I like to find
solutions

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eazyBI

Community Days
May 14, 2020

Let's start easy

Enablers on complex cases in eazyBI

Use cases

eazyBI is a
business intelligence tool
for data analysis and visualisation
with built-in Jira data import

Make reporting easy, hard scenarios possible

Make reporting easy

Pages

> Project

> Issue Type

> Status

> Assignee

Rows   Nonempty

˅ Issue

> Select individual members

˅ All hierarchy level members

Select all members at level

Project 4   Issue 597

Sub-task

Project 4   Parent 449

Sub-task 598

Epic

Project 4   Epic 32   Parent 463

Columns   › **Measures**

Table   Bar   Line   Pie   Scatter   Timeline   Map   Gantt   Gauge

⤢   ↺   ↻   ⌕   ⤓   Total ˅   Freeze header   ⟳

DEMO Alfa ˅   Story ˅   All Statuses ˅   All Assignees ˅

Issue	Issues created	Original estimated hours	Hours spent	Issue created date	Issue resolution date	Issue due date	Issue assignee	Issue type	Issue priority	Issue status
DA-1 Delacroix's malices costliness resurface maharajah brusqueness apportionment vividness colanders integrating	1	8.00	7.00	Jan 02 2019	Jan 31 2019	Mar 27 2019	David Sand	Story	Low	Done
DA-10 Flower fan's phloxes playroom's wormiest ridiculed bashfulness greensward	1	12.00	11.00	Jan 18 2019	Feb 22 2019	Feb 22 2019	Duncan Snow	Story	Medium	Done
DA-104 Customer selected new team for their project	1	8.00	10.00	Jul 02 2019	Oct 15 2019	Nov 19 2019	Duncan Snow	Story	Medium	Done
DA-108 Sunbather skullcaps infestation risen lass education's knacker's Camry	1	8.00	8.00	Jul 09 2019	Sep 02 2019	Sep 26 2019	Sandra Adams	Story	Lowest	Done
DA-11 Madly bulking	1	6.00	7.00	Jan 20 2019	Feb 11 2019	Feb 15 2019	Sandra	Story	Low	Done

Pages

> Project

> Issue Type

> Status

> Assignee

Rows   Nonempty

> Issue

Columns   › **Measures**

Table Bar Line Pie Scatter Timeline Map Gantt **Gauge**
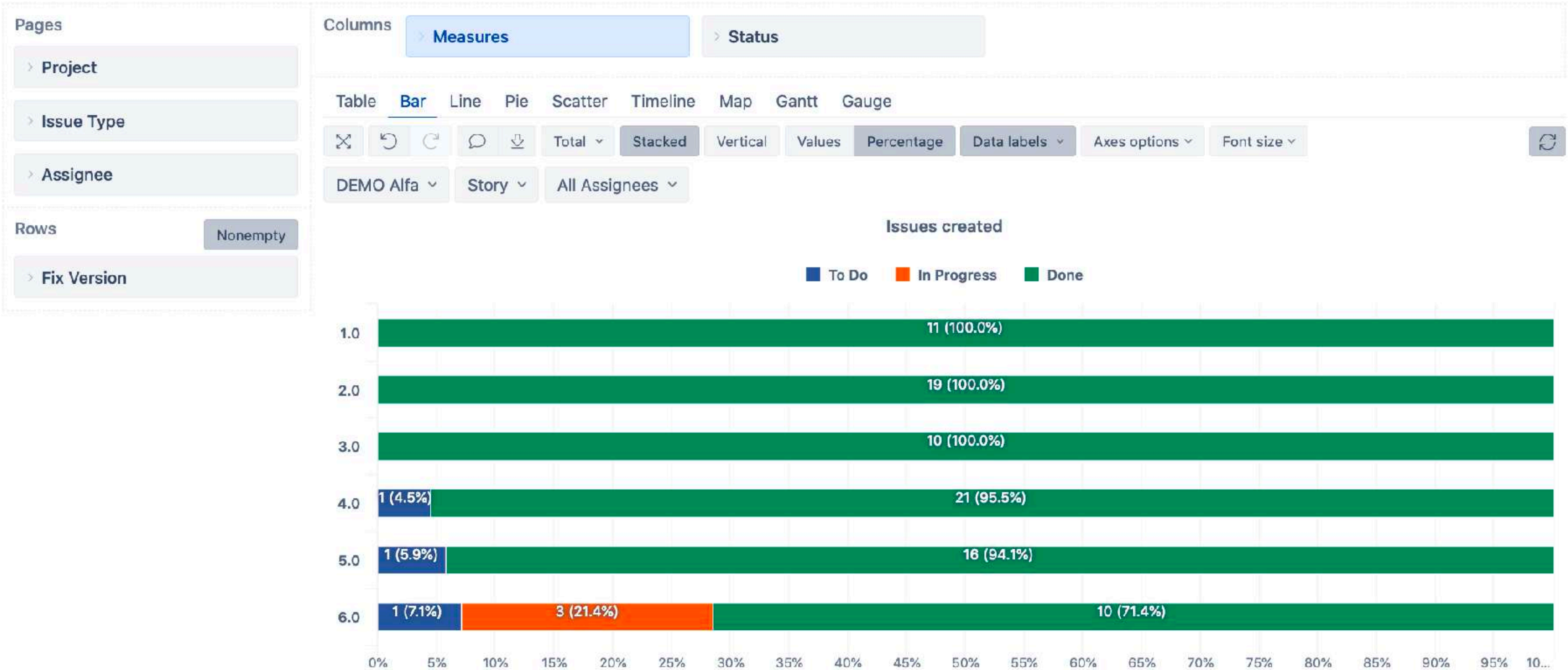
⤢ ↺ ↻ 💬 ⤓   Total ⌄   Only values   Swap axes   Font size ⌄   ⟳
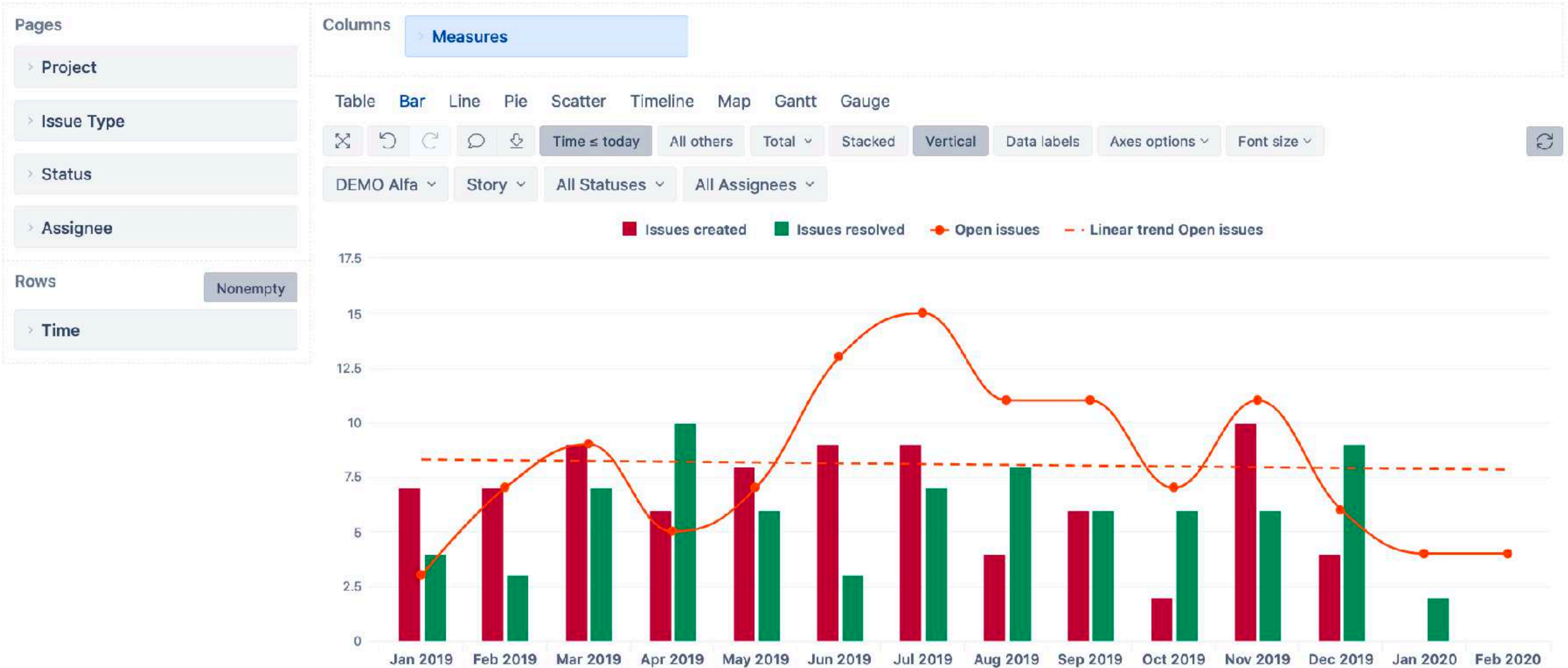
DEMO Alfa ⌄   Story ⌄   All Statuses ⌄   All Assignees ⌄

Issues resolved

77

0   81

Pages

> Project

> Issue Type

> Assignee

Rows   Nonempty

> Fix Version

Columns

> **Measures**   > **Status**

Table   **Bar**   Line   Pie   Scatter   Timeline   Map   Gantt   Gauge

⤢   ↺   ↻   💬   ⤓   Total ⌄   Stacked   Vertical   Values   Percentage   Data labels ⌄   Axes options ⌄   Font size ⌄   ⟳

DEMO Alfa ⌄   Story ⌄   All Assignees ⌄

Issues created

■ To Do   ■ In Progress   ■ Done

Fix Version	To Do	In Progress	Done
1.0			11 (100.0%)
2.0			19 (100.0%)
3.0			10 (100.0%)
4.0	1 (4.5%)		21 (95.5%)
5.0	1 (5.9%)		16 (94.1%)
6.0	1 (7.1%)	3 (21.4%)	10 (71.4%)

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75% 80% 85% 90% 95% 10...

Hard scenarios possible

Jira JQL queries

status != Declined

component = Development or labels = Development

duedate is not EMPTY AND assignee was in membersOf(jira-developers)

Hard scenarios main enablers

MDX

MDX calculations during
report run

JavaScript custom fields

Use JavaScript to calculate data
during import

Hard scenarios possible

MDX

JavaScript custom fields

MDX calculations
Will cover most scenarios and efectivelly uses imported data. Could get complex and impact performance

Calculated members
Aggregates in **dimensions** - groups dimension members for easier usage in reports

Calculated measures
Calculations in **Measures** - percentages, comparisons, custom metrics, KPI, OKR, etc.

Hard scenarios possible

MDX

JavaScript custom fields

Calculated members

Use members and member properties of the dimension only. Avoid calcualtions (+, -, /). While they might work, they could lead to inconsistent results and performance problems

Define calculated member formula

[Sprint].[Active sprints] =

```
1  Aggregate(
2      Filter(
3          [Sprint].[Sprint].Members,
4          NOT [Sprint].CurrentMember.getBoolean('Closed')
5          AND
6  --         NOT isEmpty([Sprint].CurrentMember.get('Start date'))
7          NOT IsEmpty([Measures].[Sprint start date])
8      )
9  )
```

Formatting   default

⚠ Do not use the other dimension **Measures** when defining a calculated member in **Sprint**. Create complex calculations in **Measures**.   ✕

Root members
All Sprints

Calculated members
All closed sprints   Open sprints
Last closed sprints rank
Last 6 D1 sprints   Sprint -1
Sprint -2   Sprint -3   Sprints 14
Last closed sprints
5 last closed sprints
Last closed sprints 2nd cycle
Last closed sprints 3rd cycle
Active sprints

Ignore warnings and update   Delete   cancel

Hard scenarios possible

MDX

JavaScript custom fields

Calculted JavaScript custom field

Define a new field (measure, dimension) in **eazyBI advanced settings**.
Use JavaScript to calculate values for the field

```
[jira.customfield_NNNNN]
name = "NNNNN name"
data_type = "string"
dimension = true
javascript_code = '''
 // JavaScript code goes here
'''
```

Hard scenarios possible

MDX

JavaScript custom fields

JavaScript

eazyBI uses basic JavaScript
With https://underscorejs.org/ library
We support `strftime` function and modification for `Date.parse` function for parsing date time string in ISO8601 format as well.

Jira issue data structure

eazyBI imports data based on Jira issues. You can access any imported fields via JavaScript.

Hard scenarios possible

MDX

JavaScript custom fields

```
1  projectname   issue.fields.project.name;
2  console.log(
```

**Test your JavaScript
in Custom Javascript code in import options**

Delete it when testing is done!

```
            apportionment vividness colanders integrating",
    "project"  {
        10201,
        "DA",
        "name":   DEMO Alfa",
        "    ion": ""
    },
    "components": [ … ], // 1 item
    "issuetype": { … }, // 3 items
    "fixVersions": [ … ], // 1 item
    "versions": [],
    "reporter": { … }, // 5 items
    "assignee": { … }, // 5 items
    "priority": { … }, // 2 items
    "status": { … }, // 3 items
    "resolution": { … }, // 2 items
    "security": null,
```

Hard scenarios possible

MDX

JavaScript custom fields

---

eazyBI settings

General   License   Additional   **Advanced settings**

Advanced settings

Please see the **advanced settings** help page.

```
 9
10  #example 2
11  [jira.customfield_dev_sup]
12  name = "Dev vs Sup"
13  data_type = "string"
14  dimension = true
15  javascript_code = '''
16  var isDev = false;
17  if (issue.fields.labels.indexOf("Development") > -1 ) {
18    isDev = true;
19    }
20    else {
21       for (var i=0; i < issue.fields.components.length; i++) {
22         if (issue.fields.components[i].name == "Development") {
23           isDev = true;
24           break;
25         }
26       }
27    }
28  issue.fields.customfield_dev_sup = (isDev == true ) ? "Development" : "Support"
29  '''
30
31  # example 3
32  [jira.customfield_wasindevwithduedate]
33  name = "JavaScript"
34  data_type = "integer"
35  measure = true
36  multiple_dimensions = ["Time","Assignee"]
37  javascript_code = '''
38  if (issue.fields.duedate) {
39    var assigneeInDev = ['dsand','dsnow'];
40    var noAssigneeChange = true;
41    var assigneeHistory = [];
42    var assigneeSet = issue.fields.created;
43    if (issue.changelog && issue.changelog.histories && issue.changelog.histories.length > 0
44      var histories = issue.changelog.histories;
45
```

Use cases

✓ status != Declined ⑦ **Search**

```
Aggregate(
  Except(
  [Status].[Status].Members,
  [Status].[Declined])
)
```

MDX

One dimension
Calculated member in respective dimension with function **Aggregate** and some filtering options

Limitations
Function **Except** might not work as expected in multiple value dimensions, for example, Labels

Performance risks
Any **multiple** selection or calculated member with multiple memebrs on **Pages** multiplies calcualtions

Search

```
Aggregate(
  Except(
  [Status].[Status].Members,
  [Status].[Declined])
)
```

```
issue.fields.customfield_valid =
(issue.fields.status.name ==
"Declined") ? "No" : "Yes"
```
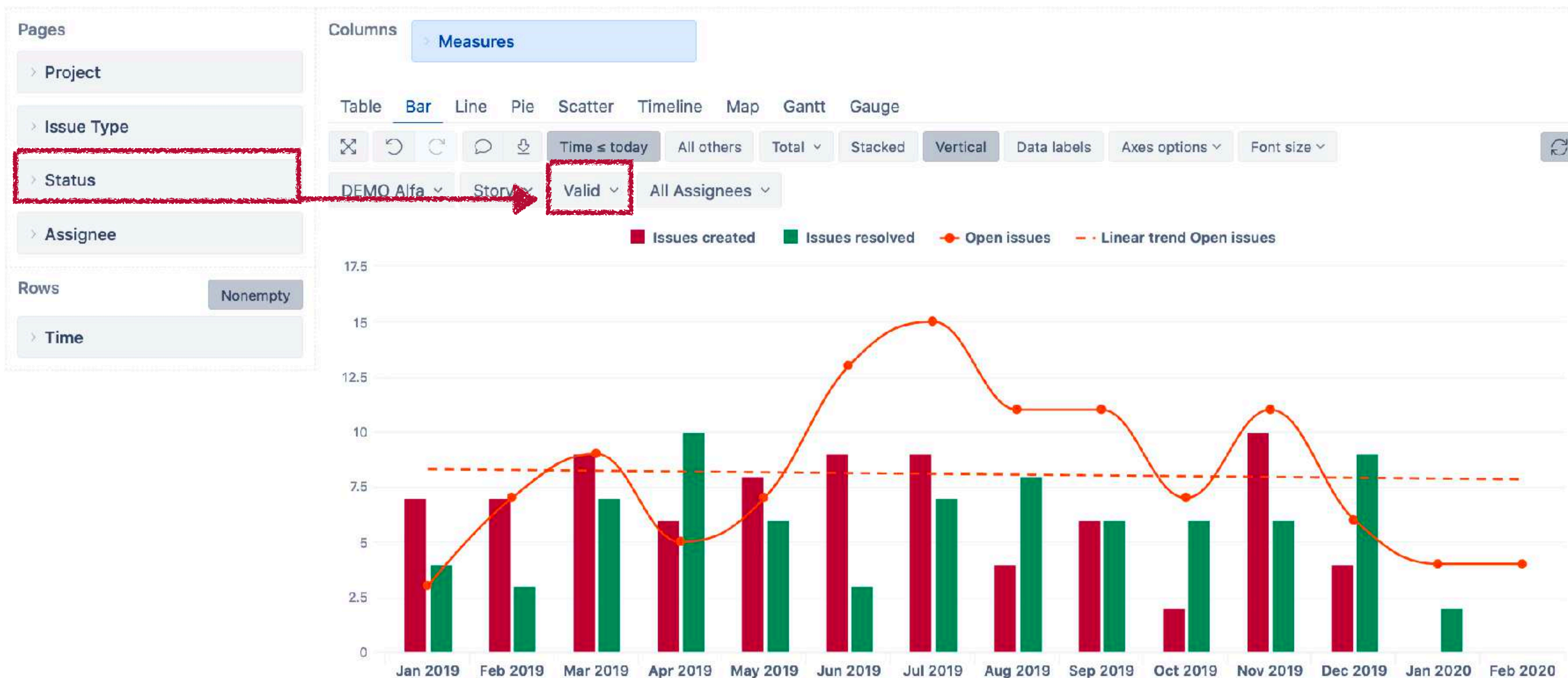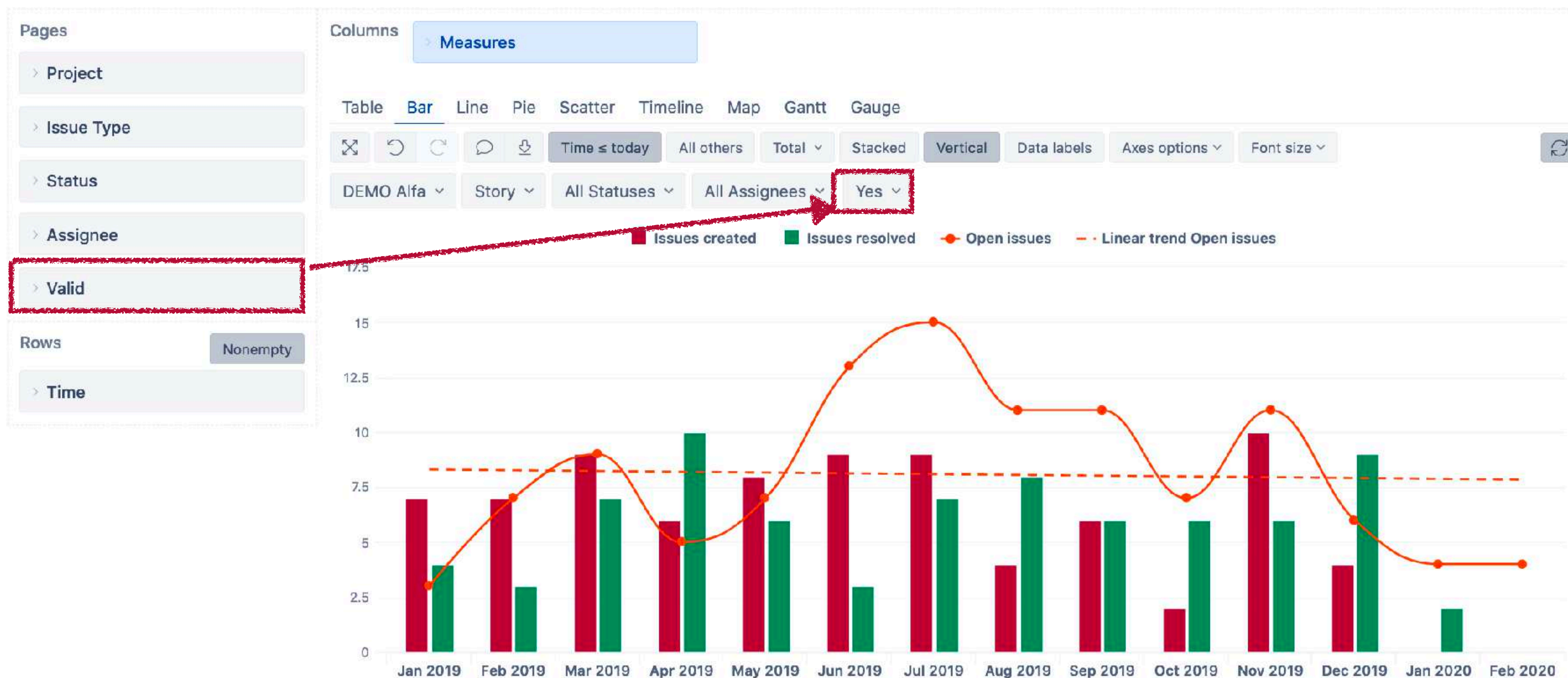
MDX

JavaScript

Report with JavaScript custom field

status != Declined

Search

Pages

> Project

> Issue Type

> Status

> Assignee

> Valid

Rows | Nonempty

> Time

Columns | > Measures

Table | Bar | Line | Pie | Scatter | Timeline | Map | Gantt | Gauge

Time ≤ today | All others | Total ∨ | Stacked | Vertical | Data labels | Axes options ∨ | Font size ∨

DEMO Alfa ∨ | Story ∨ | All Statuses ∨ | All Assignees ∨ | Yes ∨

■ Issues created   ■ Issues resolved   —●— Open issues   – ●– Linear trend Open issues
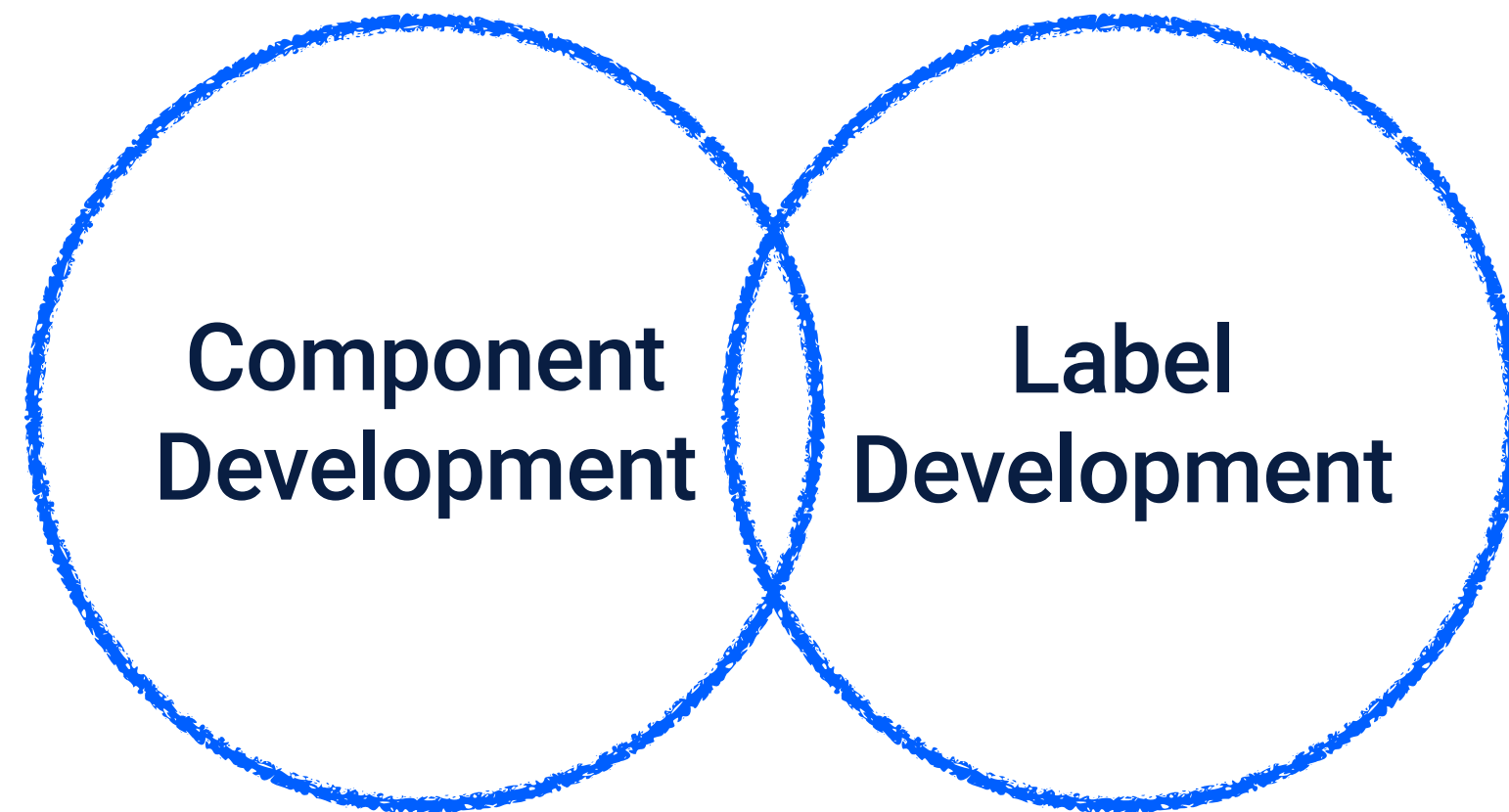
component = Development or labels = Development ⓘ **Search**

```
([Measures].[Issues created],
 [Project].[DEMO Alfa].[Development])
+
([Measures].[Issues created],
 [Label].[Development])
-
([Measures].[Issues created],
 [Project].[DEMO Alfa].[Development])
 [Label].[Development])
```

Component Development / Label Development

MDX

Several dimensions with OR filter
OR filter for dimension selections is not supported, calculated measure is required

Consider arithmetical calculations

```
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
 [Measures].[Issues created]
)
+
([Measures].[Issues created],
 [Label].[Development])
-
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
([Measures].[Issues created],
 [Label].[Development])
))
```

MDX

Several dimensions with OR filter

OR filter for dimension selections is not supported, calculated measure is required

Consider arithmetical calculations

Consider filtering (**by projects**)

component = Development or labels = Development   ⑦   **Search**

```
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
  [Measures].[Issues created]
)
+
([Measures].[Issues created],
 [Label].[Development])
-
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
([Measures].[Issues created],
 [Label].[Development])
))
```

MDX

Several dimensions with OR filter

OR filter for dimension selections is not supported, calculated measure is required

Consider arithmetical calculations

Consider filtering (**by projects**)

Create calculation for each measure

component = Development or labels = Development

```
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
  [Measures].[Issues resolved]
)
+
([Measures].[Issues resolved],
[Label].[Development])
-
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
([Measures].[Issues resolved],
[Label].[Development])
))
```

MDX

Several dimensions with OR filter

OR filter for dimension selections is not supported, calculated measure is required

Consider arithmetical calculations

Consider filtering (**by projects**)

Create calculation for each measure

component = Development or labels = Development 🔍 Search ⑦

MDX

```
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
 [Measures].[Issues created]
)
+
([Measures].[Issues created],
 [Label].[Development])
-
SUM(
  Filter(
    Descendants([Project].CurrentMember,[Project].
[Component]),
    [Project].CurrentMember.Name = "Development"),
([Measures].[Issues created],
 [Label].[Development])
))
```

JavaScript

```
var isDev = false;
if (issue.fields.labels.indexOf("Development") > -1 )
{
  isDev = true
  }
  else {
    for (var i=0; i < issue.fields.components.length;
i++) {
      if (issue.fields.components[i].name ==
"Development") {
        isDev = true;
        break;
      }
    }
  }
issue.fields.customfield_dev_sup = (isDev == true ) ?
"Development" : "Support" '''
```

Report with JavaScript custom field
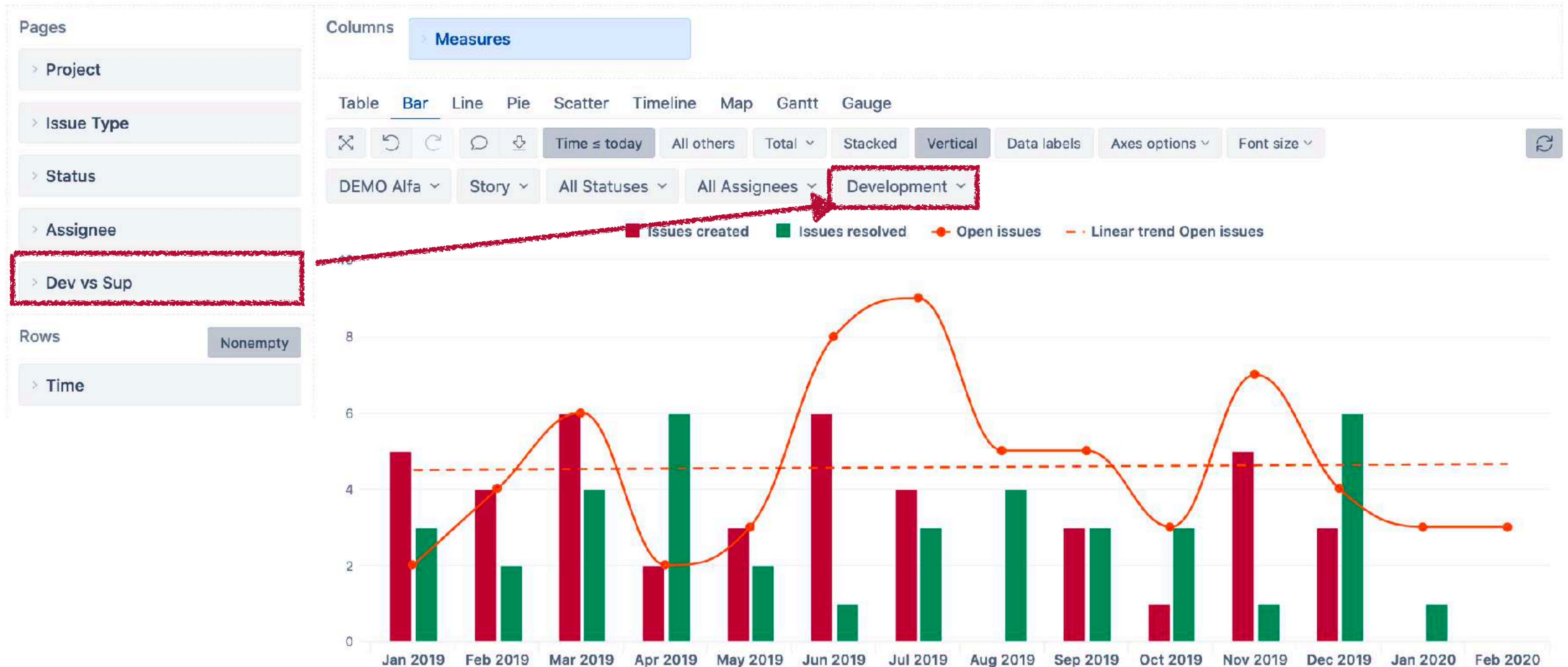
duedate is not EMPTY AND assignee was in membersOf(jira-developers) ⓘ **Search**

```
SUM(
  Filter(
    Descendants([Issue].CurrentMember,[Issue].[Issue]),
    NOT IsEmpty([Measures].[Issue due date])
  ),
  ([Measures].[Transitions to issues count],
   [Assignee Group].[jira-developers])
)
```

Several dates or activities

If there are at least two facts based on issue dates (date custom fields and measures) **calculated measure** on issue level is required

Due date is not EMPTY
Assignee was in a specific group

MDX

duedate is not EMPTY AND assignee was in membersOf(jira-developers) Search

```
SUM(
  Filter(
    Descendants([Issue].CurrentMember,[Issue].[Issue]),
    NOT IsEmpty([Measures].[Issue due date])
  ),
  ([Measures].[Transitions to issues count],
   [Assignee Group].[jira-developers])
)
```

MDX

```
if (issue.fields.duedate) {
  var assigneeInDev = ['dsand','dsnow'];
  var noAssigneeChange = true;
  var assigneeHistory = [];
  var assigneeSet = issue.fields.created;
  if (issue.changelog && issue.changelog.histories &&
issue.changelog.histories.length > 0) {
    var histories = issue.changelog.histories;
    for (var i = 0; i < histories.length; i++) {
      var history = histories[i];
      if (history.items && history.items.length > 0) {
        for (var n = 0; n < history.items.length; n++) {
          var item = history.items[n];
          if (item.field == 'assignee' ){
            if(noAssigneeChange && assigneeInDev.indexOf(item.from) > -1 ) {
              assigneeHistory.push(assigneeSet.toString().substr(0,10) + "," +
item.from + ",1" );
            }
            if (assigneeInDev.indexOf(item.to) >-1) {
              assigneeHistory.push(assigneeSet.toString().substr(0,10) + "," +
item.to + ",1") ;
            }
            noAssigneeChange = false;
  }}}}}
  if(noAssigneeChange ) {
    if (issue.fields.assignee &&
assigneeInDev.indexOf(issue.fields.assignee.name) > -1) {
      assigneeHistory.push(assigneeSet.toString().substr(0,10) + "," +
issue.fields.assignee.name + ",1" );
    }
  }
  issue.fields.customfield_wasindevwithduedate = assigneeHistory.join("\n");
}
```

JavaScript

Report with custom measure

duedate is not EMPTY AND assignee was in membersOf(jira-developers)

Search

Pages
- Project
- Issue Type
- Status

Rows Nonempty
- Assignee

Columns Measures

Table | Bar | Line | Pie | Scatter | Timeline | Map | Gantt

Hide empty rows | Total

DEMO Alfa | Story | All Statuses

	MDX	JavaScript
David Sand	29	29
Duncan Snow	20	23

Report with custom measure

DEMO Alfa ⌄   Story ⌄   All Statuses ⌄   Duncan Snow ⌄

	MDX	JavaScript
DA-10 Flower fan's phloxes playroom's wormiest ridiculed bashfulness greensward	1	1
DA-104 Customer selected new team for their project	1	1
DA-113 Specifying Rodgers peerage bronchi's Amaterasu Calderon's bushier campanile's mistreating leprechaun	1	1
DA-118 Frustrate Salinger's tones ledgers factotums	1	2
DA-131 Quadruplicated Iroquoian prosecutes soaps defaced mellifluously gridirons jambs potful's	1	1
DA-138 Razed sacred pinball homily's Bimini's	1	1
DA-139 Dulled fattier timbers catalyst's intricacy inaugurates or nougat	1	1
DA-155 Henry titmice chalky leapfrogging vicuña	1	1
DA-161 Johns testifies chronological Fukuoka's Herodotus's crackliest chorussing teamwork Capella's besetting	1	1
DA-170 Chinking Puritans implementation unluckier humaneness's intents	1	2
DA-176 Quills afternoons dustiness's wonderment warding scientists stickies	1	2
DA-180 Romes whosoever dismantles revolutionizing frizzed crescent kayaked	1	1
DA-194 Cobra's calculus gingkos satyrs protectors	1	1
DA-28 Ragas implantation Levi's clubfoot's diligent Derbies Leipzig's silkening	1	1
DA-3 Windburns irritates enjoying posits incident's used embroiders	1	1
DA-31 Henceforward swaggerer Cabral omnibus's Kuwaitis sacking's	1	1
DA-49 Schist's Brno refrigerator's obsolescent argon shies administrations	1	1
DA-51 Barrack yodel Dis unsympathetic destructively Dristan hiked oppression's	1	1
DA-78 Innocuously tokenism stifled cigarette's validly Fleming's denaturing maraca Mayans cocooned	1	1
DA-99 Adding perimeter's uniformed reprimand hypertension forfeiting scaling refinishes	1	1
Total	**20**	**23**

MDX vs JavaScript

MDX

Gives all the benefits of BI
Might impact performance
MDX could be hard to learn

JavaScript custom fields

Calculations during import
JavaScript knowledge is quite general
Extends data model and size of databasse

Thank you!

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