

# Resolution Time Distribution



Resolution Time Distribution report is available only in Awesome Graphs for **Bitbucket Server**.

This report shows pull requests grouped by the time taken to merge or decline them. This helps you see the most frequent resolution times and analyze code review process.

The report helps you answer such questions as:

- How long does it usually take to resolve pull requests?
- Are there more pull requests with a long or short resolution time?
- What is an expected resolution time for future pull requests?
- What pull requests of the period had the shortest/longest resolution times?

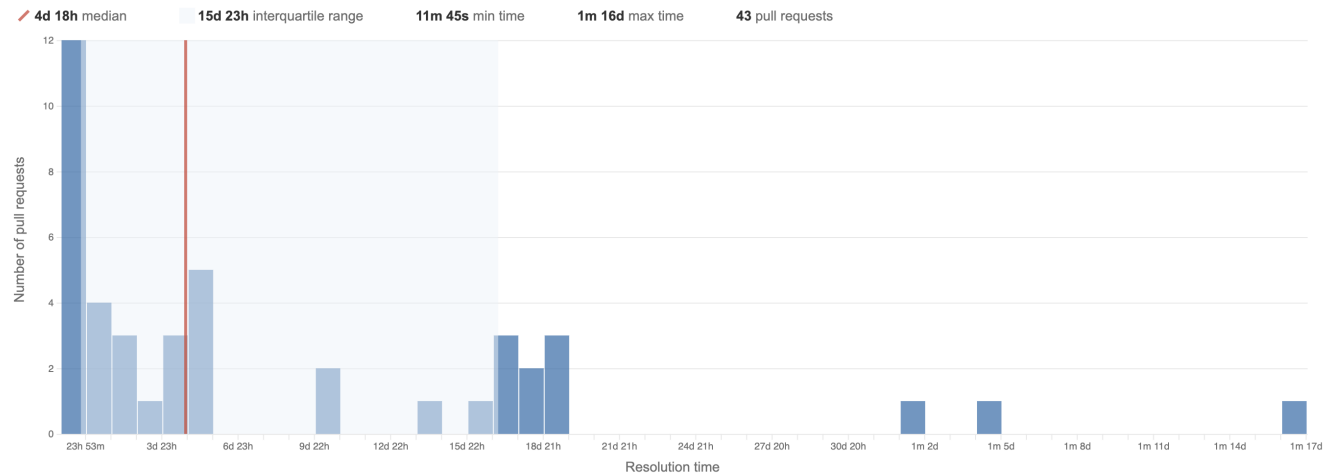
## What does the Resolution Time Distribution report look like?

Once the report is configured, you will see something like this:

### Resolution Time Distribution

Click a bar to see associated pull requests. Click the blank space to go back to viewing all pull requests.

Select Configure Analyze



Summary	Resolution Time	Reviewers
<b>MERGED</b> Added further guidance for testing within contributing.md → markosullivan94-366-master MarkOSullivan94 - #292, last updated on 23 Jun 2018	16 hours 35 minutes	
<b>MERGED</b> Refactor: PanResponder example to avoid componentWillMount() → andrwsalcedo-373-master andrwsalcedo - #297, last updated on 14 Jun 2018	5 days 9 hours	

## Configuring a Resolution Time Distribution report

1. Navigate to the project/repository of your choice.
2. Choose **Actions** section on the sidebar > **Reports** > **Resolution Time Distribution** in the Pull Requests section.
3. In the Period fields, choose the time frame. The report will include pull requests that were merged or declined within this time frame.
4. If you want to see the report for a particular team, choose its name using the **All contributors** dropdown menu in the **Team** field. Read more about teams [here](#).
5. In **Filter By**, choose the state of pull requests to include in the report (merged or declined).


6. In **Destination Branch** (available only in repository reports), select a branch to include only pull requests with a particular destination branch.

## Reports


### Resolution Time Distribution

Configure a resolution time distribution report for this repository.

Period Last month ▾  
Set the time period. The report will include pull requests merged or declined within this time span

Team  All contributors ▾  
Select a team you want to analyze

Filter By Merged ▾  
Choose the state of pull requests to include in the report

Destination Branch  All branches ▾  
Select a branch to include only pull requests with a particular destination branch

Next Cancel

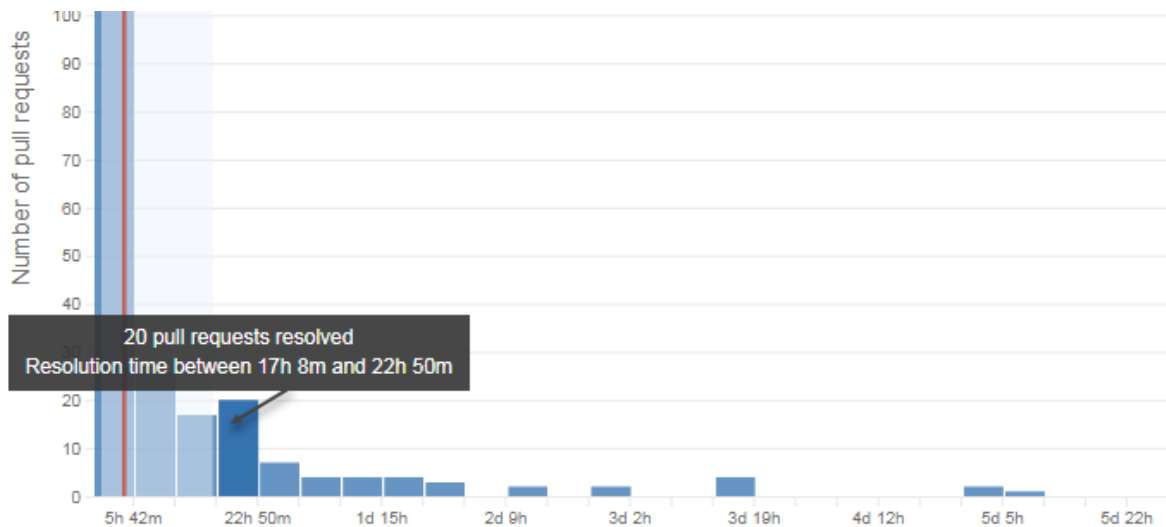
## How to read a Resolution Time Distribution report?

- **Axis X** – Resolution time
- **Axis Y** – Number of pull requests
- **Red line** – Median
- **Selected area** – Interquartile interval (IQI)

The report has all pull requests of the period ordered and divided into groups based on their resolution time. Each bar is a group of pull requests resolved (merged or declined) within a certain time span. E.g., one bar can include pull requests that took 'between 1 and 2 days' to be resolved; and another bar – pull requests with 'between 4 and 5 days' resolution time.

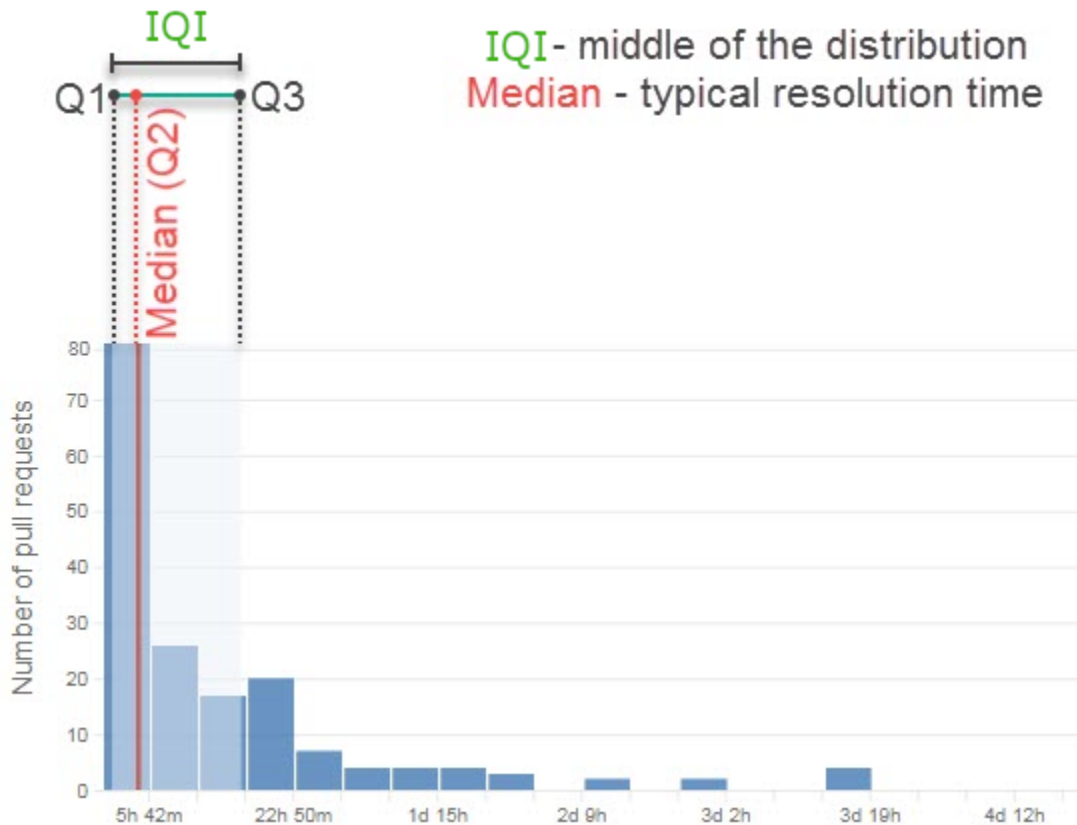
Bars on the left show pull requests with the shortest resolution time, bars on the right show those with the longest resolution time. The more pull requests are associated with a bar, the higher it is.

## Example



Here you can see the bar that includes **20** pull requests. Each of them was resolved in **more than 17 hours 8 minutes**, but **less than 22 hours 50 minutes**.

## Median and IQI



The red line shows the **median** - typical resolution time. It is in the "middle" of the distribution. If to put all pull requests of the period in order by their resolution time (from the shortest to the longest), the resolution time of the pull request in the middle will be the median.

- 50% of pull requests have a resolution time shorter than the median
- 50% are pull requests with a resolution time longer than the median

E.g., if there are 5 pull requests during the period and they were resolved within 2, 4, 7, 11, 24 days accordingly, the median is the middle value - 7 days.

The selected area shows the **interquartile interval (IQI)** - the *middle 50%* of all pull requests of the period. In other words, it displays where the bulk of the data values lie.

- IQI's left bound is called the **first quartile (Q1)**. It represents 25 percentile of data.
- IQI's right bound is called the **third quartile (Q3)**. It represents 75 percentile of data.

#### How to use it

- 25% of pull requests with the **shortest** resolution time are located to the **left** from the selected area (from Q1)
- 25% of pull requests with the **longest** resolution time are located to the **right** from the selected area (from Q3)
- 50% of pull requests with the **middle** resolution time length are located **inside** the selected area
- **Future pull requests** are likely to be resolved within the time **until Q3**

Comparing the median to the quartile values (Q1 and Q3) shows whether data is **skewed**:

- if there is a high proportion of pull requests with **longer resolution times**, the median is closer to Q3 than to Q1
- if values are **more evenly distributed**, the median is closer to the middle of the selected area
- if there are significantly more pull requests that are **resolved fast**, the median will be closer to Q1

## Legend

The legend above the chart shows:

- Median resolution time
- Interquartile range
- Minimum resolution time
- Maximum resolution time
- Number of pull requests














3h 57m median    15h 8m interquartile range    19s min time    11d 10h max time    232 pull requests

**Interquartile range (IQR)** is the difference between the third quartile and the first quartile ( $IQR = Q3 - Q1$ ). It tells about the range of the middle half of the resolution times in the distribution.


- IQR tells how **spread out** the "middle" values are
- IQR can also be used to see **outliers** – values which are "too far" from the "middle" values

## List of pull requests

Below the chart, you can see the list of pull requests included in the report. For each pull request, you can see its' resolution time and reviewers.

Summary	Resolution Time	Reviewers
 <b>MERGED</b> docs(plugins) add protractor-numerator plugin t... → marketionist-4286-master Marketionist - #1207, last updated on 04 Mar 2018	2 months 2 days	
 <b>MERGED</b> docs(page-objects.md): Refactor the existing Pag... → timothystone-4576-master timothystone - #1259, last updated on 24 Jan 2018	6 days 21 hours	
 <b>MERGED</b> fix(doc): update doc for testing with node 8 async/await... → qiyigg-4613-master qiyigg - #1266, last updated on 22 Dec 2017	46 minutes 46 seconds	
 <b>MERGED</b> fix(direct): Use config's geckoDriver when specified → shaungrady-4554-master shaungrady - #1252, last updated on 15 Dec 2017	1 month 21 days	
 <b>MERGED</b> Support the new CoffeeScript module name → neverwintermoon-4567-master NeverwinterMoon - #1258, last updated on 15 Dec 2017	1 month 13 days	
 <b>MERGED</b> docs(element): fix minor typo in element.ts → mmikirtumov-4471-master mmikirtumov - #1233, last updated on 15 Dec 2017	3 months 9 days	
 <b>MERGED</b> docs(website): updated reference from ignor... → michaelrijsdijk-4632-master MichaelRijsdijk - #1277, last updated on 15 Dec 2017	1 day 8 hours	
 <b>MERGED</b> chore(website): automatic docs update for 5.2.2 → qiyigg-4628-gh-pages qiyigg - #1276, last updated on 13 Dec 2017	16 seconds	
 <b>MERGED</b> chore(website): automatic docs update for 5.2.2 → qiyigg-4627-gh-pages qiyigg - #1275, last updated on 13 Dec 2017	15 seconds	
 <b>MERGED</b> chore(release): version bump and changelog for 5.2.2 → qiyigg-4626-master qiyigg - #1274, last updated on 13 Dec 2017	1 hour 10 minutes	
 <b>MERGED</b> fix(Jasmine): Update Jasmine to support Node8 async/aw... → qiyigg-4608-master qiyigg - #1265, last updated on 12 Dec 2017	22 hours 14 minutes	

When you click a bar, the list gets updated and you can see pull requests that correspond to that bar. Click the blank space to go back to viewing all pull requests.

 If you'd like Awesome Graphs to include other pull requests reports, please, [let us know](#).