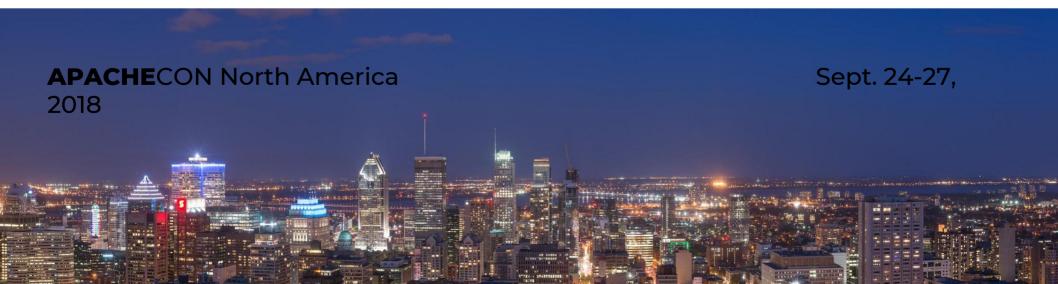# Community culture, code quality and testability

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Who am I ?

- Around CloudStack since 2013

- PMC and committer

- Do not have social networks (none at all!)

- I am not a photographer!

- Sometimes grumpy

What to expect?

- Community, code and culture

- Overview on testing methods

- Tests shaping code

- Code quality and productivity

- Nothing personal!

Communities(groups of people)

- Have something in common (e.g. CloudStack)

- Develop behavior patterns (create a culture)

Code and culture

Human tendency is to stay the same

- *Use of "@Local" annotation*

- *Declare a bean in XML ("<bean>") and using "@Component"*

- *"Simply" appending the 10th IF conditional to a method*

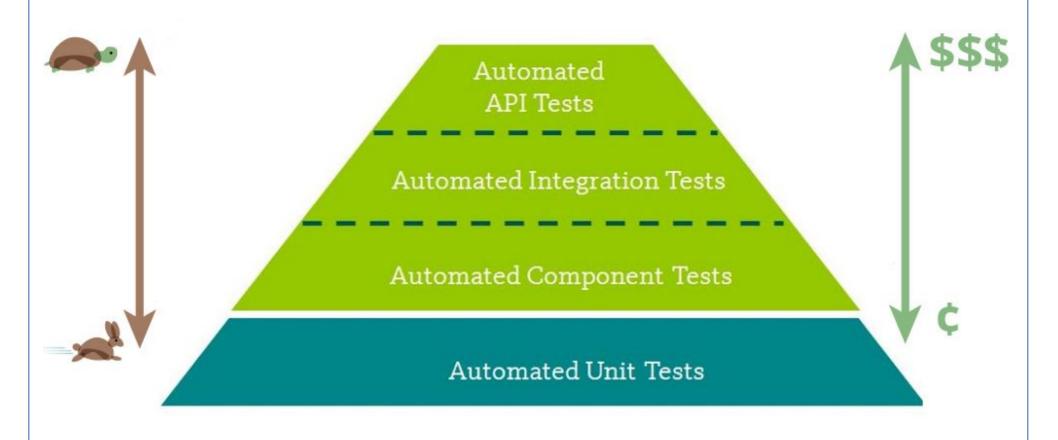# *Rules do not matter, what matter is that they are clear*

- "...test case is a burden to developers..."

- The 2LGTM trap

- What is the minimum quality bar for a PR?

- Do we want tests?

- Do we want code documentation?
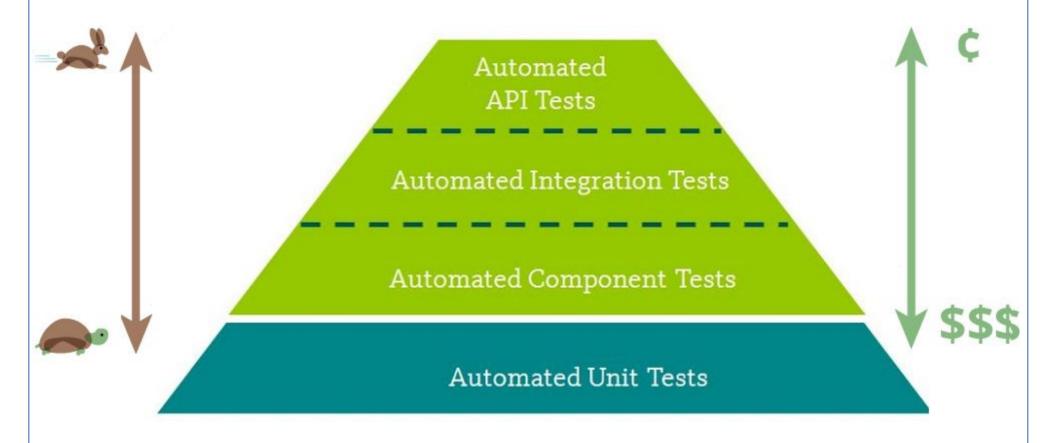
Testing methods (Shallow perspective)

- Functional tests (integration test)
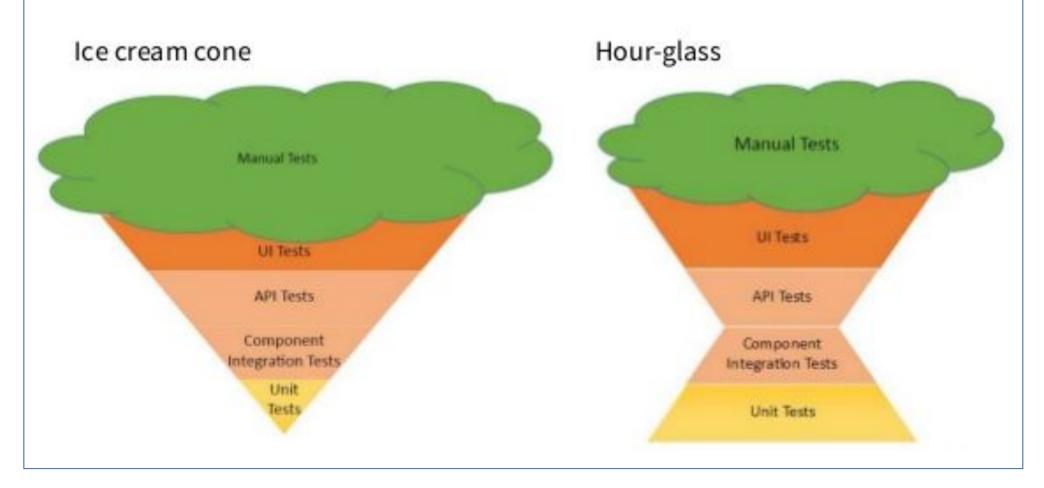
- Unit tests

Test execution pyramid

Test development pyramid

The CloudStack way

Anti-patterns

Ice cream cone

Manual Tests

UI Tests

API Tests

Component Integration Tests

Unit Tests

Hour-glass

Manual Tests

UI Tests

API Tests

Component Integration Tests

Unit Tests

Why not to unit test? What we hear…

- Requires refactoring ($$$$)
- Developer time ($) > computer time ($)
- Will need to maintain it!

Let's see one example

Why work towards more tests

- Make the project attractive
- Push structural changes in the code
- Facilitate newcomers life
- Enable easier extensions/bug fixes
- Faster pull request cycle
- Use less computing resources for tests
  (Test matrix: hypervisors X storage systems X networking systems)

In conclusion...

- Breaks will happen

- We need to talk more about code quality

- Testing can be a quality enabler

- Attract people by quality of code

APACHECON North
America

That's all folks

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