

Introduction

[JSON](#) is the format we use to store the schedules in our database. An export to json of your schedule contains all the information there is (including project information, timeline settings, last used printing settings etc.)

In this document we will describe the structure of version 23 (as of 17 May 2022).

In Appendix C you will find a change log. If no version number is available the JSON is from before version 1. If you open a schedule in the tool and save it again it will automatically update the JSON version to the most recent one.

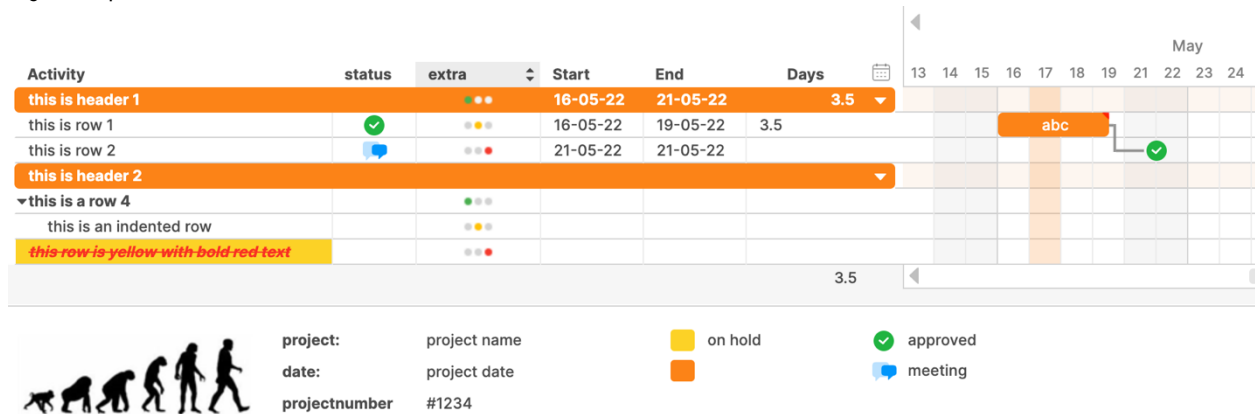
Since there is no usable standard method to describe JSON structures we use an example JSON document and we will just walk you through it like a developer would do with another developer when they work side by side.

We will mainly explain the details that are not immediately obvious and will try to show with images which part of the JSON is linked to which part in the schedule.

The example we are using can be downloaded at:

<https://plan.tomsplanner.com/documentation/example-json-version-23.pdf>

If you open this schedule it looks like this:

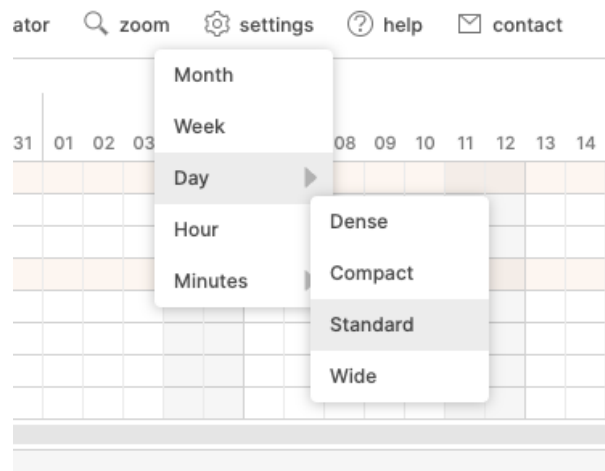


Unfortunately (and a bit embarrassingly) the use of capital letters in the property names is not done consequently throughout the JSON structure. So, you will find the property name 'hideWeekendDays' capitalized but for instance the property name 'referencedate' is not capitalized. Apologies for that.

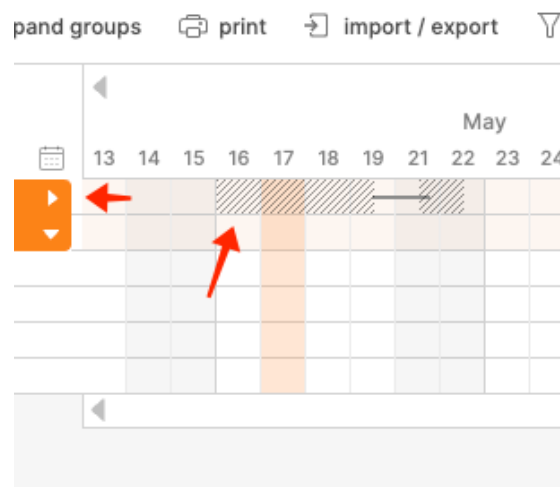
If you are working on an integration let us know at support@tomsplanner.com. We are happy to help you out in any way we can.

Some basic settings

```
{  
  "jsonversion" : 23, /*see Appendix C for the change log*/  
  "nature" : "tomsplannermodel", /*Needs to be included! Has no specific meaning*/  
  "settings" : {  
    "defaultzoom" : 9, /*the default zoom level of the schedule. The zoom level is stored  
in the database per schedule/user combination. If no zoom is available (for instance  
when you open a schedule that has been stored locally as a file or when you import a  
schedule) this default value is used. The following zoom levels are available: 3=month,  
4=week, 6=day(small), 8=day(medium), 9=day, 10=day(larger), 11=hour, 12=15 minutes,  
13=10 minutes, 14=5 minutes */
```



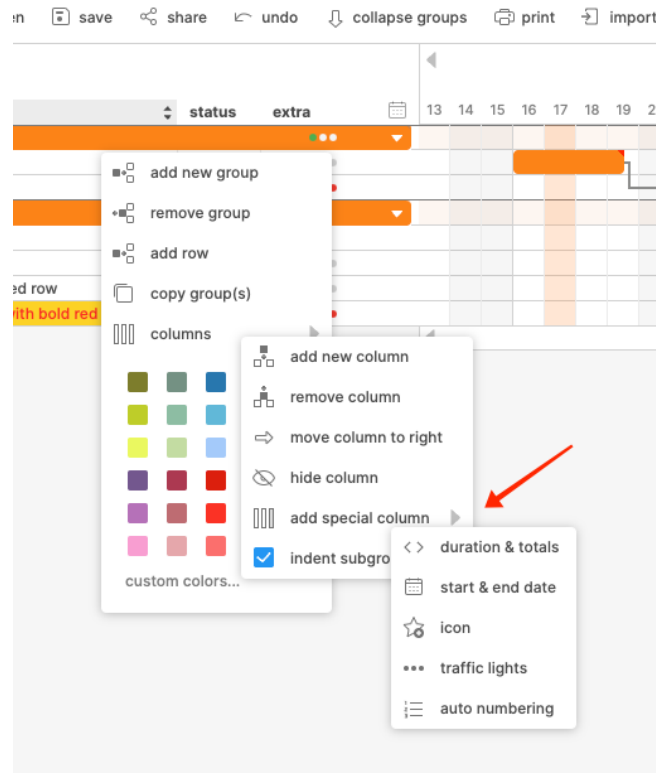
```
"plugins" : {  
  "groupduration" : { /*show the duration of a collapsed group, best set to true*/  
    "active" : true  
  },
```



```

"specialcolumns" : {
  "active" : true /*enables user to use special column types, best set to true*/
}

```



```

},
},

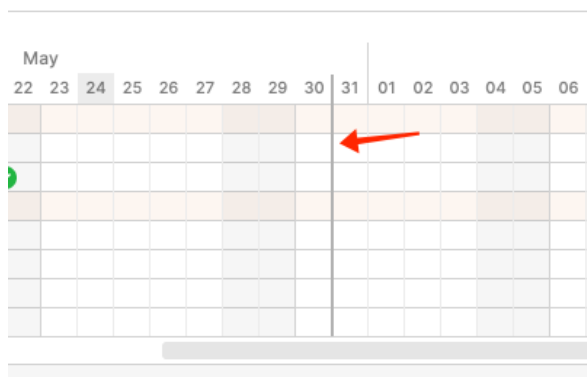
```

/*The reference date line refers to the dark gray vertical line in the schedule, which can be turned on/off in the settings panel*/

```

"referencedate" : {
  "visible" : false,
  "refdate" : "05/30/2022 19:12:06 GMT"
},

```



Timeline

```
"timeline" : { /*the settings of the timeline*/
  "activeHourFrom" : 9, /*start hour working day (integer)*/
  "activeHourTo" : 17, /*end hour working day (integer)*/
  "type" : "day", /*possible values: day, hour, minutes15, minutes10, minutes5*/
  "firstWeekDay" : 1, /*first day of the week: 6=Saturday,0=Sunday,1=Monday*/
  "showYear" : true, /*show line with year numbers in timeline*/
  "showMonth" : true, /*show line with month names in timeline*/
  "showWeekNr" : false, /*show line with week numbers in the timeline*/
  "showDate" : true, /*show line with dates in the timeline*/
  "showWeekDay" : false, /*show line with weekdays in the timeline*/
  "timeFormat" : "24hour", /*how the time should be formatted in the timeline possible
values; 24hour or 12hour*/
  "markToday" : false, /*whether you want to highlight today's date with a blue color*/
  "leftBorderDate" : "05/13/2022 09:00:00 GMT", /*the position of the left border of the
timeline when the schedule is opened in time*/
  "activeDays" : [true, true, true, true, true, true, true], /*determines which weekdays are
included in the chart. The first day is a Sunday and the last one is Saturday*/
  "hideWeekendDays" : false, /*whether you want to hide&exclude or include&shade
the weekenddays*/
  "shadeDays" : [true, false, false, false, false, false, true], /*when you choose to
include&shade the weekenddays, this is where you indicate which weekdays need to be
shaded and marked as weekenddays*/
  "hideshadedates" : [/*you can choose to exclude or color individual date ranges*/
    {
      "dateto" : "05/17/2022 00:00:00 GMT",
      "datefrom" : "05/17/2022 00:00:00 GMT",
      "type" : 2, /* 1 = exclude and 2 = give it a background-color*/
      "color" : "fa811532", /*background color expressed as rgba color codes (we found
that '32' (the last two characters in the code) give a good transparency of the color)*/
      "repeat" : 1 /*1 = do this only once, 2 = do this annually*/
    },
    {
      "dateto" : "05/20/2022 00:00:00 GMT",
      "datefrom" : "05/20/2022 00:00:00 GMT",
      "type" : 1,
      "repeat" : 2
    }
  ],
  "weekendshadecolor" : "00000009" /* this is an optional property and it sets the
color/hue of the shaded weekenddays in a chart, recommended values, from light to
dark, are: "00000009", "00000013", "00000017", "00000021" or "00000025"*/
},
```

/*The timeline settings on the previous page result in this timeline settings panel:*/

Settings [Close]

Timeline Legend

Visible elements in timeline:

Year Month Week Date Weekday

Highlight today's date
 Reference date line

Hide or highlight (vacation) days:

17-05-22	17-05-22	one time	color	
20-05-22	20-05-22	annually	hide	

[add new date](#)

Weekend days:

Mon Tue Wed Thu Fri Sat Sun

Hide weekend days Shade weekend days

Miscellaneous:

Start of the day: 09:00 AM First day of the week: Monday
End of the day: 17:00 PM Time format: 24 hour

Apply changes **Close**

Columns

```
"columns" : [
```

/*Definition of the column area on the left side of your schedule. Each column get's an element in this array and has it's own type (see image below) and a colwidth property: */

```
{
  "colwidth" : 229, /*every column needs a width in pixels*/
  "indent" : true,
  "type" : "text",
  "full" : "Activity"
},
{
  "colwidth" : 45,
  "type" : "symbol",
  "full" : "status",
  "defaultvalue" : 0 /*determines the symbol that is added in this column
when a new row is inserted. 0 is no symbol*/
},
{
  "colwidth" : 77,
  "type" : "trafficlight",
  "full" : "extra",
  "defaultvalue" : 2 /*0=no traffic light, 1=red, 2=orange, 3=green*/
},
{
  "colwidth":60,
  "type": "startdate"
},
{
  "colwidth":60,
  "type": "enddate"
},
{
  "colwidth":75,
  "type": "duration"
}
],
```


Activity	status	extra	Start	End	Days	13	14	15	16	17	18	19	21	22
this is header 1		●●●	16-05-22	21-05-22	3.5									
this is row 1	✓	●●●	16-05-22	19-05-22	3.5									
this is row 2	👤	●●●	21-05-22	21-05-22										✓
this is header 2														
this is row 3														
▼ this is a row 4		●●●												
this is an indented row		●●●												
this row is yellow with bold red text		●●●												

↑ text ↑ symbol ↑ trafficlight ↑ start ↑ end ↑ duration

The legend and Logo

/*The metadata refers to this part of the schedule:*/

Activity	status	extra	Start	End	Days
this is header 1		●●●	16-05-22	21-05-22	3.5
this is row 1	✓	●●●	16-05-22	19-05-22	3.5
this is row 2	💬	●●●	21-05-22	21-05-22	
this is header 2					
this is row 3					



project: project name
 date: project date
 projectnumber #1234

on hold


✓ approved
💬 meeting

```

"metadata" : [
  {
    "label" : "project:",
    "labelvalue" : "project name"
  },
  {
    "label" : "date:",
    "labelvalue" : "project date"
  },
  {
    "label" : "projectnumber",
    "labelvalue" : "#1234"
  }
],
  
```

/*The legend is marked in the image below. There is one array with the periods and one with symbols. Don't mix them up.*/

Activity	status	extra	Start	End	Days
this is header 1		●●●	16-05-22	21-05-22	3.5
this is row 1	✓	●●●	16-05-22	19-05-22	3.5
this is row 2	💬	●●●	21-05-22	21-05-22	
this is header 2					
this is row 3					



project: project name
 date: project date
 projectnumber #1234

on hold

✓ approved
💬 meeting

```

"legenda" : {
  "periods" : [
    {
      "label" : "on hold",
      "type" : "fad025" /*rgb color codes*/
    }
  ]
}
  
```

```

    },
    {
      "label": "&nbsp;",
      "type": "fa8115"
    }
  ],
  "symbols": [
    {
      "label": "approved",
      "type": "2 2 /* See appendix A for the symbol codes*/"
    },
    {
      "label": "meeting",
      "type": "10"
    }
  ],
  "bolDisplay": true /*determines whether the legend (including the logo
and meta data is shown at the bottom of the tool)*/
},
"logo": {
/* In the app itself users can add their own logo to the left bottom corner of the chart.
The image file of the logo is uploaded to an aws s3 bucket and renamed and then the
logo is shown in the interface by calling the url:
https://d1iil2nqbg5wph.cloudfront.net/andthenthefilenameofthelogo.png.
If you are integrating with Tom's Planner you could upload a logo through our app and
then you could check what the new filename and url is of the logo using the
webspector of the browser and add this new logo file name to the json like here below.
The height of the logo is required and in pixels*/
  "bolshow": true, /*is the logo visible in the legend or not*/
  "filename": "5f2ce80d-dfb0-4922-8229-3ef7b22eb800.png",
  "height": 65. /*height of image file in pixels*/
},
"printsetup": {
  "format": "A4", /*possible values: letter,A4,legal,A3,ledger,A2,A1,A0*/
  "orientation": "landscape", /*possible values: landscape,portrait*/
  "zoomtofit": true, /*determines if page should be printed on one page (true) or
multiple pages (false)*/
  "range": /*if no range is defined the schedule will be printed from the start to the
end. But you can define a range that will be printed*/
    "startdate": "02/21/2012 00:00:00 GMT",
    "enddate": "03/11/2012 00:00:00 GMT"
  }
},

```


The grid itself

*/*The grid constitutes of five types of objects: "grid", "fase" (group), "activity" (row), "period" and "symbol". The type is defined by the 'nature' property of each object. Every object has a property named "kids" which can contain other objects. A grid can contain one fase, a fase can contain multiple activities and an activity can contain multiple periods and symbols.*/*

```
"visualGrid" : {
  "nature" : "grid", /*required*/
  "id" : "grid", /*required*/
  "lastID" : 34, /*every object in the schedule get's an unique id: 'grid_'+an
integer. Every time a new object is added the lastID counter is raised with one and used
for the new id*/
  "kids" : [
    {
      "nature" : "fase",
      "id" : "grid_1", /*this group object has always a id: grid_1*/
      "foldStatus" : false, /*this group object has always a foldStatus: false*/
      "type" : "fa8115", /*this group object has always a type: 1*/
      "kids" : [
        {
          "nature" : "fase", /*top group in the schedule*/
          "id" : "grid_2",
          "foldStatus" : false, /*determines if a group is collapsed or not*/
          "type" : "fa8115", /*determines the background color of the group header*/
          "kids" : [
            { /*top row of the top group in the schedule*/
              "nature" : "activity",
              "id" : "grid_3",
              "autonumber" : "1", /*this property is used to enumerate the
rows. When a schedule is loaded into the tool this value will be ignored and the value will
always be recalculated*/
              "indent" : 0, /*this indicates the indentation of a row. See further below.*/
              "kids" : [],
              "label" : [/*the label array contains the column data of the specific
row/activity*/
                { /*the first column is of type 'text'*/
                  "full" : "this is header 1"
                },
              ],
            },
          ],
        },
      ],
    },
  ],
}
```

```

{ /*the second column is of type 'symbol. See appendix A for the
symbol codes*/
  "colvalue" : 0
},
{ /*the third column is of type 'trafficlight, 0=no traffic light, 1=red,
2=orange, 3=green */
  "colvalue" : 3
}

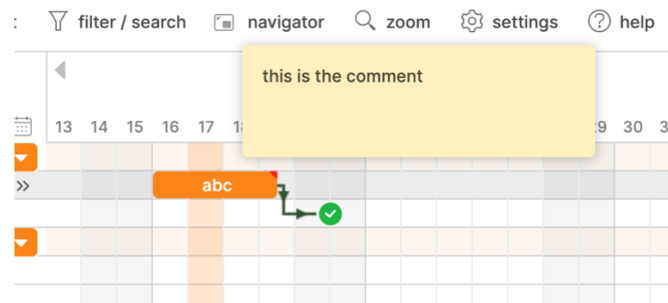
```

Activity	status	extra	Start
this is header 1		●●●	16-05-22
this is row 1	✓	●●●	16-05-22
this is row 2	💬	●●●	21-05-22
this is header 2			
▼this is a row 4		●●●	
this is an indented row		●●●	
this row is yellow with bold red text		●●●	

```

]
},
{
  "nature" : "activity",
  "id" : "grid_4",
  "autonumber" : "1.1",
  "indent" : 0,
  "kids" : [ /*the kids array of an activity can contain periods and symbols*/
    {
      "nature" : "period", /*a colored bar in the chart*/
      "kids" : [], /*required and always empty*/
      "id" : "grid_33",
      "type" : "fa8115", /*RGB code of the color*/
      "duration" : 7, /*duration of the period*/
      "durationtype" : "day", /*see appendix B*/
      "startmoment" : "05/16/2022 09:00:00 GMT"
      "comment" : "this is the comment", /*optional, the comment in a
period that shows when you click on the little red triangle in the right top corner*/

```



```

"label" : "abc" /*optional property with the label
of the period (being the text in the colored bar itself)*/

```

```

    }
  ],
  "label" : [
    {
      "full" : "this is row 1"
    },
    {
      "colvalue" : 2
    },
    {
      "colvalue" : 2
    }
  ]
},
{
  "nature" : "activity",
  "id" : "grid_5",
  "autonumber" : "1.2",
  "indent" : 0,
  "kids" : [
    {
      "nature" : "symbol",
      "kids" : [], /*the kids collection of a symbol is always empty*/
      "id" : "grid_34",
      "type" : 2, /* See appendix A for the symbol codes */
      "moment" : "05/21/2022 17:00:00 GMT"
    }
  ],
  "label" : [
    {
      "full" : "this is row 2"
    },
    {
      "colvalue" : 10
    },
    {
      "colvalue" : 1
    }
  ]
}
],
{
  "nature" : "fase",
  "id" : "grid_8",
  "foldStatus" : false,
  "type" : "fa8115",
  "kids" : [
    {
      "nature" : "activity",

```

```

    "id" : "grid_9",
    "autonumber" : "2",
    "indent" : 0,
    "kids" : [],
    "label" : [
      {
        "full" : "this is header 2"
      },
      {
        "colvalue" : 0
      },
      {
        "colvalue" : 0
      }
    ]
  },
  {
    "nature" : "activity",
    "id" : "grid_11",
    "autonumber" : "2.2",
    "indent" : 0,
    "kids" : [],
    "label" : [
      {
        "full" : "this is a row 4"
      },
      {
        "colvalue" : 0
      },
      {
        "colvalue" : 3
      }
    ]
  },
  {
    "nature" : "activity",
    "id" : "grid_12",
    "autonumber" : "2.2.1",

```

"indent" : 1, /*this indicates the indentation of a row. Indentation allows you to create subgroups. Note, the first two rows in a fase/group (and thus the header of the fase/group and the row right under this header) must have an indent of 0. Then going down through the rows of the group the indent is allowed to increase only by one for each row that you go down. Indent may decrease more than 1 per row that you go down. Indent must be greater or equal then zero. These constraints are checked when loading a chart in Tom's Planner and when needed they are corrected to make the indentation logical and apply with rules here above.*/

this is header 2		
▼this is a row 4		
this is an indented row		
<i>this row is yellow with bold red text</i>		

```

"kids" : [],
"label" : [
  {
    "full" : "this is an indented row"
  },
  {
    "colvalue" : 0
  },
  {
    "colvalue" : 2
  }
]
},
{
  "nature" : "activity",
  "id" : "grid_13",
  "autonumber" : "2.3",
  "indent" : 0,
  "kids" : [],
  "label" : [
    {
      "full" : "this row is yellow with bold red text",
      "style" : { /*optional you can style the text and background of text

```

fields*/

▼ this is a row 4	
this is an indented row	
<i>this row is yellow with bold red text</i>	

```

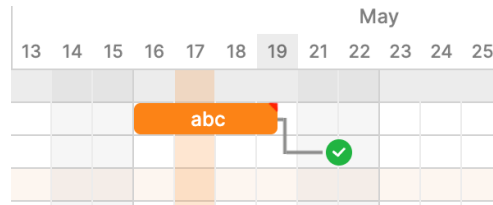
"tc" : "f93023", /*optional, rgb code text color*/
"bc" : "fad025", /*optional, rgb code background color*/
"b":1, /*optional, 1=bold. 0=normal */
"i":1, /*optional, 1=italic. 0=normal */
"s":1 /*optional, 1=strikethrough. 0=normal */
}
},
{
  "colvalue" : 0
},
{
  "colvalue" : 1

```

```

    ]
  },
  "dependencies": [ /*You can make periods and symbols dependent on each other.
Here you set the id of the first and the last item in time*/
  {
    "el": [
      "grid_33",
      "grid_34"
    ],
    "type": "fs" /*required and only possible value is "fs" */
  }
]
}

```



```

}
]
}

```

Appendix A icon codes

✖ 1 ✔ 2 ➕ 3 ❓ 4 ❗ 5 ➖ 6 ⚠️ 7
⚠️ 8 ⌚ 9 💬 10 ⓘ 11 📱 12 👤 13 👤 14
👤 15 👤 16 👤 17 👤 18 👤 47 📄 48 📢 49
↓ 83 \$ 84 € 85 £ 86 ¥ 87 ▼ 88 💎 89
◆ 90 ◆ 91 🔒 50 📞 51 📱 52 💡 53 ☕ 54
🔧 55 🚗 56 🔑 57 ✉️ 58 ⌚ 59 ⌚ 60 ★ 61
⚙️ 62 🎂 63 🍷 64 📦 65 🔍 66 📅 67 ⏳ 68
🔍 69 ✎ 70 ☀️ 71 ☀️ 72 ☁️ 73 😊 74 😞 75
🔗 76 ? 77 ? 78 ? 79 ! 80 ! 81 ! 82
📱 19 📱 20 📱 21 📱 22 → 23 → 24 → 25
→ 26 ✔ 27 ✔ 28 ✔ 29 ✔ 30 + 31 + 32
+ 33 + 34 ○ 35 ○ 36 ○ 37 ○ 38 ▶ 39
▶ 40 ▶ 41 ▶ 42 ✖ 43 ✖ 44 ✖ 45 ✖ 46

Appendix B Durations and duration type

Durations are present in two ways in the json.

In the nestTotals properties of activities/rows:

```
{
  "nature": "activity",
  "nestTotals": {
    "duration": 2,
    "last": "03/01/2012 13:00:00 GMT",
    "first": "02/29/2012 13:00:00 GMT"
  },
  .....
}
```

The duration in this context is directly related to the timeline type as defined in the timeline settings:

```
"timeline": {
  ....
  "type": "day",
  ....
}
```

Timeline type;	Duration expressed in:
month	Days
week	Weeks
day	Days
hour	Hours
15minutes	Minutes
10minutes	Minutes
5minutes	Minutes

Appendix C change log

New in version 21

Added the ability to hide or color specific dates in the chart

New in version 19

Added the ability to style the text or background of text fields on the left side of the chart

New in version:15

Colors of periods are now set in rgb color codes

New in version: 14

The ability to add dependencies

New in version: 12

The ability to set the first day in the week

New in version: 8

Indentation has been added and the ability to create subgroups

New in version: 6

1. The timeline types 'month' and 'week' are dismissed.
2. Defaultzoom is added as a property of settings.

New in version: 5

3. The lastID property has a correct value (can be incorrect in older versions)
4. nestTotals property is added to activities

Version 1 through 4:

In some cases the lastID has an incorrect value. You need to fix this programmatically before you are able to extend the schedule

New in version 4:

1. The property 'settings' is added to the root and has the default value:
`{plugins:{specialcolumns:{active:true},groupduration:{active:true}}};`

New in version 3:

The property 'type' is added to each column in the definition.

New in version 2:

1. The properties 'markToday' is added to the timelinesettings.

New in version 1:

2. The properties 'hideWeekendDays', 'shadeDays' and 'timeFormat' are added to the timelinesettings.
3. The property 'colorscheme' is added to the print setup.
4. The property 'jsonversion' is added to the root.