

Welcome, this is the report we created for your project.

We analysed the reviews that have been merged in the last year, focusing on which changes were applied to the code under review.

We found out that you successfully merged **44** reviews!

(please, note that we restricted the scope of our tool only to the Java files in your project)

ID: 17

Text / Instructions

Code changes happening during code review in your project

How does your code change thanks to the work your team puts during the reviews? The code changes that happen during the review process are, substantially, one of the main outcomes of the code review process. We call them *review changes*. How do these review changes look like in your project?

We could classify the review changes that happened during your code review process in two main categories:

- 1. **Functional** changes
- 2. **Evolvability** changes

1. Functional changes impact how the program functions. A reviewer may require a functional change to the code, for instance, to check how the variables or resources are used, as well as to improve an algorithm.

Here an example from your project:

93 @Override
94 public Map<String, Object> toMap() {
95 Map<String, Object> result = Events.IdentityMap(this);
96 result.put("openBuckets", openBuckets());
97 result.put("clusterNodes", clusterNodes);
98 }
99 }

David Nault
May 27 10:08 PM
NIT: since clusterNodes is now exposed directly, should it be an unmodifiable set or do we trust the calling code not to modify it?
[reply] [like] [dislike]

94 @Override
95 public Map<String, Object> toMap() {
96 Map<String, Object> result = Events.IdentityMap(this);
97 result.put("openBuckets", openBuckets());
98 result.put("clusterNodes", Collections.unmodifiableSet(clusterNodes));
99 }
100 }

[Link to review](#)

2. Evolvability changes do not directly impact the functionality of a program, but make the software more maintainable and easier to evolve.

Examples of evolvability changes are reorganising the code, removing dead lines, and adding a comment.

ID: 19

Text / Instructions

Most of the changes that happen during the reviews in your projects are evolvability changes. For this reason, we further divided the **Evolvability** changes in **3 groups**:

2.1 Documentation: Changes that tackle any issue in the documentation of the code. They include changes to comments and names in the program.

An example from your project:

29 /**
30 * The **inet** address of the node.
31 */
32 *
33 *
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29 /**
30 * The **raw** hostname address of the node.
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[Link to review](#)

2.2 Visual Representation: Changes that modify the layout of the code. In other words, any formatting that does not impact the compilation result.

An example from your project:

61 public static final String KEY_ENCODE_MICROS = "encode_us";
62 public static final String KEY_DECODE_MICROS = "decode_us";
63 public static final String KEY_SERVER_MICROS = "server_us";
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61 public static final String KEY_ENCODE_MICROS = "encode_us";
62 public static final String KEY_DECODE_MICROS = "decode_us";
63 public static final String KEY_SERVER_MICROS = "server_us";
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[Link to review](#)

2.3 Structure: Changes to the organisation of the code itself or how a particular solution is implemented (without having an effect on the functionality of the code).

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[Link to review](#)

ID: 20

Text / Instructions

Visualising Review Changes Stats

This is a mock-up of our tool interface. Please take into account the space limitation; the following figure is meant to just give a general overview of the data. Our tool interface adds three new visualization on the bottom of the page.

The single graphs will be shown again with more details later in the report.

The graph in the bottom left shows the number of reviews merged per month.

The graph in the middle shows the amount of review changes according to the types we have presented before: Documentation (2.1), Visual representation (2.2), Structure (2.3) and Functional (1).

The graph in the bottom right shows the distribution of the review changes over the last year.

ID: 21

Text / Instructions

All Projects Documentation
Open Merged Abandoned

project:couchbase-jvm-core

Changes Search Sign In

Search for project:couchbase-jvm-core

Subject	Status	Owner	Project	Branch	Updated	Size	CR	V	WF
Prepare 1.7.9 Release	Merged	Michael Nitschinger	couchbase-jvm-core	master	Aug 6		✓	✓	
Bump Jackson one more time	Merged	Michael Nitschinger	couchbase-jvm-core	master	Aug 6		✓	✓	
SDKQE-289 Deploy Snapshots	Merged	David Kelly	couchbase-jvm-core	master	Aug 5		✓	✓	
JVMCBC-574 Network Address issues with ipv6	Merged	David Kelly	couchbase-jvm-core	master	Aug 5		✓	✓	
Bump Jackson Dependency	Merged	Michael Nitschinger	couchbase-jvm-core	master	Aug 5		✓	✓	
Prepare 1.7.8 Release	Merged	Michael Nitschinger	couchbase-jvm-core	master	Aug 5		✓	✓	
JVMCBC-713: Do not try to resolve in ConnectionString	Merged	Michael Nitschinger	couchbase-jvm-core	master	Jul 29		✓	✓	
JVMCBC-574 NetworkAddress issues with ipv6	Merged	David Kelly	couchbase-jvm-core	master	Jul 29		✓	✓	
JVMCBC-712: Update seedHosts with every good new config.	Merged	Michael Nitschinger	couchbase-jvm-core	master	Jul 29		✓	✓	
JVMCBC-714: Do not resolve prelocated requests.	Merged	Michael Nitschinger	couchbase-jvm-core	master	Jul 29		✓	✓	
JVMCBC-715: Fix analytics keepalive for new handler.	Merged	Michael Nitschinger	couchbase-jvm-core	master	Jul 29		✓	✓	
JVMCBC-574 NetworkAddress issues with ipv6	Merged	David Kelly	couchbase-jvm-core	master	Jul 26		✓	✓	
JCBC-1373 Fix integration tests	Merged	David Kelly	couchbase-jvm-core	master	Jul 22		✓	✓	
JVMCBC-702 Test failures when using mock	Merged	David Kelly	couchbase-jvm-core	master	Jul 10		✓	✓	
Bump Jackson Dependency	Merged	Michael Nitschinger	couchbase-jvm-core	master	Jul 3		✓	✓	
JVMCBC-687 Analytics Service pings are timing out	Merged	David Kelly	couchbase-jvm-core	master	Jun 18		✓	✓	
Prepare 1.7.7 Release	Merged	Michael Nitschinger	couchbase-jvm-core	master	Jun 6		✓	✓	

Reviews over time

Total review changes per group

Review changes groups over the last year

Visual Representation, 10%

Structure, 50%

Documentation, 38%

Functional, 2%

Documentation	59
Visual Representation	15
Structure	77
Functional	3

Please note, that this chart uses two scales, one for functional changes (left) one for evolvability changes (right)

ID: 55

Text / Instructions

1. After you have looked at this interface for your project, it would be great if you could let us know what you think about it:

Space Cell	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Answer
The information is clear and easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This summary is useful for my project and contains relevant information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This information can be useful for a developer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This information can be useful for a project manager	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This information reflects my expectations of the code review process of the project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ID: 22

Radio Button Grid

2. Feel free to add any further comments about your answers above or the information:

ID: 70

Essay / Long Answer

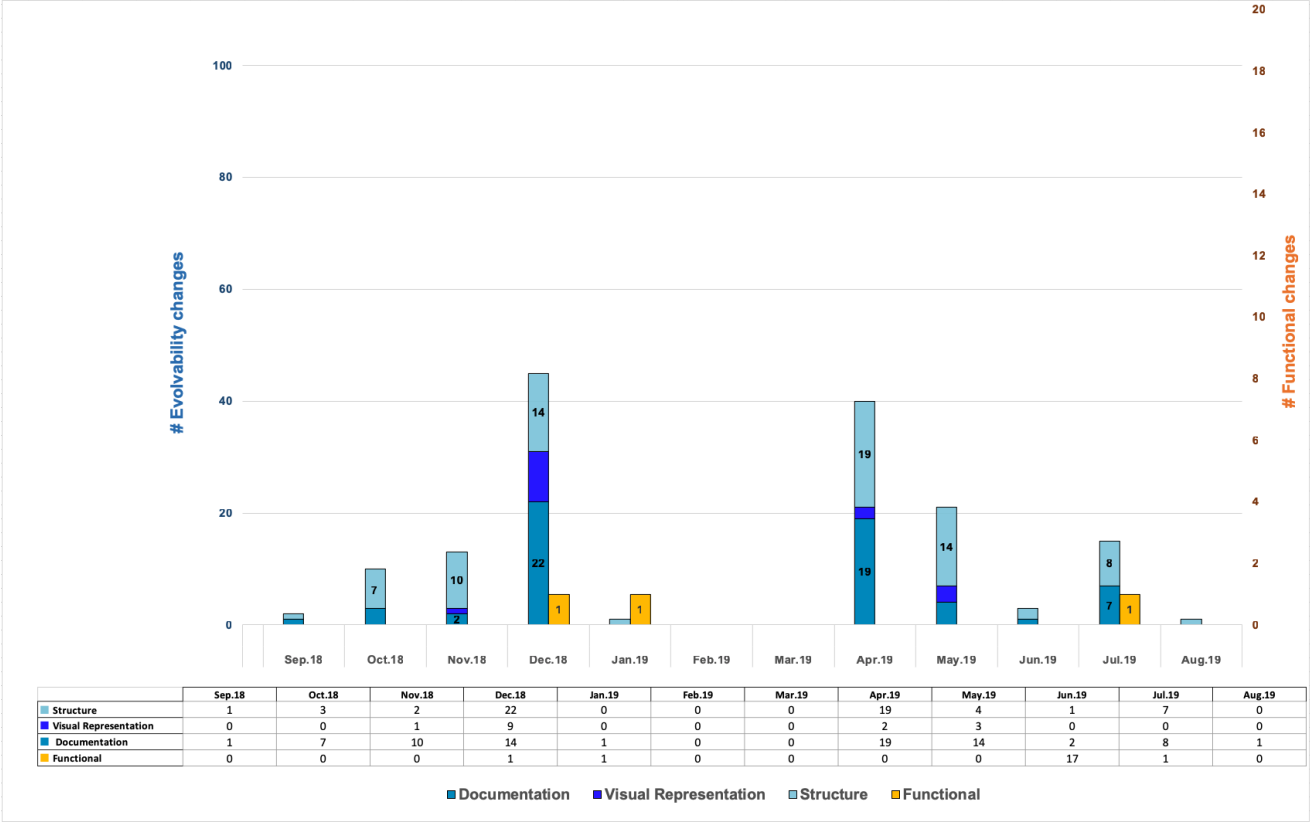
Details - Chart 1

This graph shows the amount of changes per group happened in your code review process from August 2019 to September 2018.



This visualisation shows the amount of code review changes per group during last year.

Please take note that this chart uses two scales: one for functional changes (right), one for evolvability changes (left).



ID: 36

Text / Instructions

5. After you have looked at this visualization for your project, it would be great if you could let us know what you think about it:

Space Cell

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

The graph is clear and easy to understand

The graph is clear and easy to understand: Strongly Disagree

The graph is clear and easy to understand: Disagree

The graph is clear and easy to understand: Neutral

The graph is clear and easy to understand: Agree

The graph is clear and easy to understand: Strongly Agree

The graph is clear and easy to understand: No Answer

This summary is useful for my project and contains relevant information

This summary is useful for my project and contains relevant information: Strongly Disagree

This summary is useful for my project and contains relevant information: Disagree

This summary is useful for my project and contains relevant information: Neutral

This summary is useful for my project and contains relevant information: Agree

This summary is useful for my project and contains relevant information: Strongly Agree

This summary is useful for my project and contains relevant information: No Answer

This information can be useful for a developer

This information can be useful for a developer: Strongly Disagree

This information can be useful for a developer: Disagree

This information can be useful for a developer: Neutral

This information can be useful for a developer: Agree

This information can be useful for a developer: Strongly Agree

This information can be useful for a developer: No Answer

This information can be useful for a project manager

This information can be useful for a project manager: Strongly Disagree

This information can be useful for a project manager: Disagree

This information can be useful for a project manager: Neutral

This information can be useful for a project manager: Agree

This information can be useful for a project manager: Strongly Agree

This information can be useful for a project manager: No Answer

This information reflects my idea of the temporary distribution of the changes in our review

This information reflects my idea of the temporary distribution of the changes in our review: Strongly Disagree

This information reflects my idea of the temporary distribution of the changes in our review: Disagree

This information reflects my idea of the temporary distribution of the changes in our review: Neutral

This information reflects my idea of the temporary distribution of the changes in our review: Agree

This information reflects my idea of the temporary distribution of the changes in our review: Strongly Agree

This information reflects my idea of the temporary distribution of the changes in our review: No Answer

ID: 30

Radio Button Grid

6. Feel free to add any further comments about your answers above or the visualization:

ID: 72

Essay / Long Answer

Considering all the information seen so far, it would be great if you could give us some feedback by answering the next few questions:

ID: 50

Text / Instructions

7. The whole report is useful for my project and contains relevant information.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

☐ No Answer

ID: 3

Rating (Likert Scale)

This question has display logic

View Conditions

8. Please specify:

ID: 73

Essay / Long Answer

9. I have learned something about my project that I have not been aware of before.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

☐ No Answer

ID: 6

Rating (Likert Scale)

This question has display logic

View Conditions

10. Please specify:

ID: 74

Essay / Long Answer

11. The results made me curious. I plan to investigate further the code review process of my project.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

☐ No Answer

ID: 7

Rating (Likert Scale)

12. This report provides information that is not available in any other tool I know.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

☐ Strongly Disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree

☐ No Answer

ID: 15

Rating (Likert Scale)

13. Having this kind of information at ready would have a positive influence over the Code Review process of my team.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

Strongly

Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

ID: 16

Rating (Likert Scale)

14. Based on the information you have seen in this report, I would change something in the code review practices of my project:

Space Cell

Code review policies (e.g., mandatory review after each commit)

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

Code review policies (e.g., mandatory review after each commit): Strongly Disagree

Code review policies (e.g., mandatory review after each commit): Disagree

Code review policies (e.g., mandatory review after each commit): Neutral

Code review policies (e.g., mandatory review after each commit): Agree

Code review policies (e.g., mandatory review after each commit): Strongly Agree

Code review policies (e.g., mandatory review after each commit): No Answer

Use of tools (e.g., static analysis tools like Check style or FINDBUGS)

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

Use of tools (e.g., static analysis tools like Check style or FINDBUGS): Strongly Disagree

Use of tools (e.g., static analysis tools like Check style or FINDBUGS): Disagree

Use of tools (e.g., static analysis tools like Check style or FINDBUGS): Neutral

Use of tools (e.g., static analysis tools like Check style or FINDBUGS): Agree

Use of tools (e.g., static analysis tools like Check style or FINDBUGS): Strongly Agree

Use of tools (e.g., static analysis tools like Check style or FINDBUGS): No Answer

Reviewers assignment (e.g., by finding specific reviewers for specific defects)

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

Reviewers assignment (e.g., by finding specific reviewers for specific defects): Strongly Disagree

Reviewers assignment (e.g., by finding specific reviewers for specific defects): Disagree

Reviewers assignment (e.g., by finding specific reviewers for specific defects): Neutral

Reviewers assignment (e.g., by finding specific reviewers for specific defects): Agree

Reviewers assignment (e.g., by finding specific reviewers for specific defects): Strongly Agree

Reviewers assignment (e.g., by finding specific reviewers for specific defects): No Answer

ID: 57

Radio Button Grid

This question has display logic

View Conditions

15. Please, give us further details on this:

ID: 64

Essay / Long Answer

16. I think that the information of this report might help with ...

Space Cell

To understand how resources are spent on our project

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

To understand how resources are spent on our project: Strongly Disagree

To understand how resources are spent on our project: Disagree

To understand how resources are spent on our project: Neutral

To understand how resources are spent on our project: Agree

To understand how resources are spent on our project: Strongly Agree

To understand how resources are spent on our project: No Answer

To avoid performing the same mistakes again

Disagree

Disagree

Neutral

Agree

Strongly Agree

No Answer

To avoid performing the same mistakes again: Strongly Disagree

To avoid performing the same mistakes again: Disagree

To avoid performing the same mistakes again: Neutral

To avoid performing the same mistakes again: Agree

To avoid performing the same mistakes again: Strongly Agree

To avoid performing the same mistakes again: No Answer

ID: 66

Radio Button Grid

This question has display logic

View Conditions

17. Please, give us further details on this (optional):

ID: 75

Essay / Long Answer

18. If you want, please give further feedback on our report. (Optional)

ID: 8

Essay / Long Answer

Background

To improve the scientific validity of your feedback, It would be great if you could answer to the following demographic questions too.

ID: 53

Text / Instructions

Role in OSS project



19. What is your involvement with the development of the project analyzed in this report?

- ☐ I am a core developer
- ☐ I have committing/merging rights
- ☐ I am an external contributor (no merge rights)
- ☐ I am an active user (e.g., I open issue reports, but do not develop any code in it)
- ☐ I am an external user (I am not involved in the development at all)
- ☐ Other - Write In Please enter an 'other' value for this selection.

ID: 81

Radio Buttons

20. What is your current job?

- ☐ Professional Developer
- ☐ Academic Researcher
- ☐ Industrial Researcher
- ☐ Project Manager
- ☐ Spare-time Developer
- ☐ Student
- ☐ Other - Write In Please enter an 'other' value for this selection.

ID: 11

Radio Buttons

21. How many years have you developed software in a professional setting?

I have no experience in software development in a professional setting

☐ I have no experience in software development in a professional setting

1 year or less

2 years

3-5 years

6-10 years

11 years or more

☐1 year or less

☐2 years

☐3-5 years

☐6-10 years

☐11 years or more

ID: 13Radio Buttons

22. How often do you currently program software?

Not at allAbout once a yearAbout once a monthAbout once a weekDaily or more often

☐Not at all☐About once a year☐About once a month☐About once a week☐Daily or more often

ID: 14Rating (Likert Scale)

23. How many years have you performed code reviews?

I have never done code review1 year or less2 years3-5 years6-10 years11 years or more

☐I have never done code review☐1 year or less☐2 years☐3-5 years☐6-10 years☒11 years or more

ID: 51Radio Buttons

24. How often do you currently perform code reviews?

Not at allAbout once a yearAbout once a monthAbout once a weekDaily or more often

☐Not at all☐About once a year☐About once a month☐About once a week☐Daily or more often

ID: 52Rating (Likert Scale)

Publicly share answers



In addition to analyzing your data in an anonymous form, can we also share your answers (in an anonymous form) in a publicly available dataset? ***This question is required.**

(Selecting "yes" allows other researchers and the public to benefit from your answers and effort)

-- Please Select -- ▼

ID: 77

Dropdown Menu

25. If you have any comments on the report or on the topic, please add them here.

ID: 79

Essay / Long Answer

Thank you very much for reading our report. We hope it gave you useful insights!
Also, we thank you for the time you spent giving us feedback.

You are awesome!

If you are interested in the detailed data that we used to create this report, don't
hesitate to contact us at: fregnan@ifi.uzh.ch

ID: 1

Text / Instructions