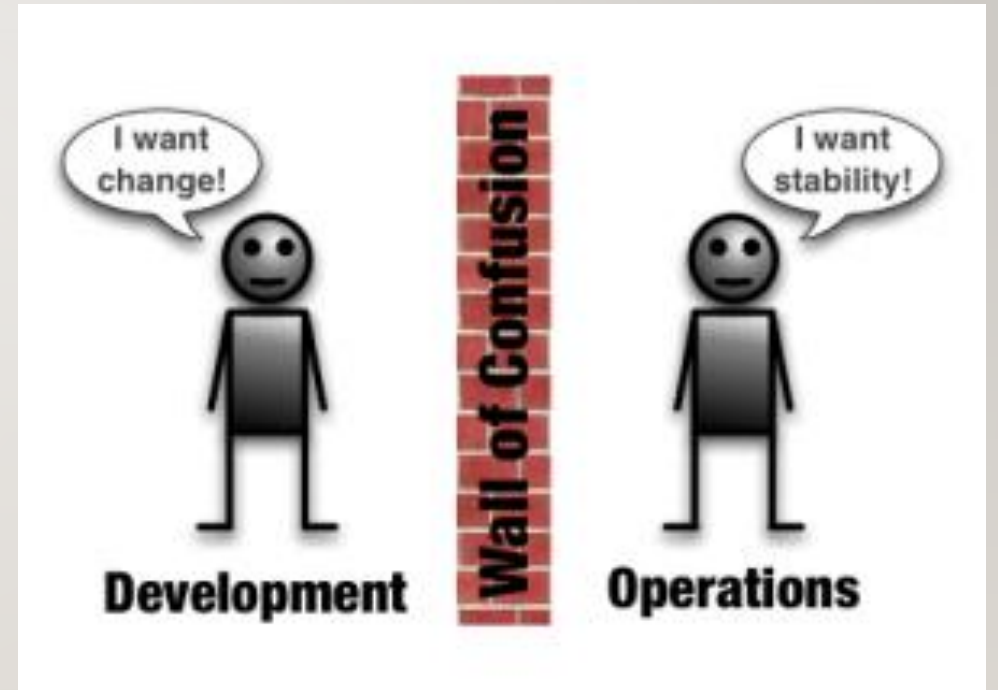
Development Team

Operations Team



WHY DEVOPS?

- ◆ **Efficiency** - Faster time to market
- ◆ **Predictability** - Lower failure rate of new releases
- ◆ **Reproducibility** – Version everything
- ◆ **Maintainability** - Faster time to recovery in the event of a new release crashing or otherwise disabling the current system

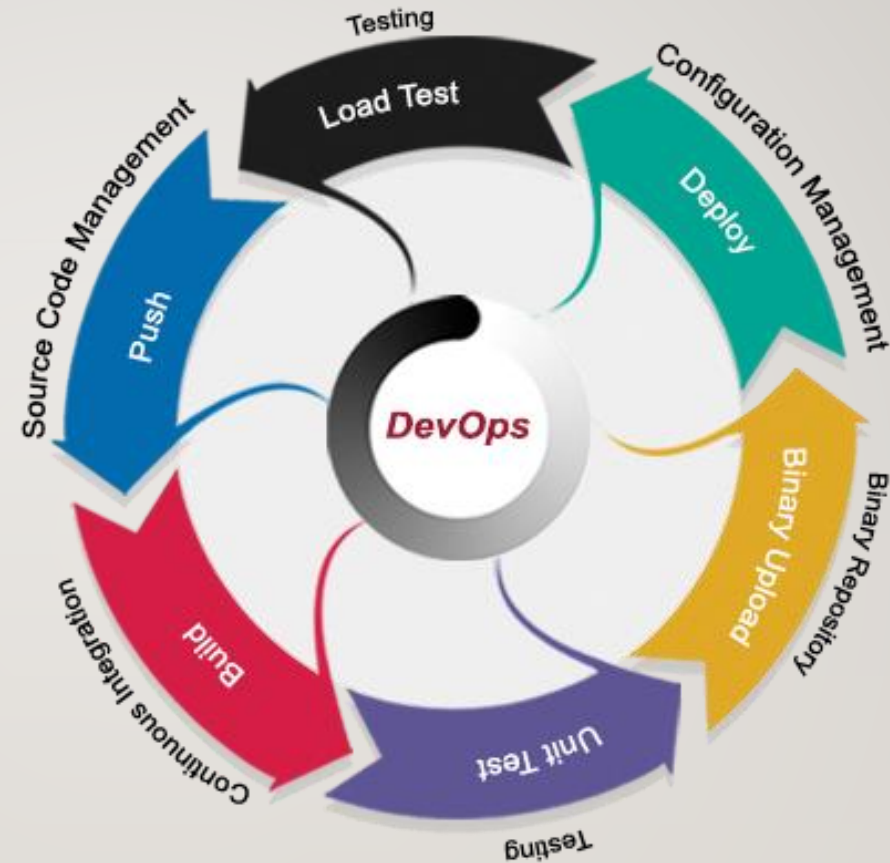


Break down the wall between development and operations

DEVOPS

LIFE CYCLE

- ✓ Push Code
- ✓ Fetch Changes
- ✓ Run Unit Tests
- ✓ Build Artifacts
- ✓ Store Artifacts
- ✓ Provision environment
- ✓ Deploy Your Build
- ✓ Run Load & Functional Tests
- ✓ Dev -> QA -> Staging -> Production



DevOps - Spanning across entire delivery pipeline

Continuous Integration | Continuous Delivery

DEVOPS CONCEPTS



- Continuous Development : Software is developed continuously
- Continuous Testing : Software is continuously tested for bugs
- Continuous Integration : Code supporting new functionality is integrated with the existing code
- Continuous Deployment: Code is deployed to the production environment
- Continuous Monitoring : Dedicated monitoring tools which will continuously monitor the application performance and highlight issues.

DevOps Tools

VERSION
CONTROL &
SOURCE CODE
MANAGEMENT



BUILD & TEST



CONTINUOUS
INTEGRATION



CONFIGURATION
MANAGEMENT &
DEPLOYMENT



MONITORING

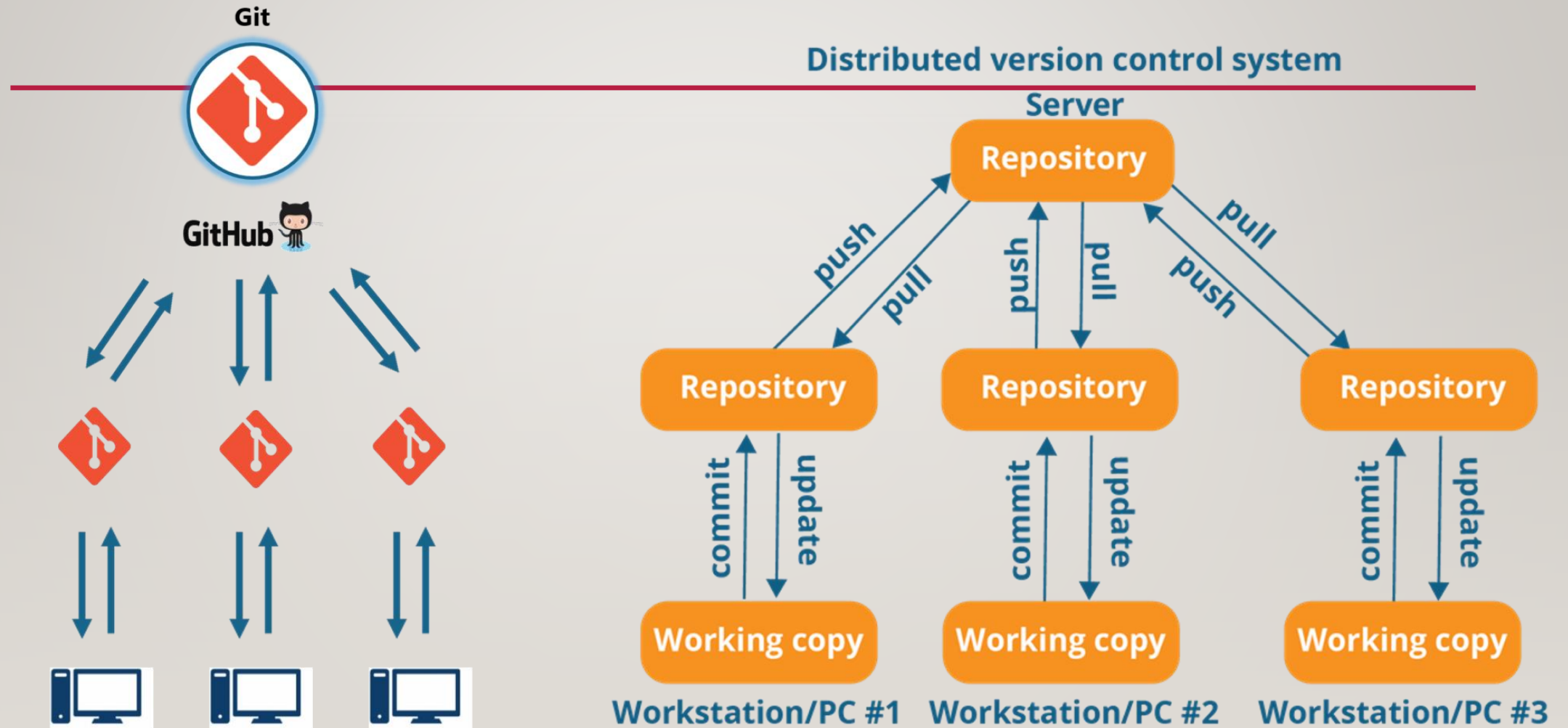
Nagios



CONTINUOUS DEVELOPMENT

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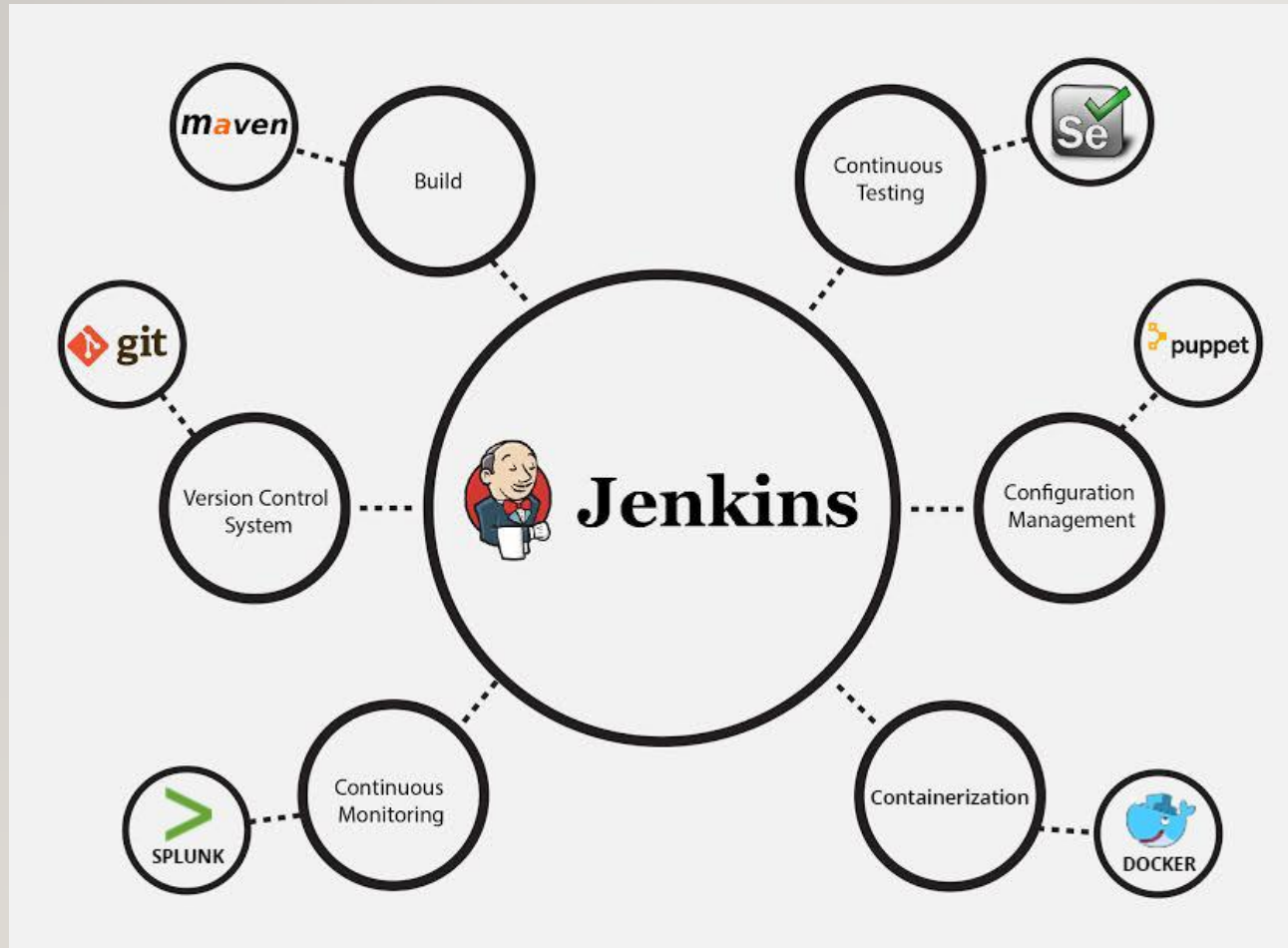
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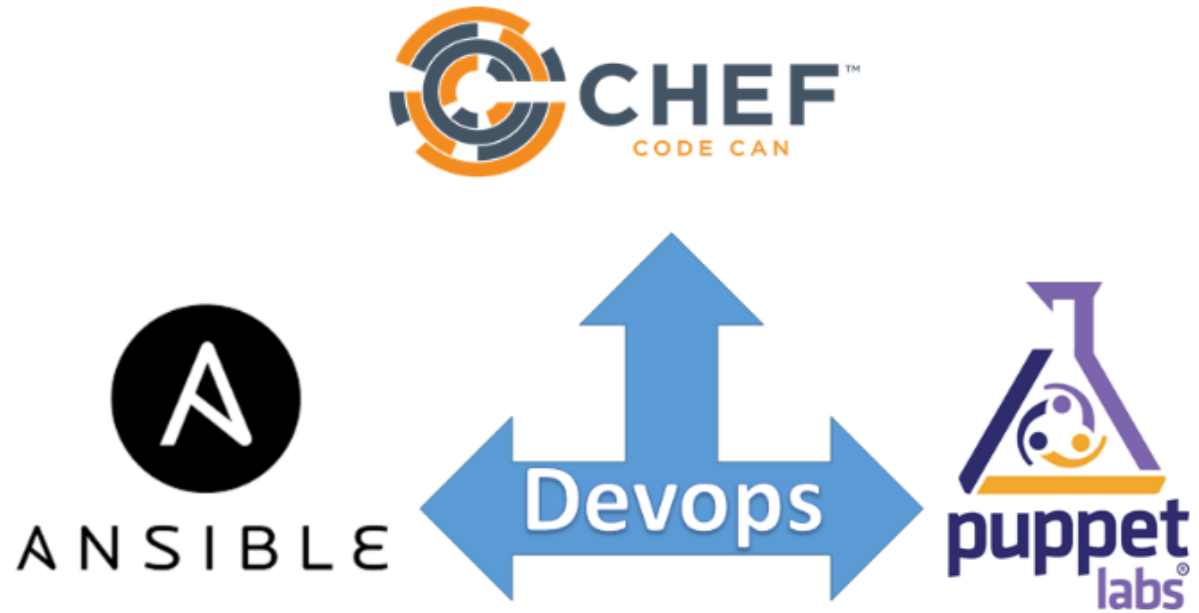
CONTINUOUS TESTING



CONTINUOUS INTEGRATION



CONTINUOUS DEPLOYMENT



CONTINUOUS MONITORING

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So many tools, like shopping in a cereal aisle



CASE STUDY

- ◆ In 2011, Facebook rolled out a slew of new features – timeline, ticker and music functionalities – to its 500 million users spread across the globe. The huge traffic that was generated on Facebook following the release led to a server meltdown. The features that were rolled out garnered mixed response from users which led to inconclusive results of the effectiveness of the new features, leaving them with no actionable insights.

CASE STUDY CONTD...

03

Once the features were stable, they were deployed on other user bases in multiple releases.

02

They were continuously monitored and the feedback was continuously developed & tested

01

The new features were deployed on a smaller and specific user base.

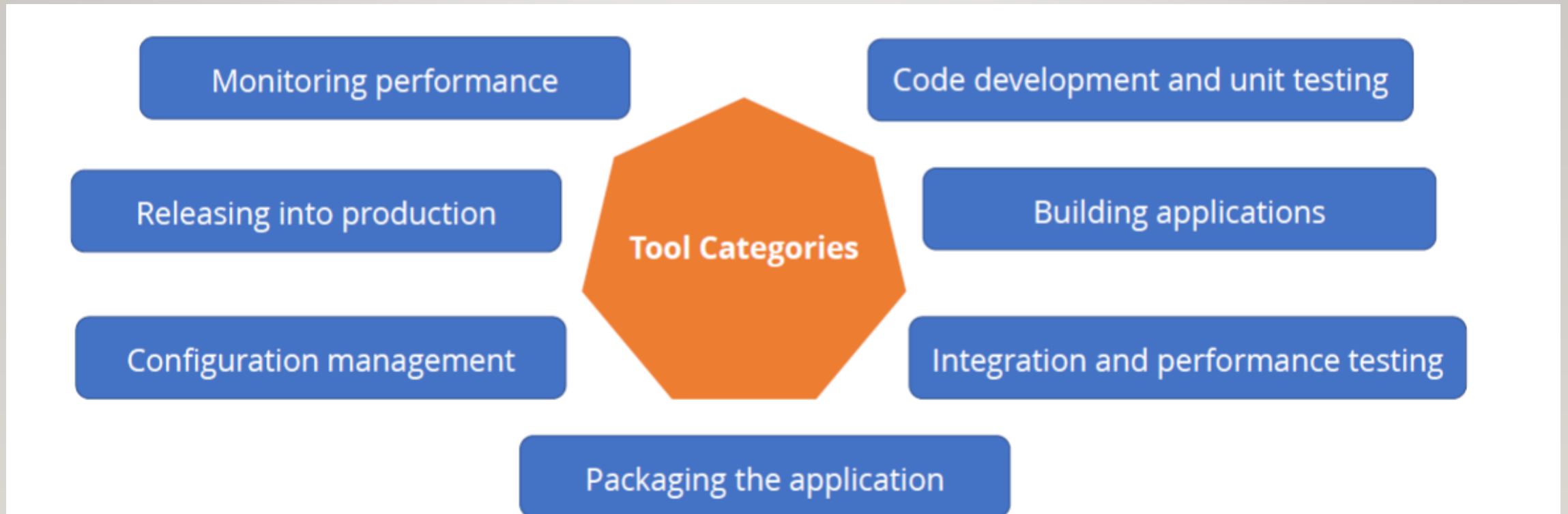
CASE STUDY CONTD...

- ◆ Facebook used Dark launching technique which is the process of gradually rolling out production-ready features to a select set of users before a full release. This allowed development teams to get user feedback early on, test bugs, and also stress test infrastructure performance. A direct result of continuous delivery, this method of release helped in faster, more iterative releases that ensured that application performance does not get affected and that the release is well received by customers.

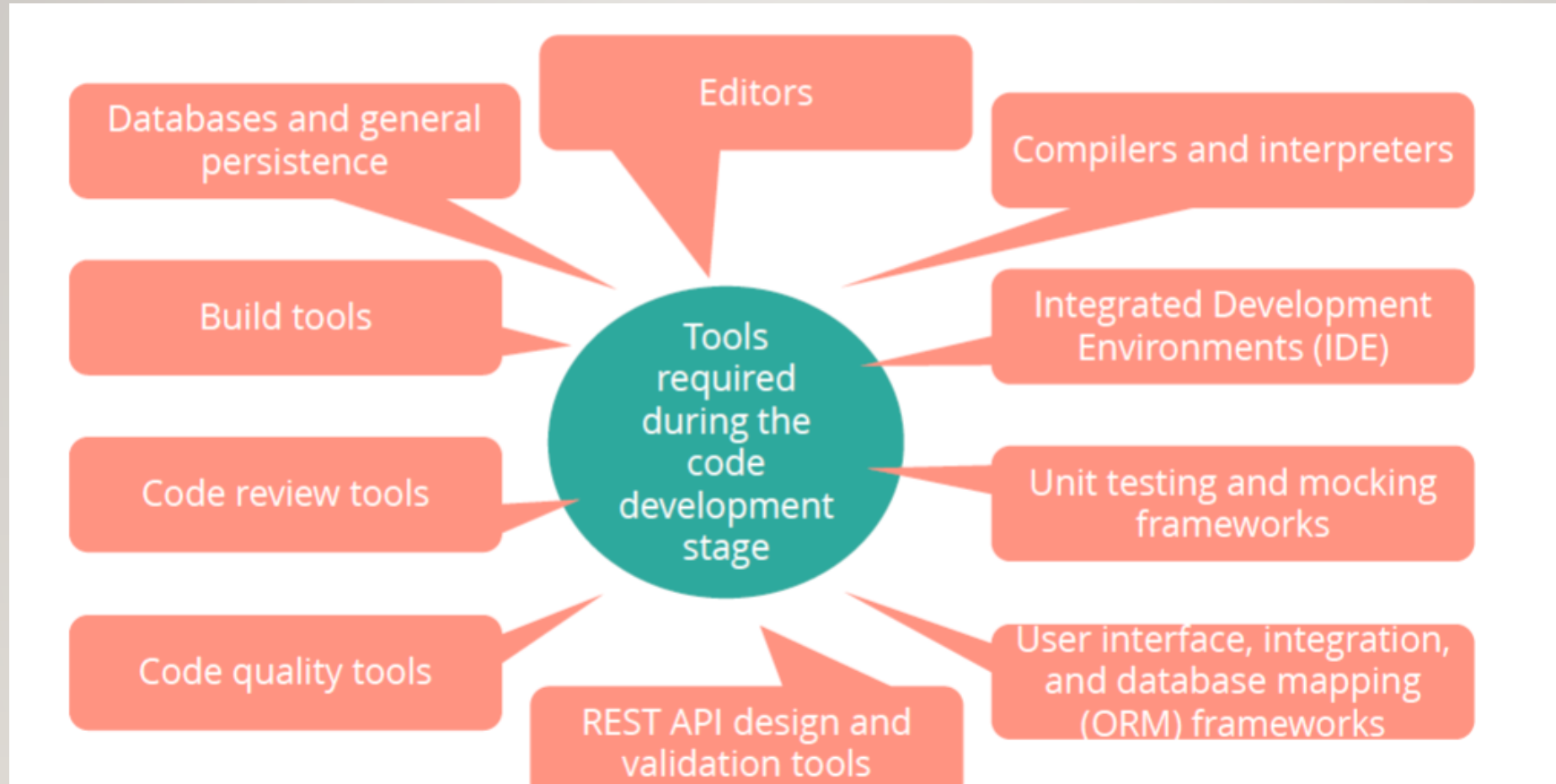


DevOps Tools

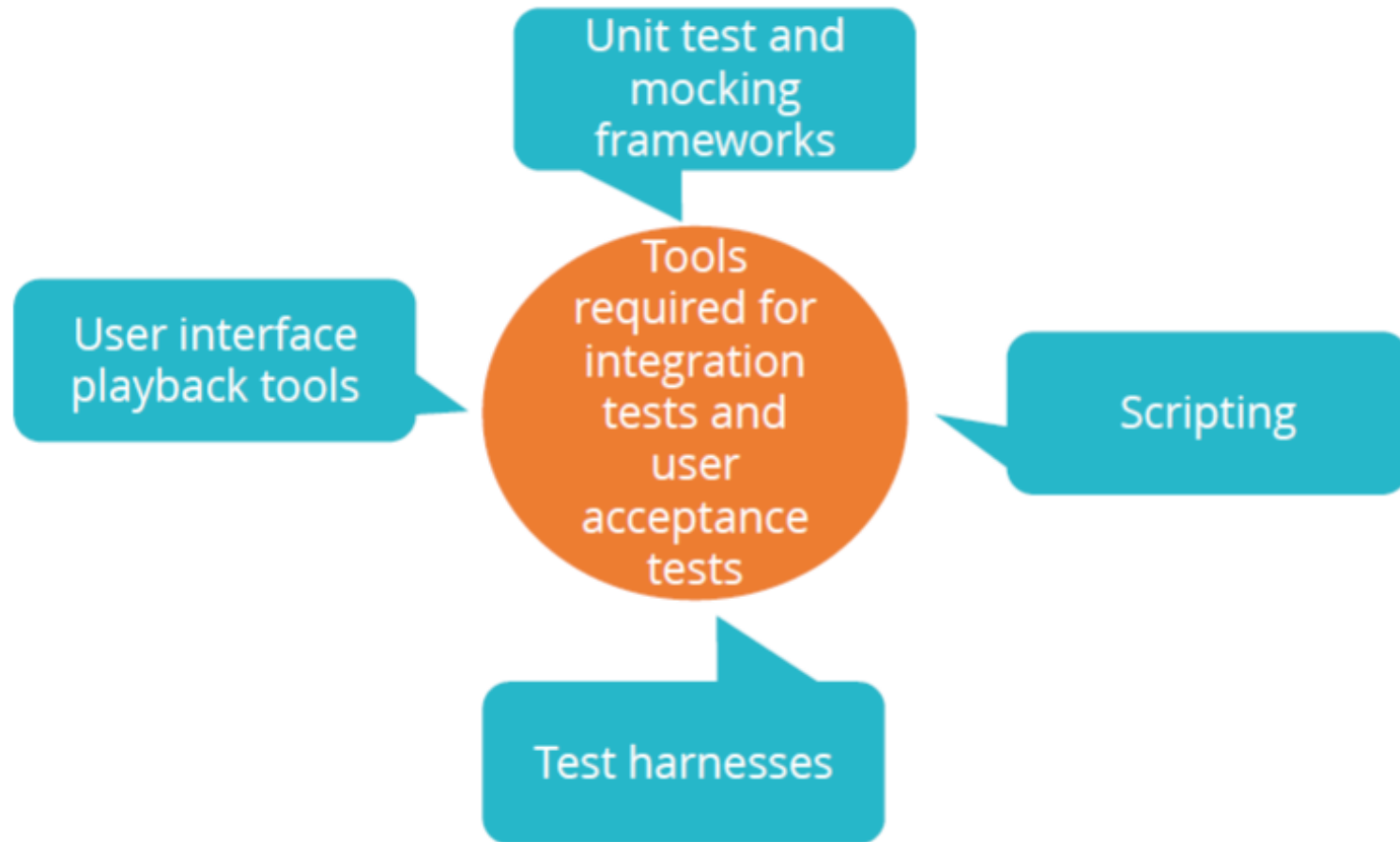
DEVOPS TOOL CATEGORIES



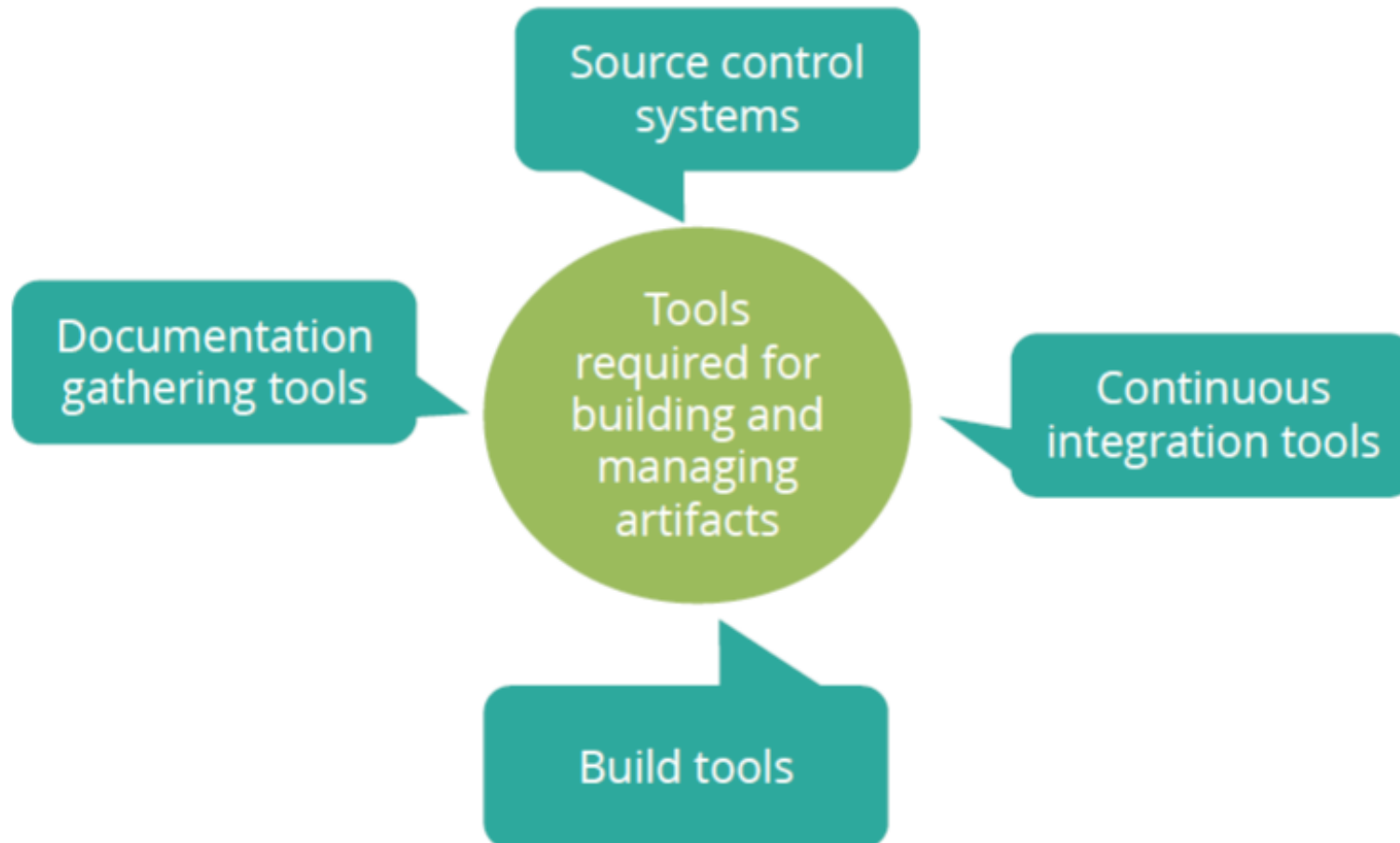
CODE DEVELOPMENT TOOLS



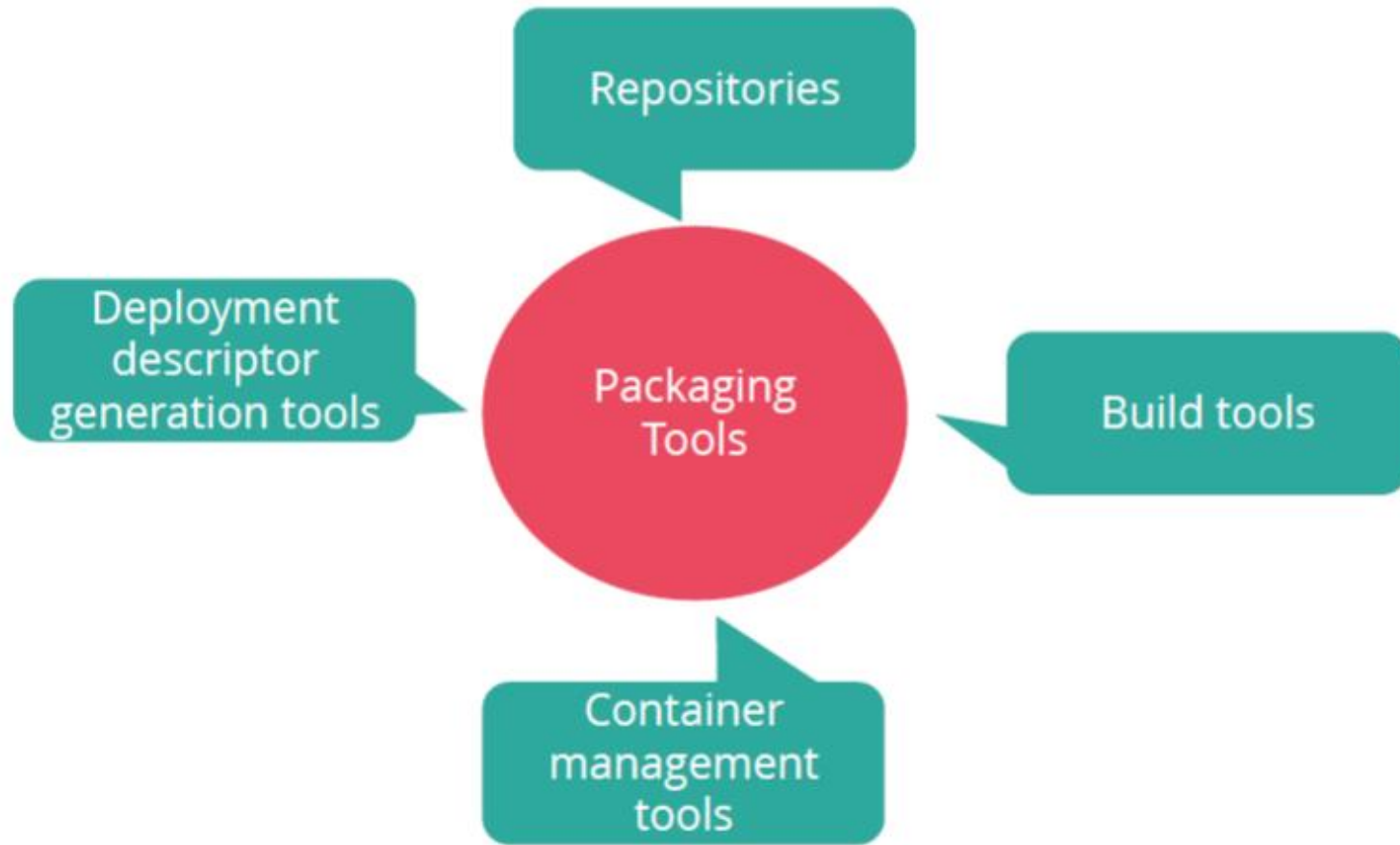
TEST TOOLS



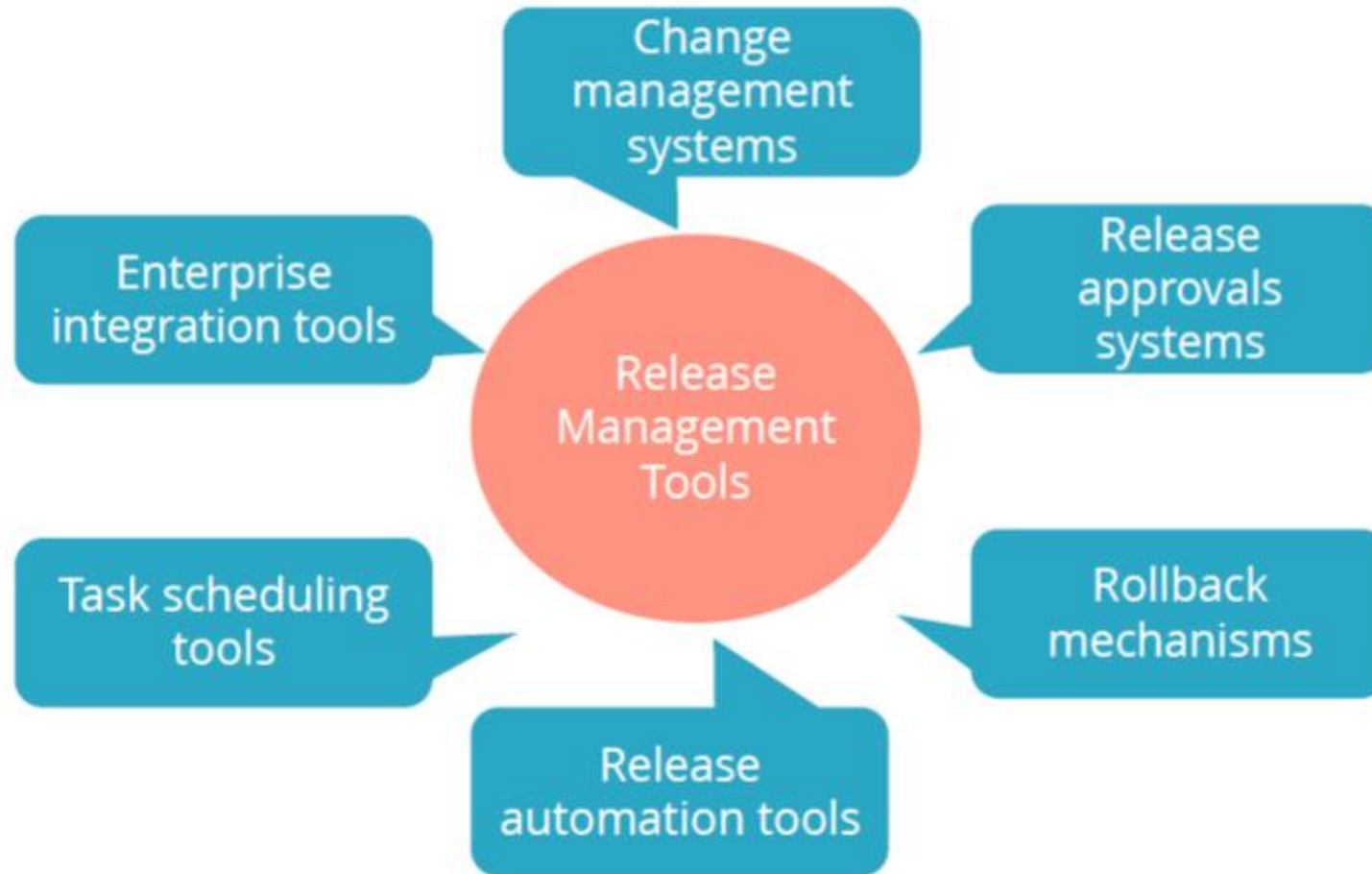
ARTEFACT CREATION TOOLS



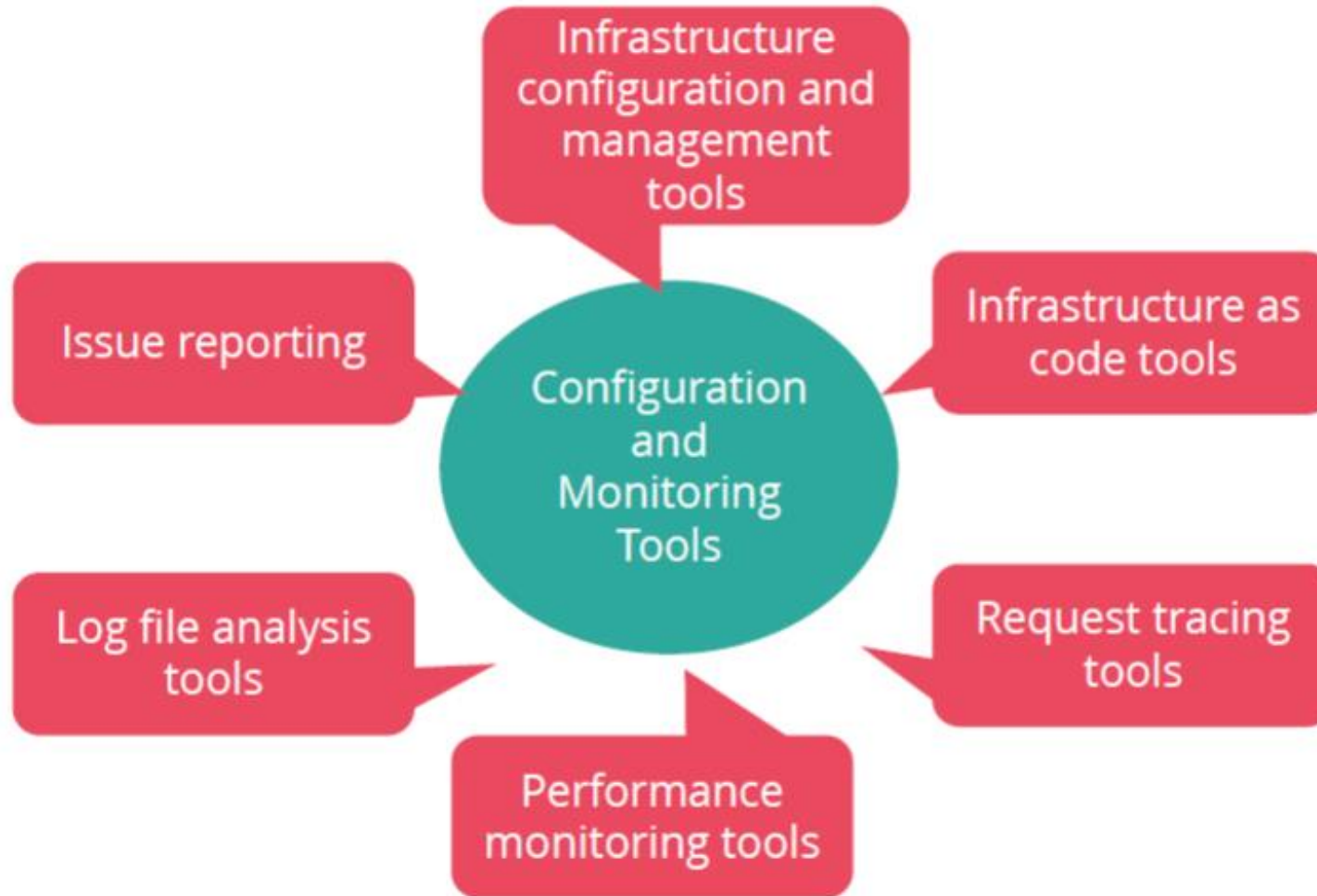
PACKAGING TOOLS



RELEASE MANAGEMENT TOOLS



CONFIGURATION & MANAGEMENT TOOLS



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Thank You