



Talk Tous les tests

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Pourquoi tester?

```
entier fonction(entier a, entier b)
{
    retour a < b;
}

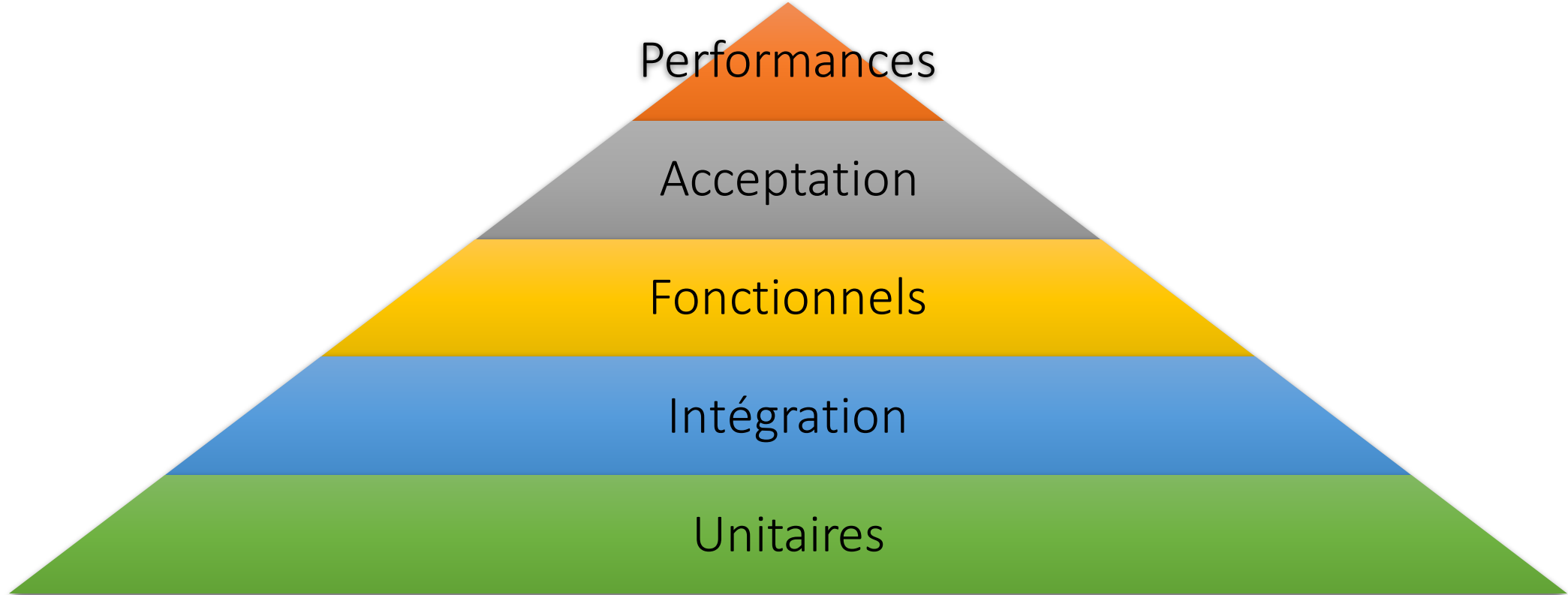
entier mon_test(rien)
{
    entier a = 1;
    entier b = 1;

    si (la_fonction_que_je_teste(a, b) renvoie vrai)
    |   affiche("test OK");
    sinon
    |   affiche("test KO");
    retour 0;
}
```

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Différents types de tests



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Tests unitaires



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En C : Criterion

```
[====] Synthesis: Tested: 27 | Passing: 27 | Failing: 0 | Crashing: 0
```

GCC Code Coverage Report

Directory: .

Test (File	Lines	Exec	Cover	Missing
{					
ch	my_revstr.c	11	11	100%	
ch	my_str_isalpha.c	5	5	100%	
ch	my_str_islower.c	5	5	100%	
ch	my_str_isnum.c	5	5	100%	
ch	my_str_isprintable.c	5	5	100%	
	my_str_isupper.c	5	5	100%	
cr	my_strcapitalize.c	9	9	100%	
}	my_strcmp.c	4	4	100%	
	my_strcpy.c	6	6	100%	
	my_strlower.c	5	5	100%	
	my_strncmp.c	4	4	100%	
	my_strncpy.c	6	6	100%	
	my_strstr.c	10	10	100%	
	my_strupcase.c	5	5	100%	
	TOTAL	85	85	100%	

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En python: unittest

```
import unittest
```

```
class Tests_my_min(unittest.TestCase):
```

```
    def test_ok(self):
```

```
        self.assertEqual(my_min(1, 2), True)
```

```
~/S/talk_tests ➔ python3 -m unittest python_test.Tests_my_min
```

```
..
```

```
-----  
Ran 2 tests in 0.000s
```

```
OK
```

```
    def test_ko(self):
```

```
        self.assertEqual(my_min(1, 2), False)
```

```
if __name__ == '__main__':
```

```
    unittest.main()
```

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En Haskell : HUnit

```
tests :: Test
tests = ~/S/talk_tests > stack test
imageCompressor> test (suite: imageCompressor-test)
Cases: 3  Tried: 3  Errors: 0  Failures: 0
main
main imageCompressor> Test suite imageCompressor-test passed
```

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En Java : Junit et Google Truth

```
import static org.junit.jupiter.api.Assertions.assertEquals;

@Test
public void whenComparingUsers_thenEqual() {
    User aUser = new User("John Doe");
    User anotherUser = new User("John Doe");

    assertEquals(aUser, anotherUser);
}
```

```
}
```

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Tests fonctionnels

```
function test()
{
    mkdir log
    echo -ne "$1"
    echo -ne "$1"
    diff log/got log/include
    if [[ $? != 0 ]
    |   echo -e "\e[91;5;1mKO\e[0m"
    |   echo -e "\e[1;92mOK\e[0m"
    |   cat log/got
    |   echo -e "\e[1;92mOK\e[0m"
    |   cat log/exp
    else
    |   echo -e "\e[1;92mOK\e[0m"
    fi
    rm -rf log
    test "ls"
    test "ls -a"
    test "ls --color"
    test "ls -al"
    test "ls -l"
    test "ls -r"
    test "ls include"
    test "ls sac"
    test "ls -l"
    test "cd"
    test "/bin/ls"
    test "cat Makefile"
    test "cd \t dasad\t"
    test "cd casas"
    test "ls ; ls ; cat main.c ; ls"
    test "ls ; cd /"
    test "cd Makefile"
    test "./tests/segfault"
    test "./tests/div_0"
    test "ls | cat -e"
    test "\tls | cat -e"
    test "ls -l --color | cat -e"
    test "cat Makefile | cat -e"
    test "ls / | wc -l\t"
```

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Tests d'intégration

```
public class BasicTests
    : IClassFixture<WebApplicationFactory<RazorPagesProject.Startup>>
{
    private readonly WebApplicationFactory<RazorPagesProject.Startup> _factory;

    public BasicTests(WebApplicationFactory<RazorPagesProject.Startup> factory)
    {
        _factory = factory;
    }

    [Theory]
    [InlineData("/")]
    [InlineData("/Index")]
    [InlineData("/About")]
    [InlineData("/Privacy")]
    [InlineData("/Contact")]
    public async Task Get_EndpointsReturnSuccessAndCorrectContentType(string url)
    {
        // Arrange
        var client = _factory.CreateClient();

        // Act
        var response = await client.GetAsync(url);

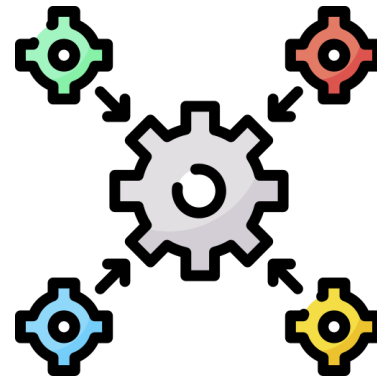
        // Assert
        response.EnsureSuccessStatusCode(); // Status Code 200-299
        Assert.Equal("text/html; charset=utf-8",
            response.Content.Headers.ContentType.ToString());
    }
}
```

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Tests d'acceptation

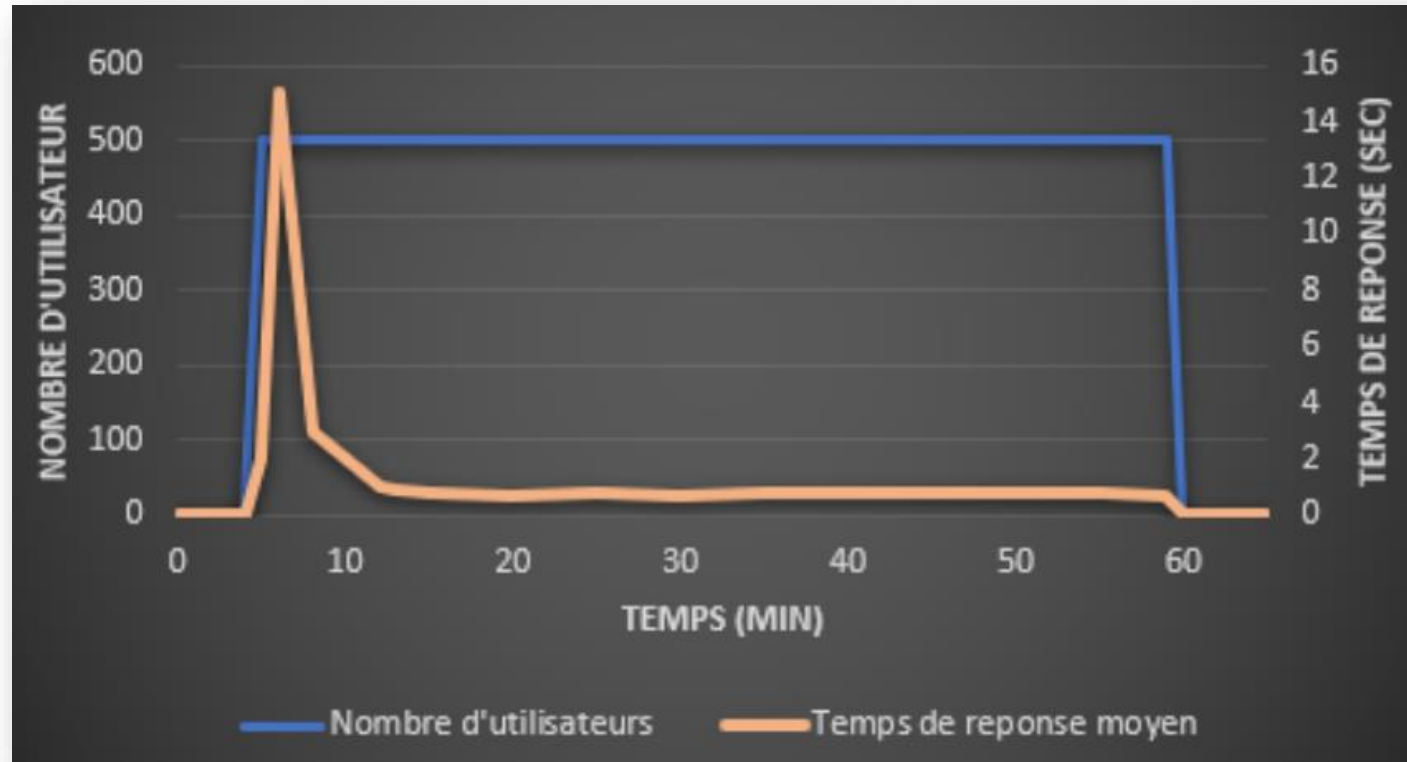
- Tests fonctionnels
- Tests d'intégration
- Tests de validation



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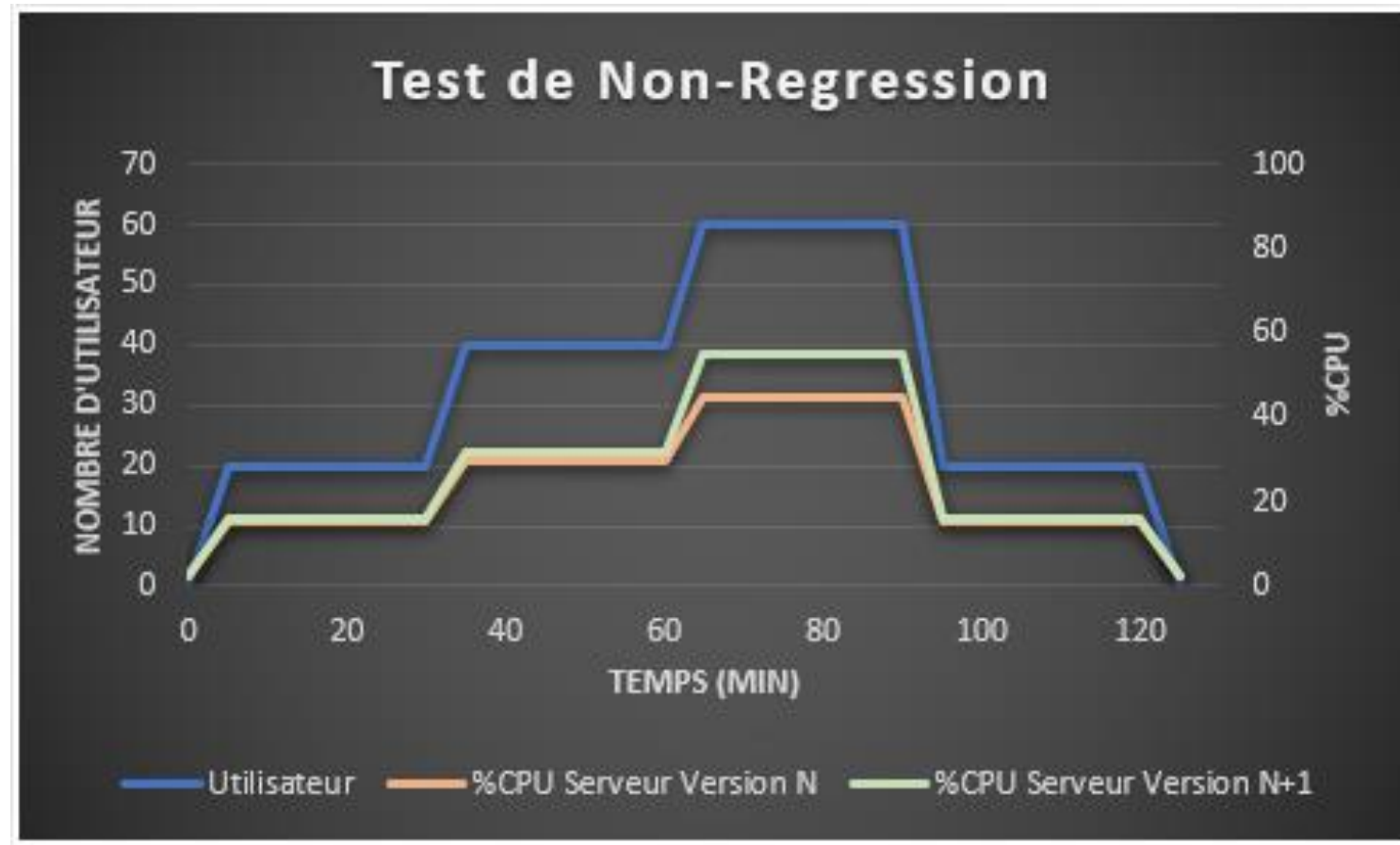
Tests de performances



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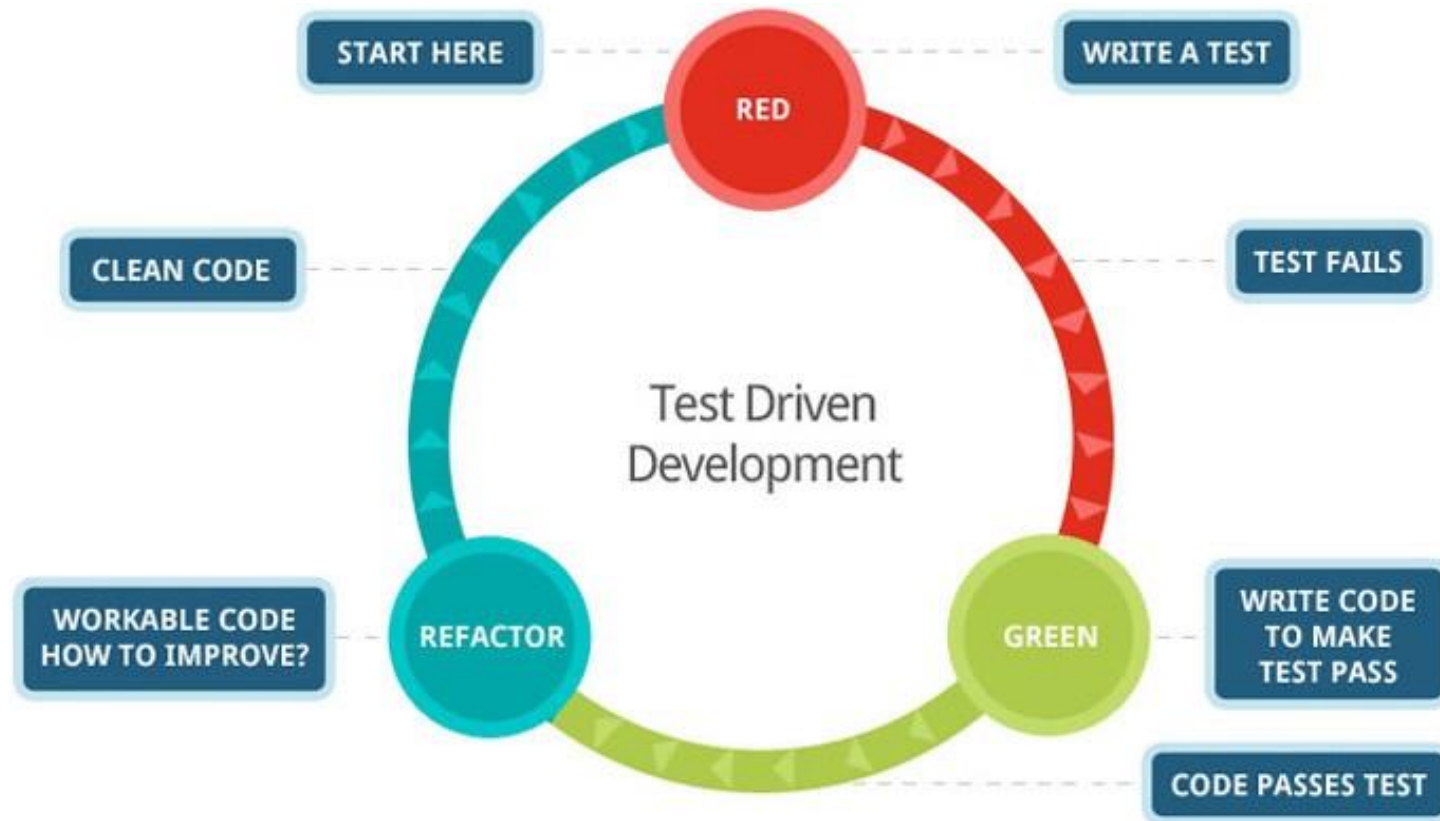
Tests de régression



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Pour aller plus loin



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