Flexbox

Introduction & examples

- Flexbox introduction
- Playground
- Real-life examples

Flexbox Introduction

Flexbox introduction

- **Flexible box layout**
  - for unknown and/or dynamic items
- **Suitable for**
  - components
  - small-scale layouts
- **Structure**
  - Parent (flex container)
  - Children (flex items)
- **Two axis (can be switched)**
  - main
  - cross

Traditional CSS layout drawbacks

- Rules of proportion – complicated math
- Vertical centering
- Same-height columns
- Shrink-to-fit containers
- Float drop and clearing
- Source order dependence

Traditional CSS layout drawbacks

- Rules of proportion – complicated math ✓
- Vertical centering ✓
- Same-height columns ✓
- Shrink-to-fit containers ✓
- Float drop and clearing ✓
- Source order dependence ✓

Flexible box layout

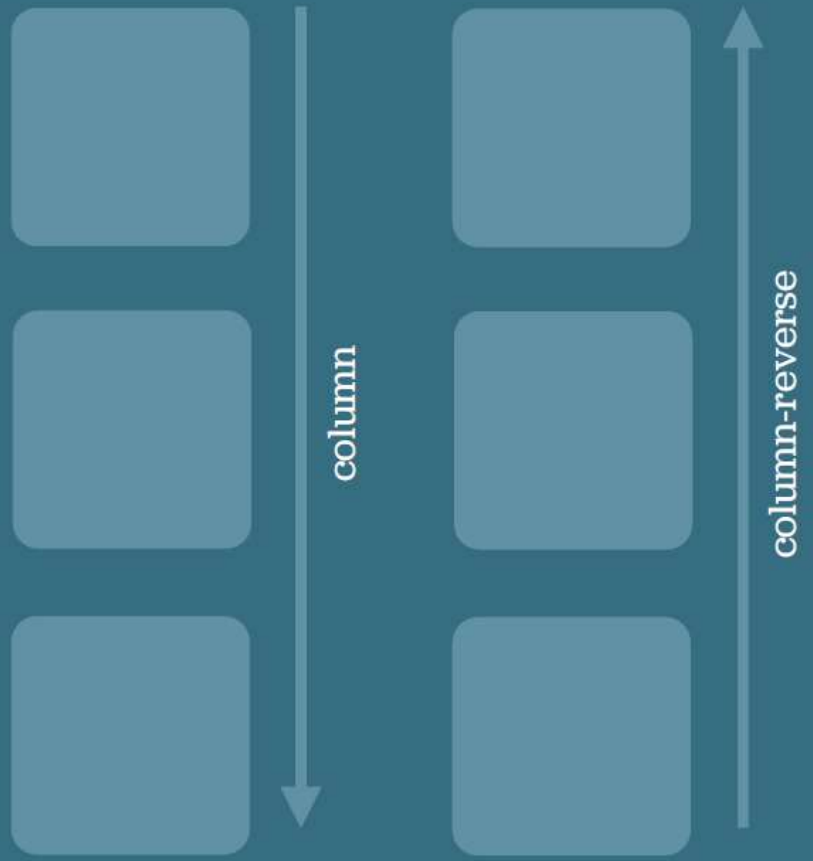
```
.container {
     display: flex;
}
```

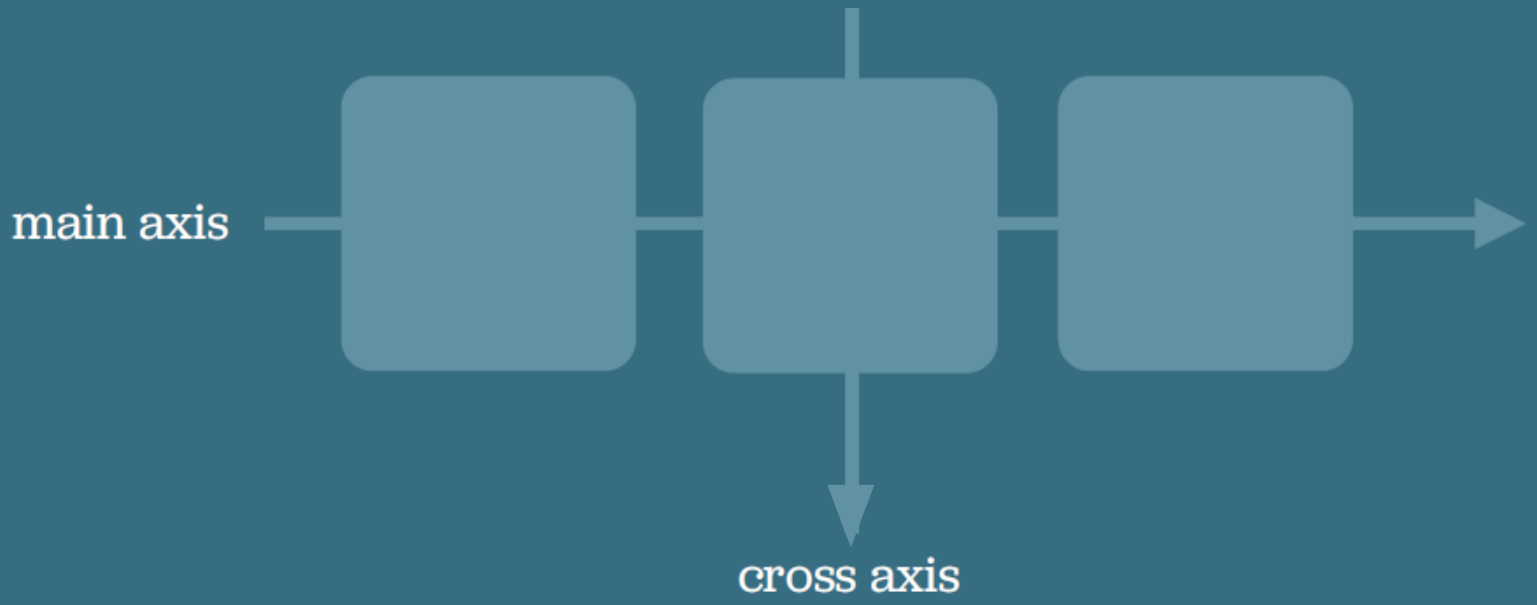
Flex-direction

```
.container {
     display: flex;
     flex-direction: row; /* default */
}
```

- row
- row-reverse
- column
- column-reverse

row
row-reverse


column
column-reverse


main axis
cross axis

Flex-wrap

```
.container {
      display: flex;
      flex-direction: row; /* default */
      flex-wrap: nowrap; /* default */
}
```

OR

flex-direction + flex-wrap = flex-flow: row nowrap;

- nowrap
- wrap
- wrap-reverse

Flex-grow

```
.box1{
      flex: 1;
}
.box2{
      flex: 1;
}
.box3{
      flex: 1;
}
```

The ability for a flex item to grow if necessary and dictates the amount of available space an item should take.

1

1

1

Flex-grow

```
.box1{
      flex: 1;
}
.box2{
      flex: 2;
}
.box3{
      flex: 1;
}
```

Box2: Take twice the available space as other siblings

1

2

1

Flex-basis

```
.container { width: 800px; }
.box1{
     flex-grow: 1;
     flex-basis:200px; /* added 66px */ }
.box2{
     flex-grow: 1;
     flex-basis:200px; /* added 66px */ }
.box3{
     flex-grow: 1;
     flex-basis:200px; /* added 66px */ }
```

Flex-basis

```
.container { width: 800px; }
.box1{
     flex-grow: 1;
     flex-basis:200px; /* added 50px */ }
.box2{
     flex-grow: 2;
     flex-basis:200px; /* added 100px */ }
.box3{
     flex-grow: 1;
     flex-basis:200px; /* added 50px */ }
```

Flex-basis

```
.container { width: 800px; }

.box1{
     flex: 1 200px; /* added 50px */ }
.box2{
     flex: 2 200px; /* added 100px */ }
.box3{
     flex: 1 200px; /* added 50px */ }
```

Order

```
.box1{
      order: 1;
}
.box2{
      order: 2;
}
.box3{
      order: 3;
}
```

Controls the order in which items appear visually in a flex container

1

2

3

Order

```
.box1{
      order: 3;
}
.box2{
      order: 2;
}
.box3{
      order: 1;
}
```

OR

```
.container{
      flex-direction:
      row-reverse;
}
```

3

2

1

Order

```
.box1{
      order: 2;
}
.box2{
      order: 1;
}
.box3{
      order: 3;
}
```

2

1

3

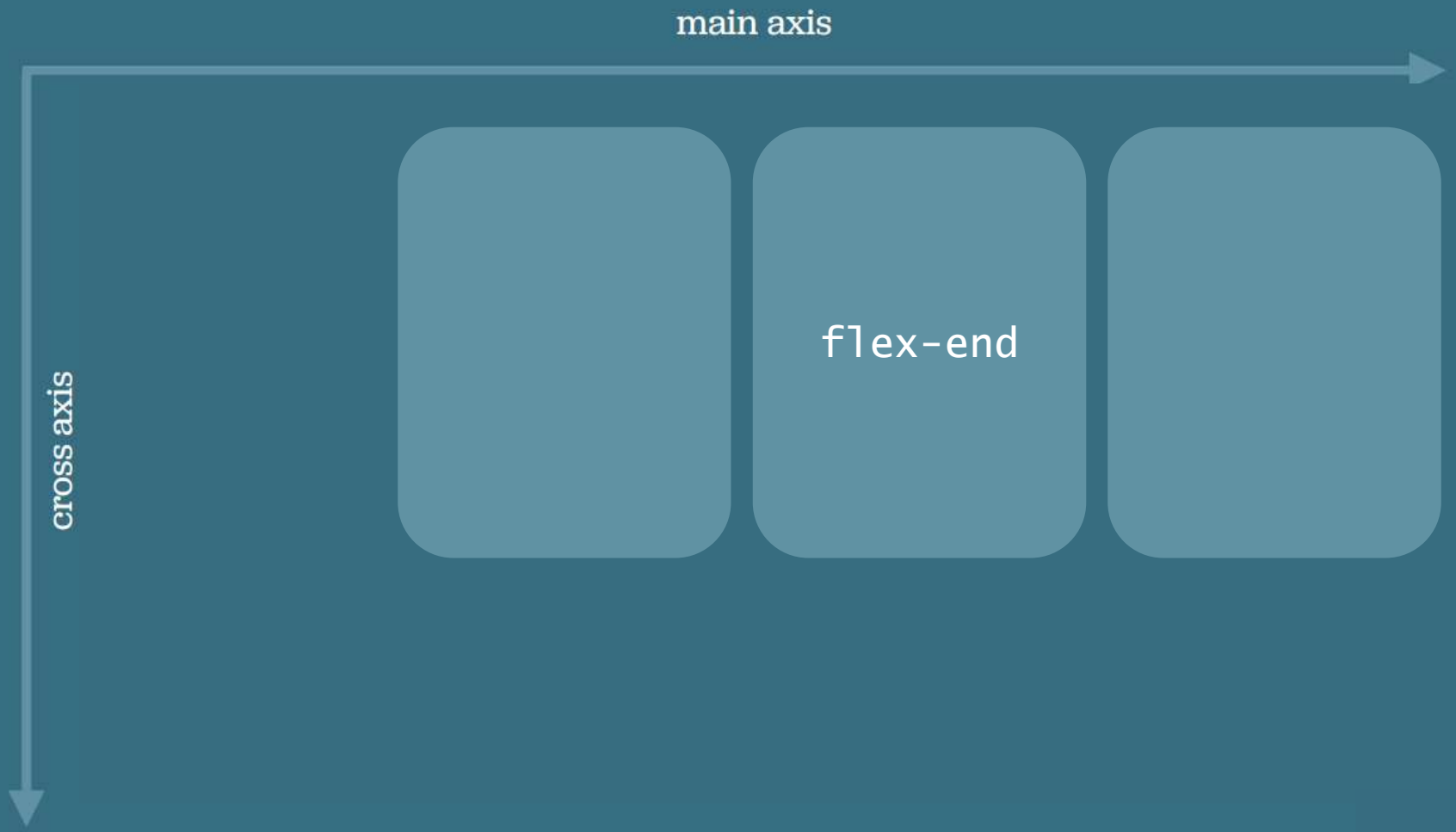
Justify-content

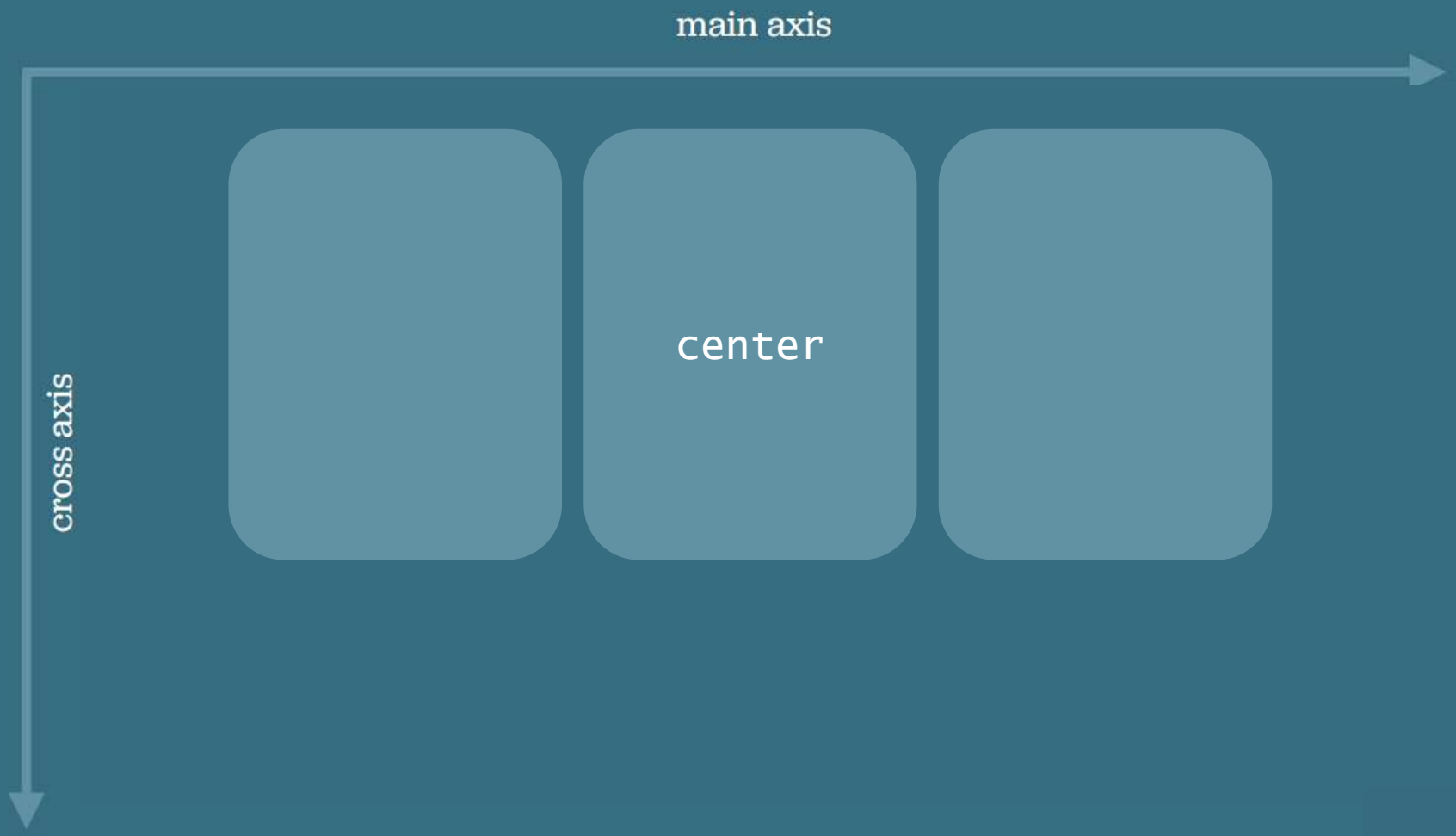
```
.container{
      justify-content: flex-start; /* default */
}
```

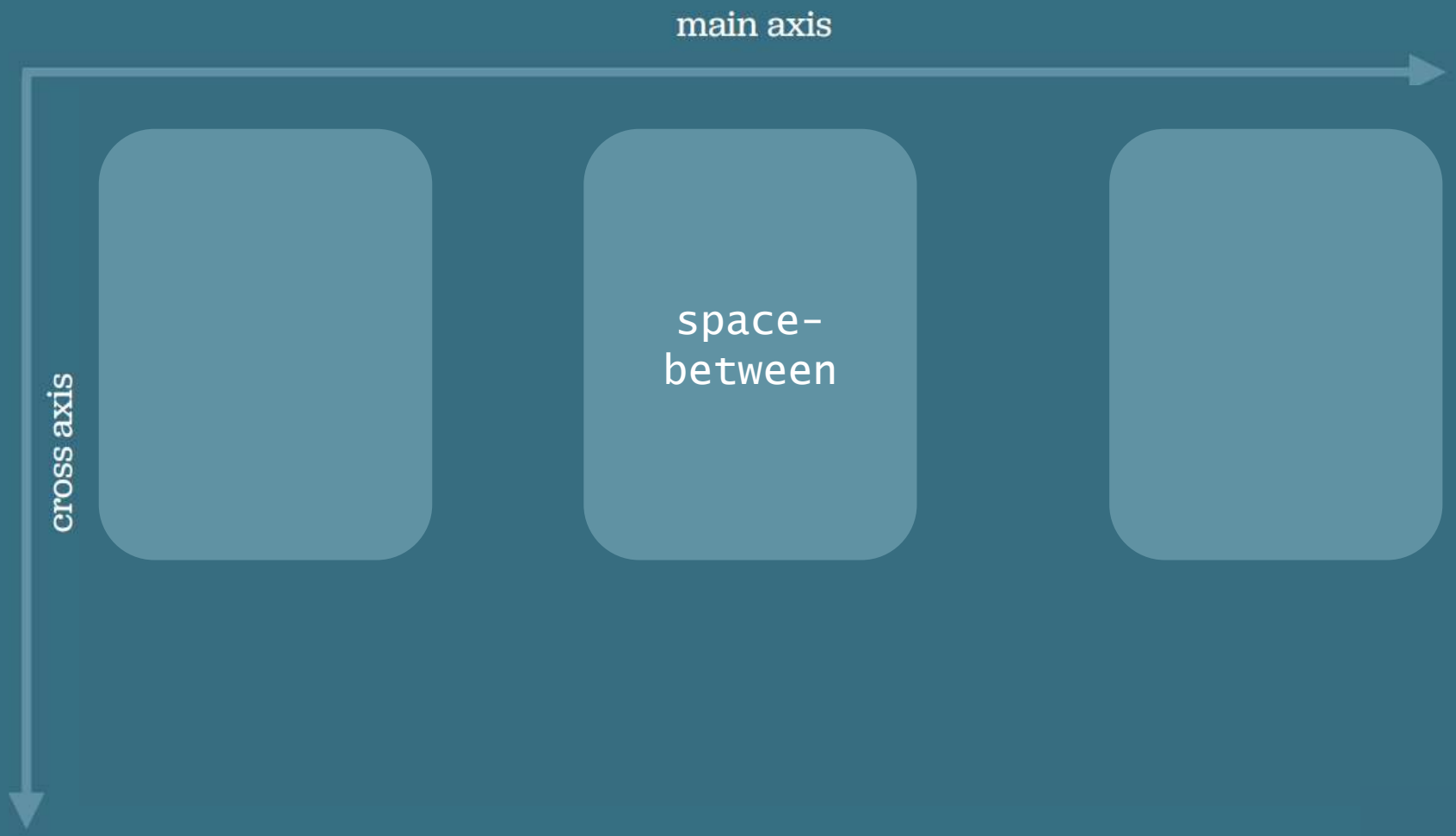
Controls the order in which items appear visually in a flex container (depending on the main axis, one row)

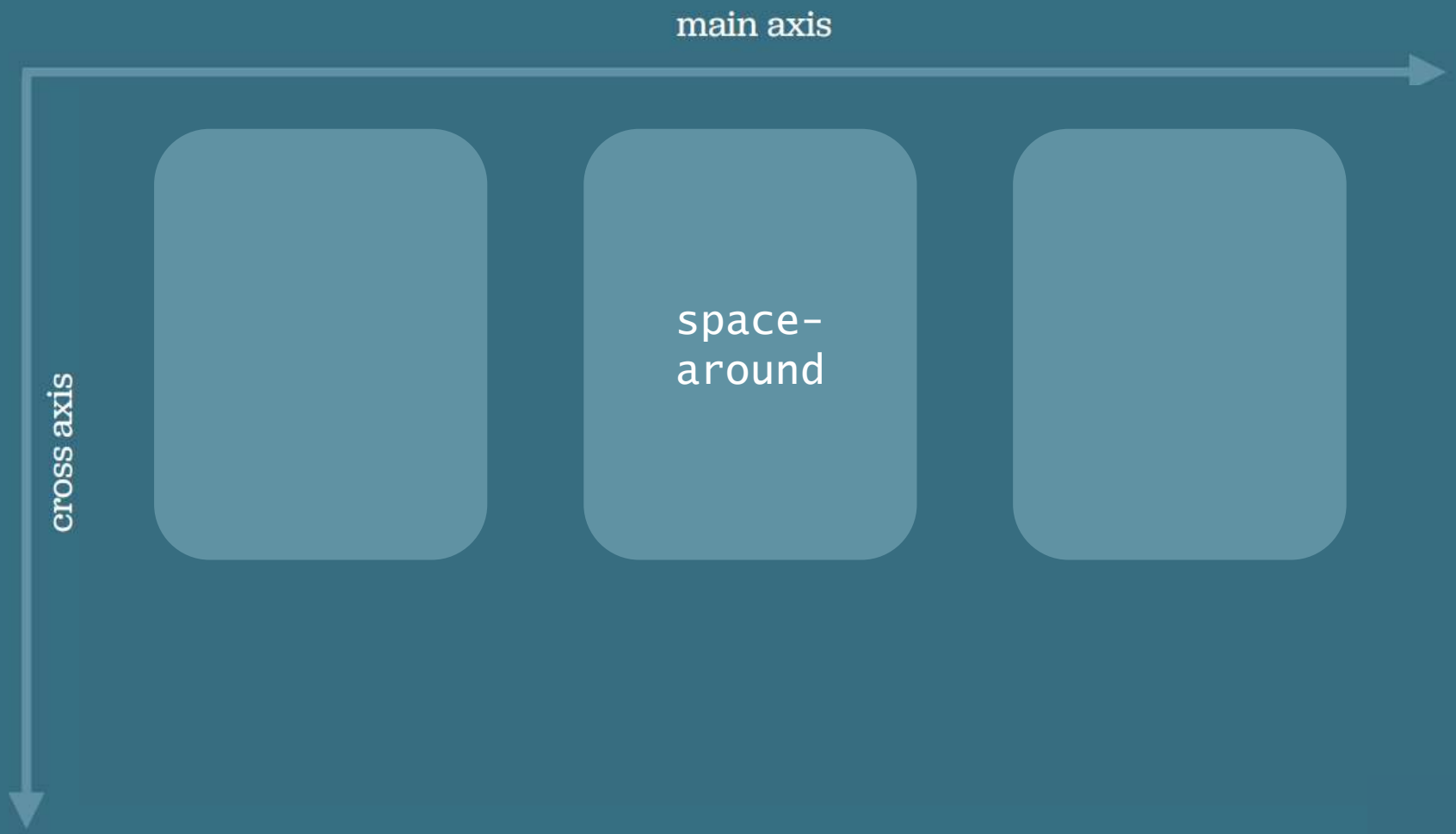
- flex-start
- flex-end
- center
- space-between
- Space-around

main axis
cross axis
flex-start


main axis
cross axis
flex-end


main axis
cross axis
center


main axis
cross axis
space-
between

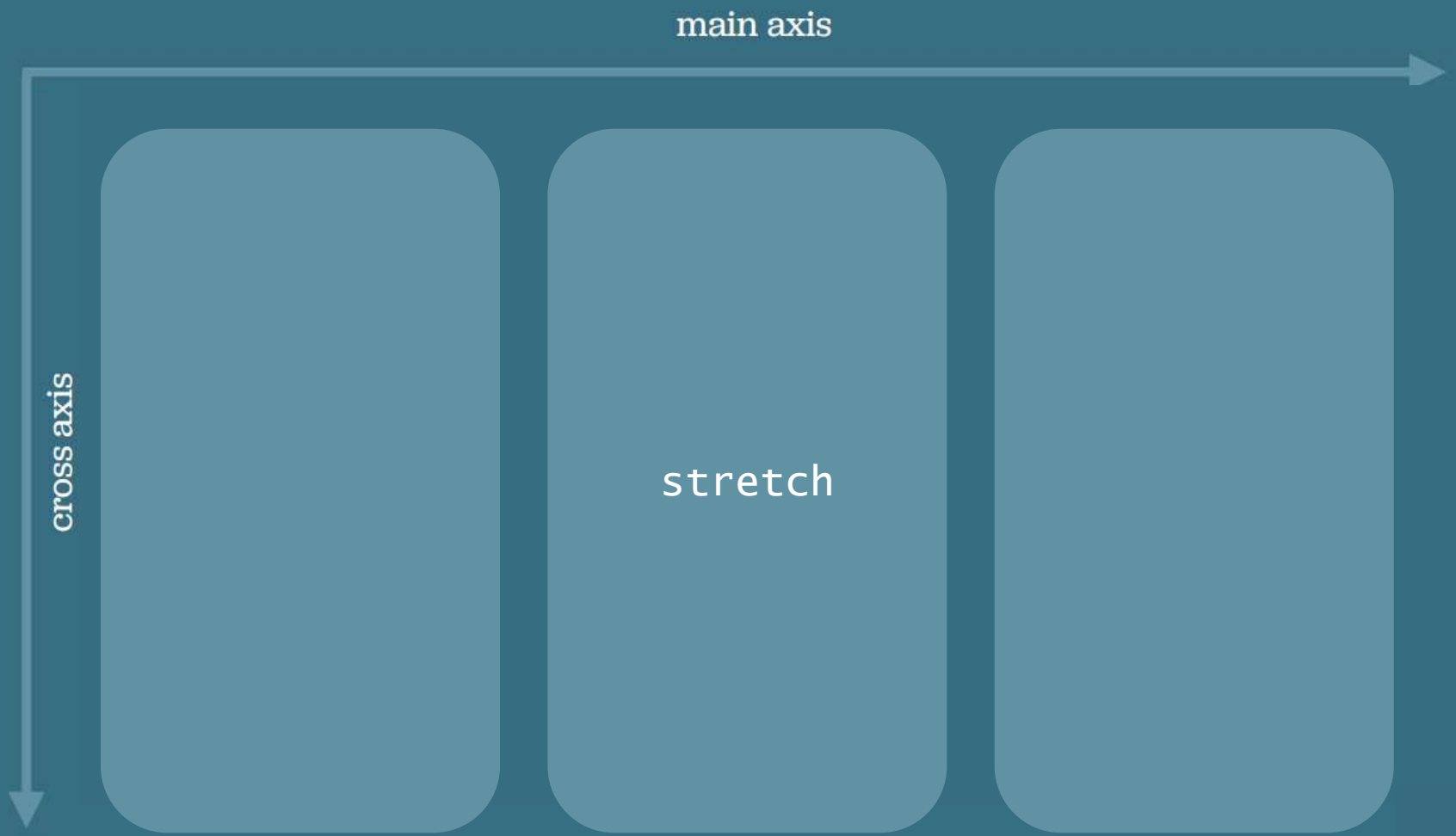

main axis
cross axis
space-
around

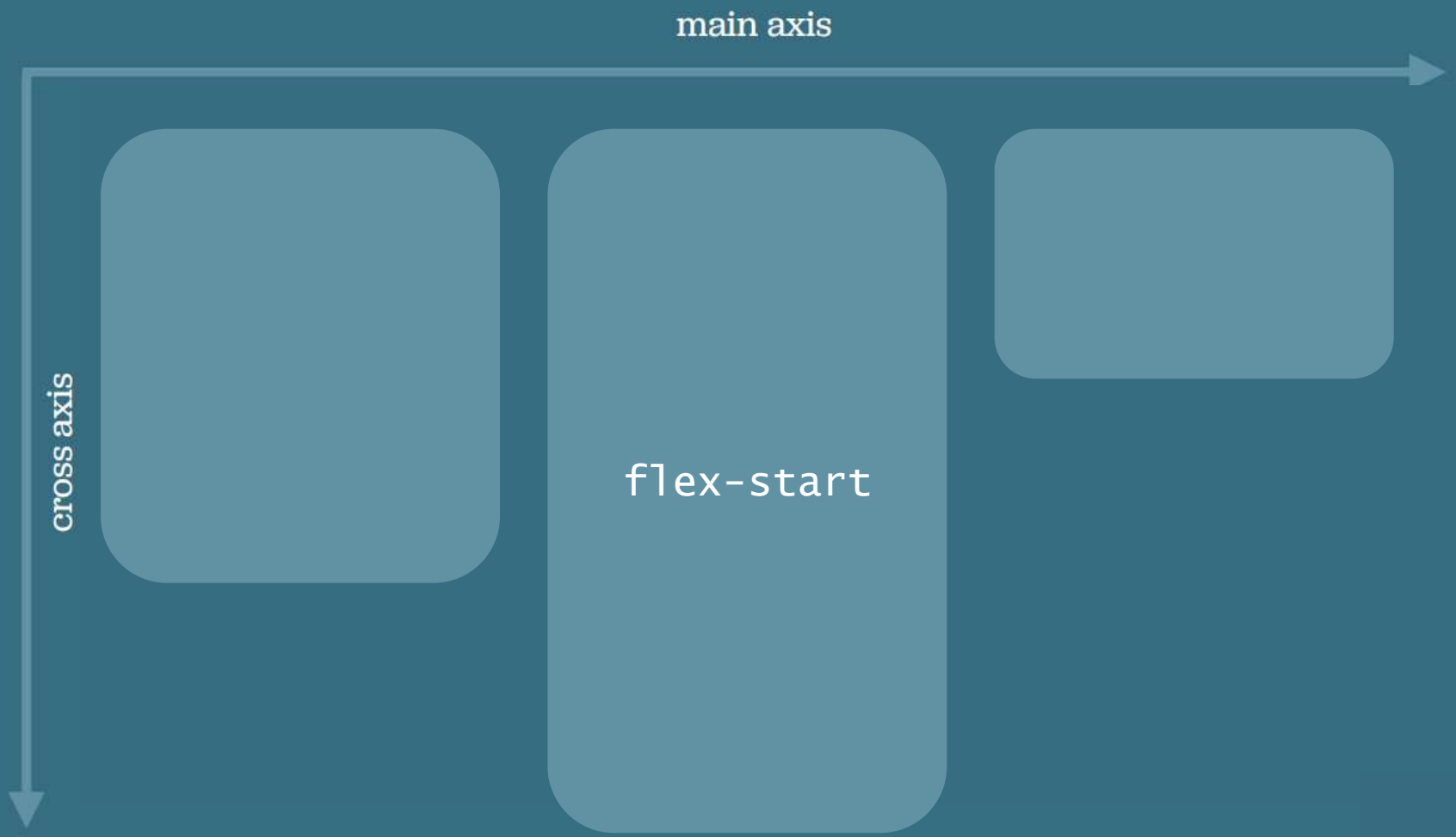
Align-items

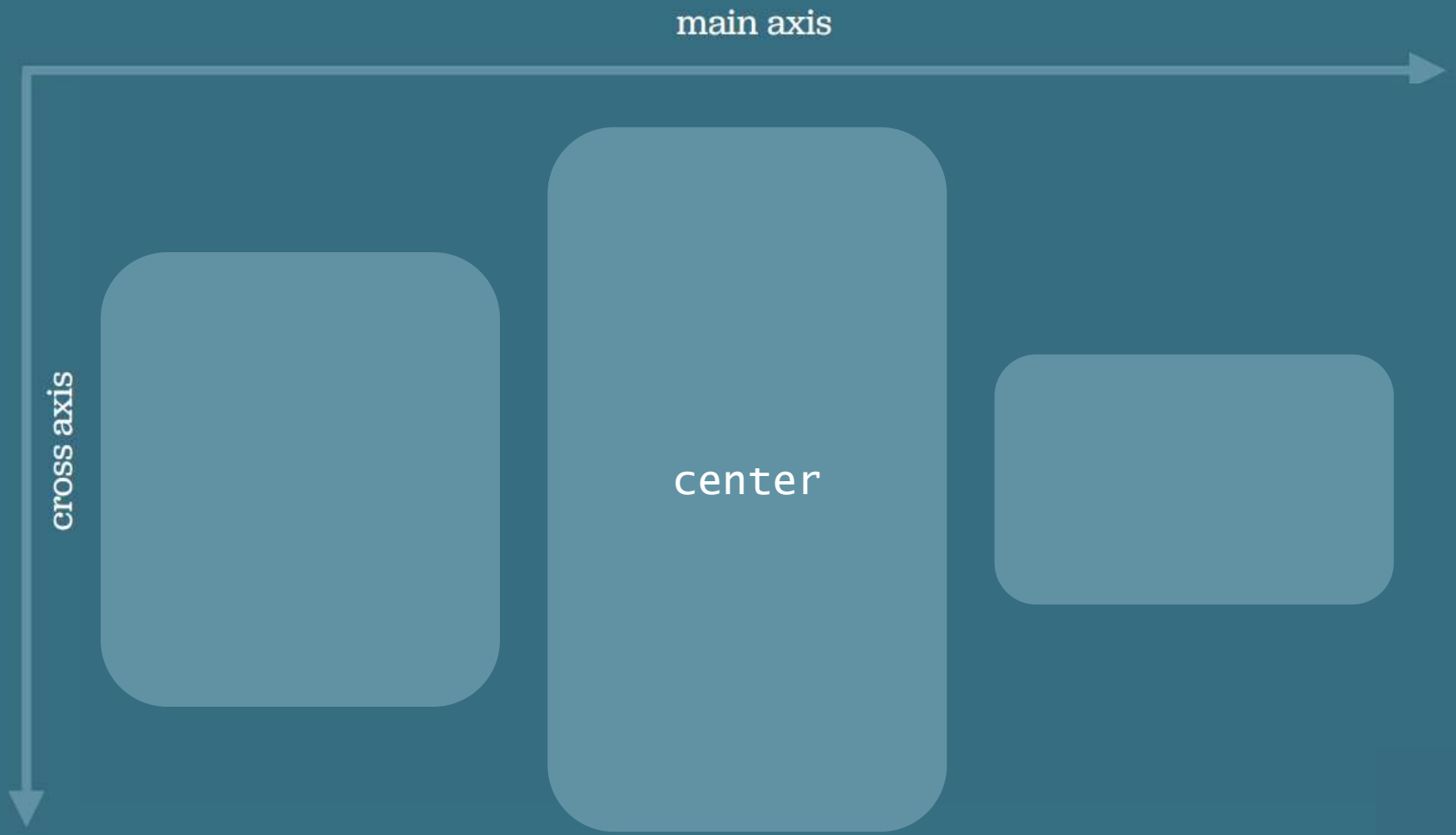
```
.container{
      align-items: stretch; /* default */
}
```

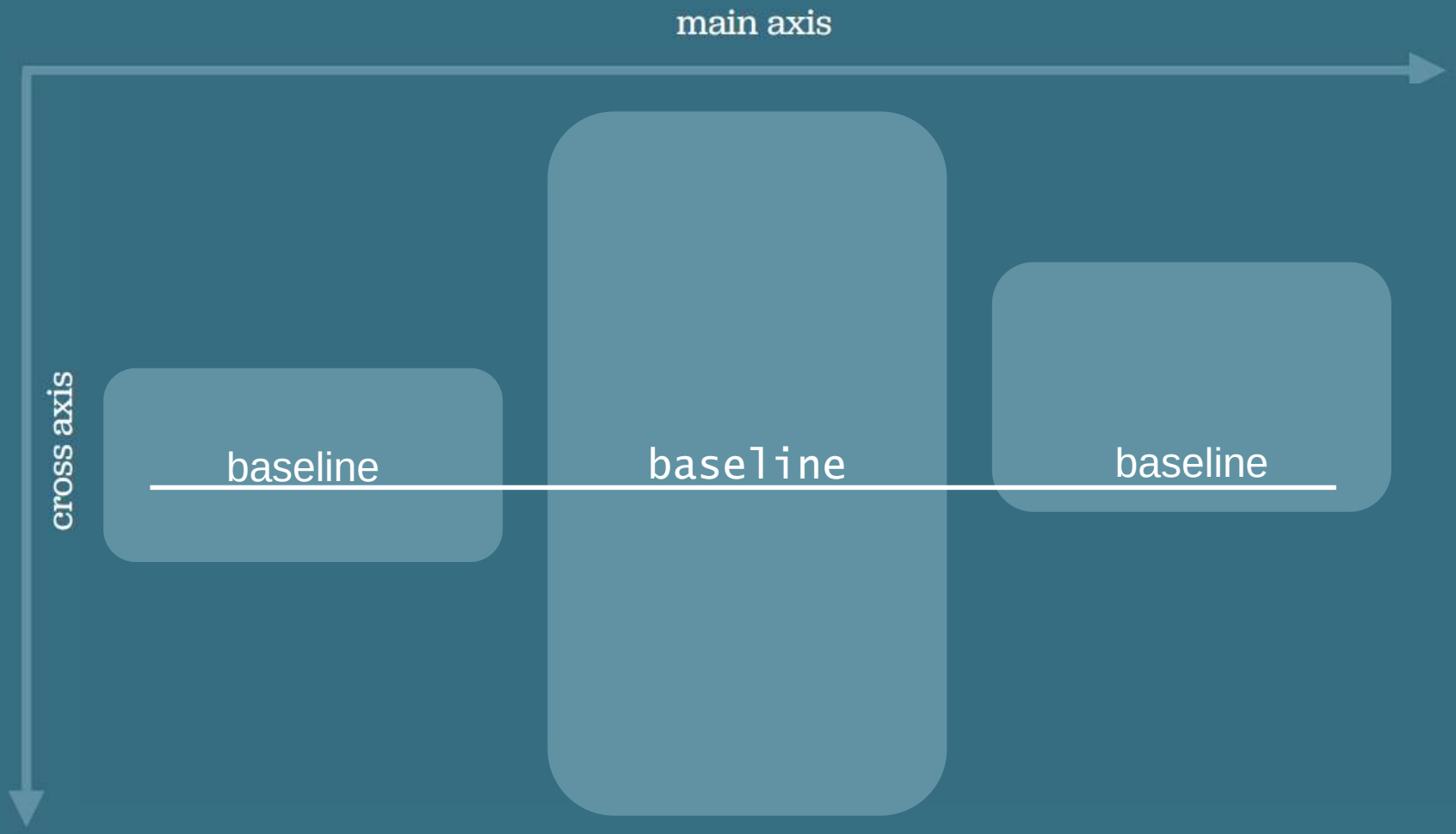
Controls the order in which items appear visually in a flex container (depending on the cross axis, one row)

- stretch
- flex-start
- flex-end
- center
- baseline


main axis
cross axis
stretch


main axis
cross axis
flex-start


main axis
cross axis
center


main axis
cross axis
baseline
baseline
baseline

Align-content

```
.container{
      align-content: stretch; /* default */
}
```

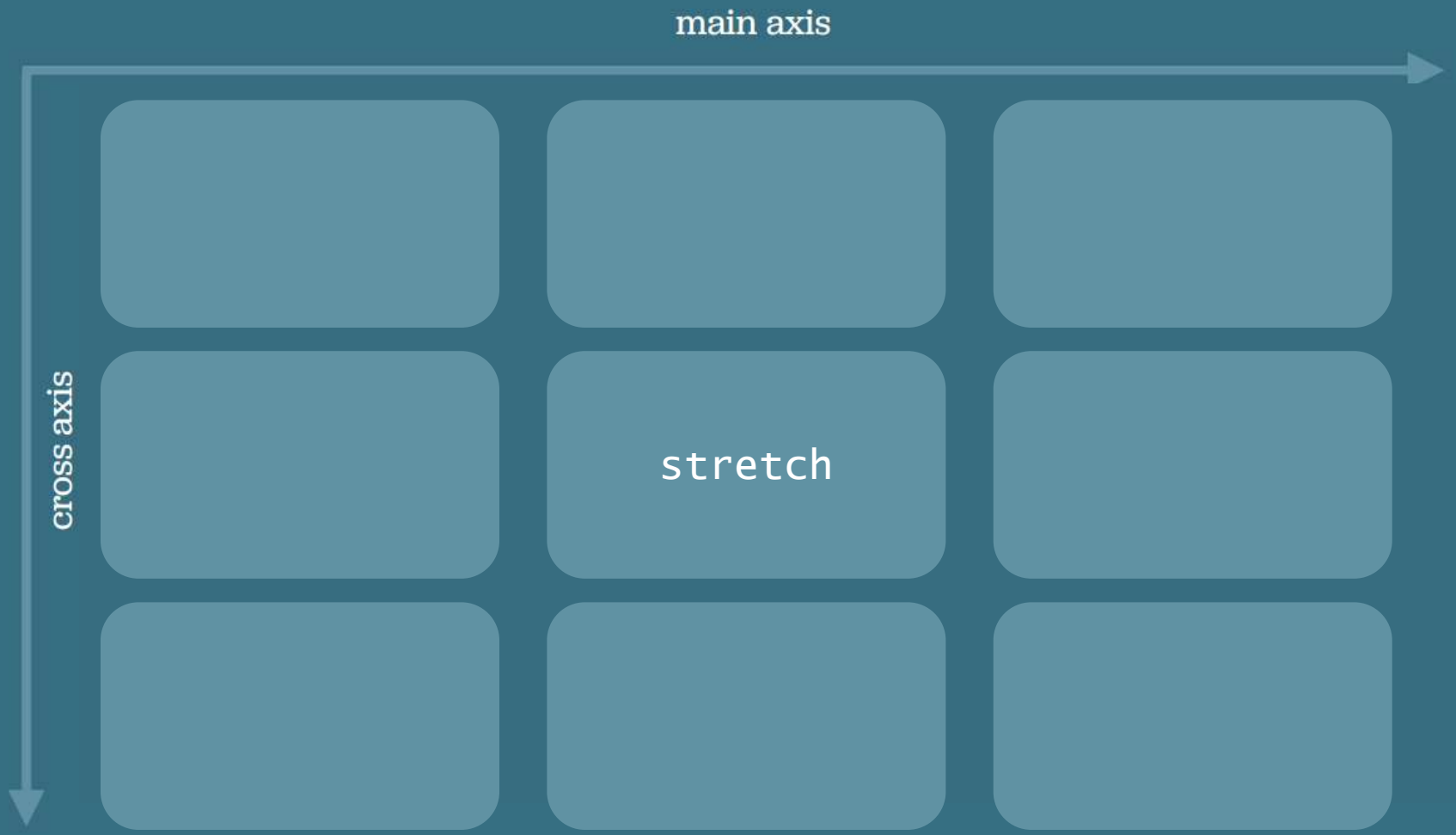
Controls the order in which items appear visually in a flex container (depending on the cross axis, wrapped)

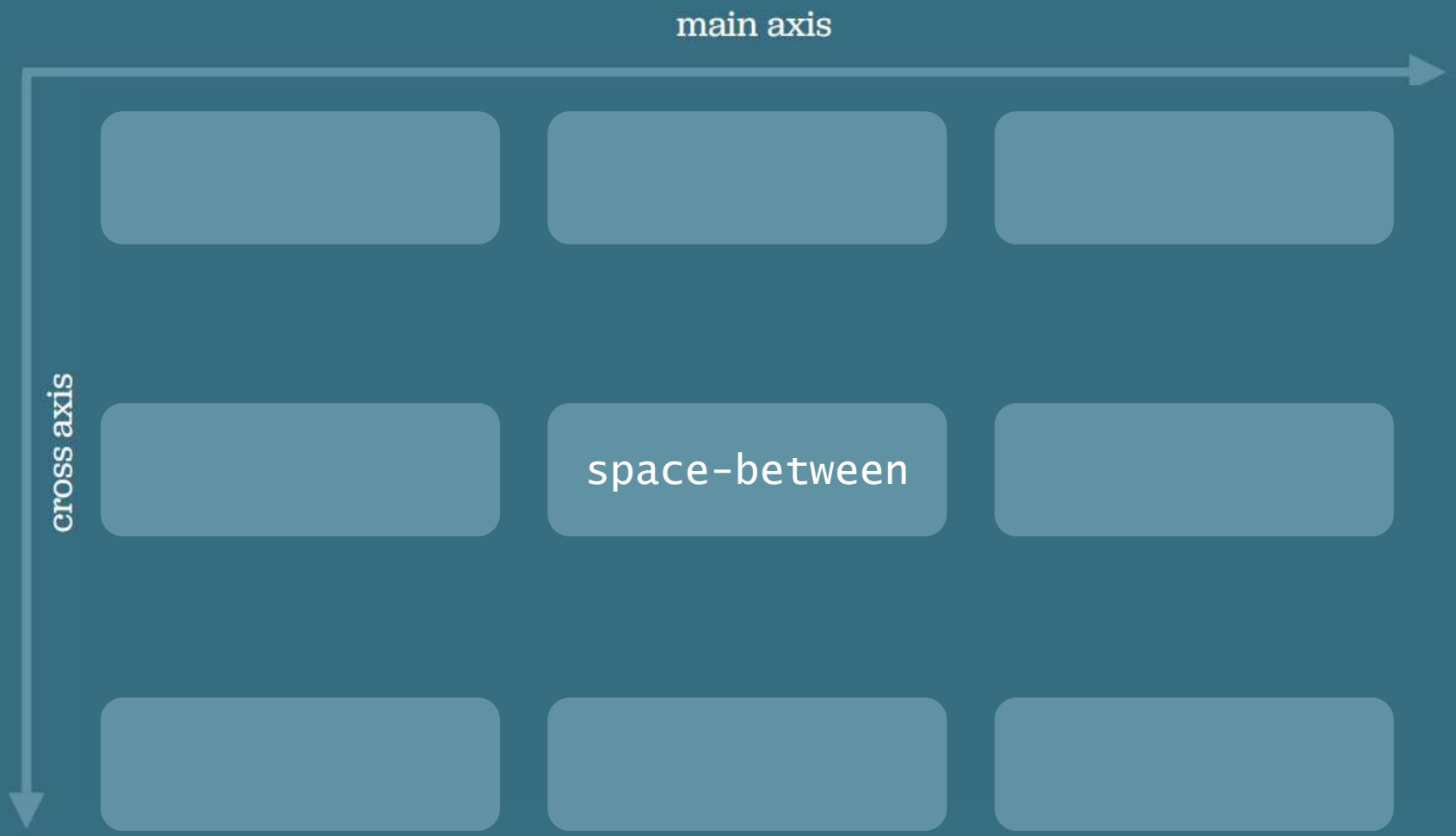
- flex-start
- flex-end
- center
- Stretch
- Space-between
- Space-around

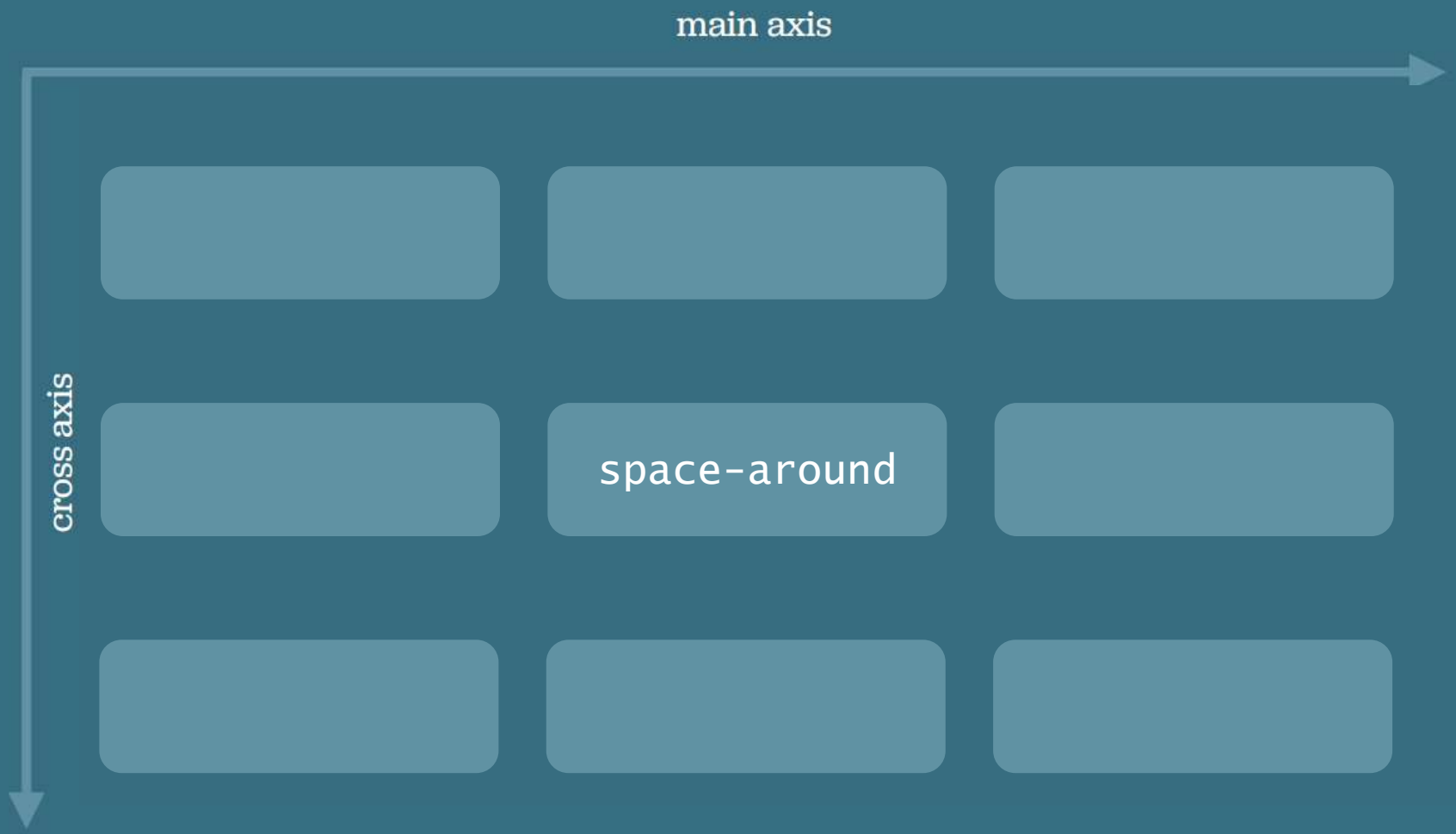
main axis
cross axis
flex-start

main axis
cross axis
flex-end

main axis
cross axis
center


main axis
cross axis
stretch


main axis
cross axis
space-between

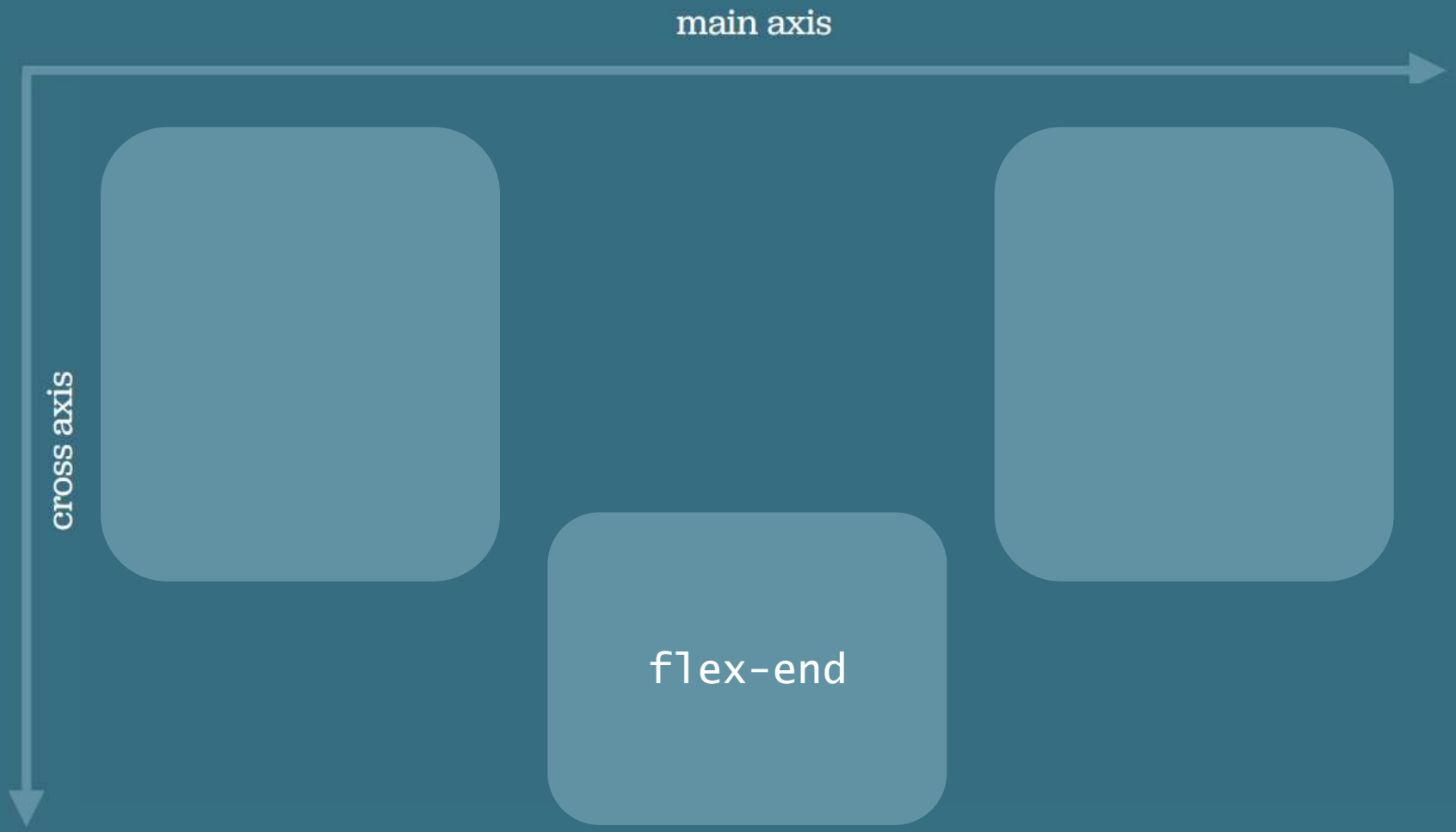

main axis
cross axis
space-around

Align-self

```
.box2{
      align-self: flex-end;
}
```

Controls the order of a single child item (depending on the cross axis)

- auto
- flex-start
- flex-end
- center
- stretch
- baseline


main axis
cross axis
flex-end

Browser support

1 Supported with –webkit- prefix

Legacy browser implementations

Fallback?

```
.container{
     display: table;
}
.row {
     display: table-row;
}
.cell {
     display: table-cell;
}
```

Playground

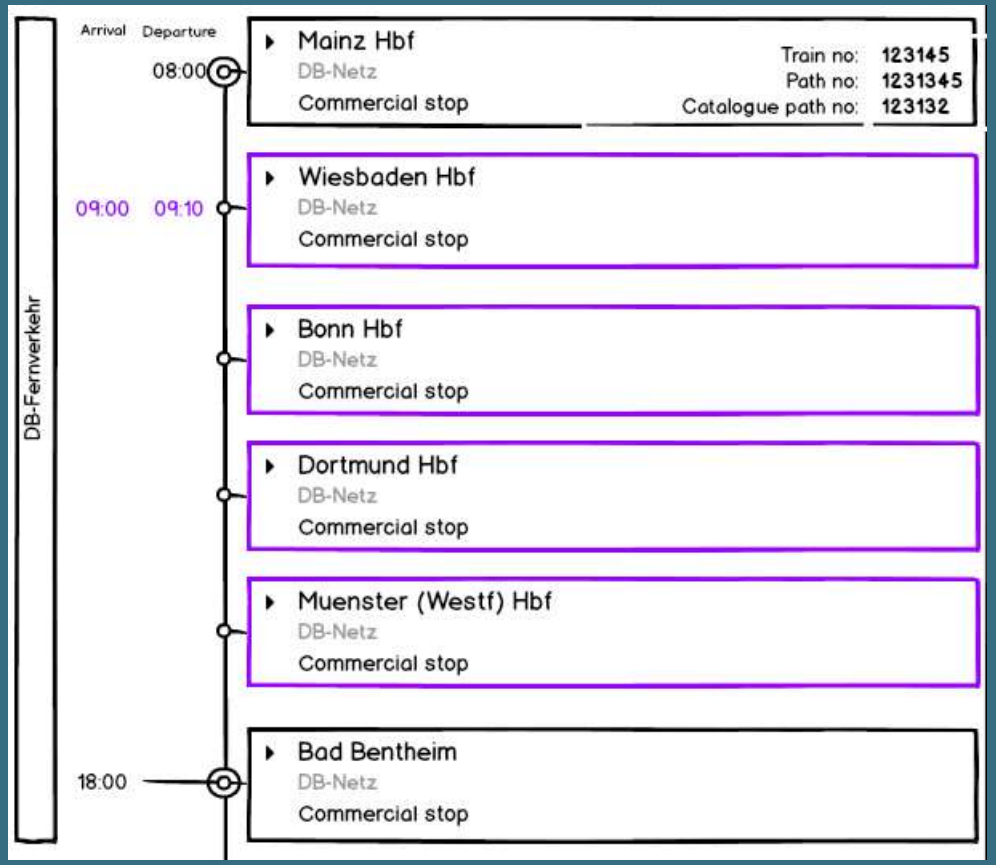
Playground

http://flexboxfroggy.com/

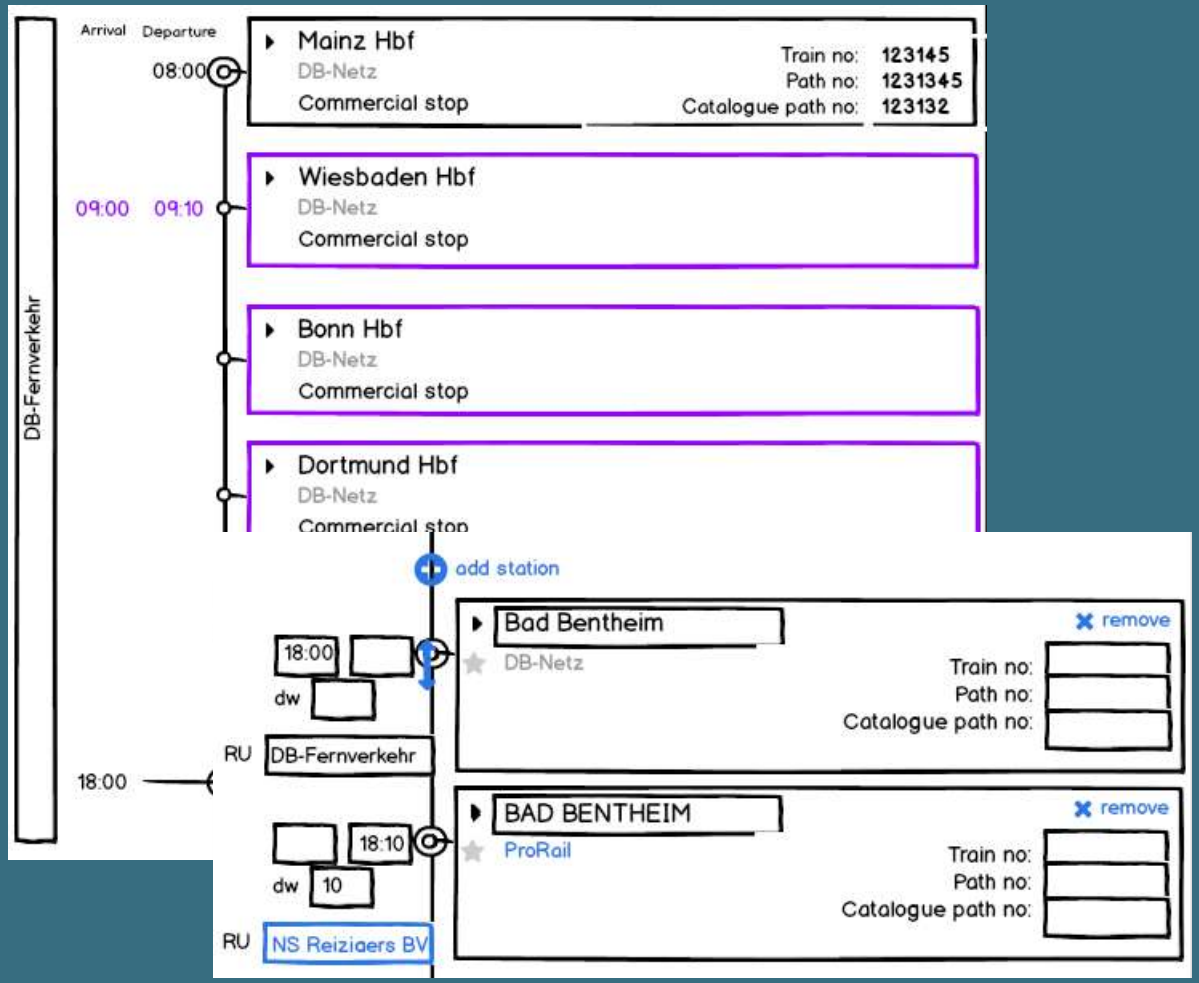
Real-life examples

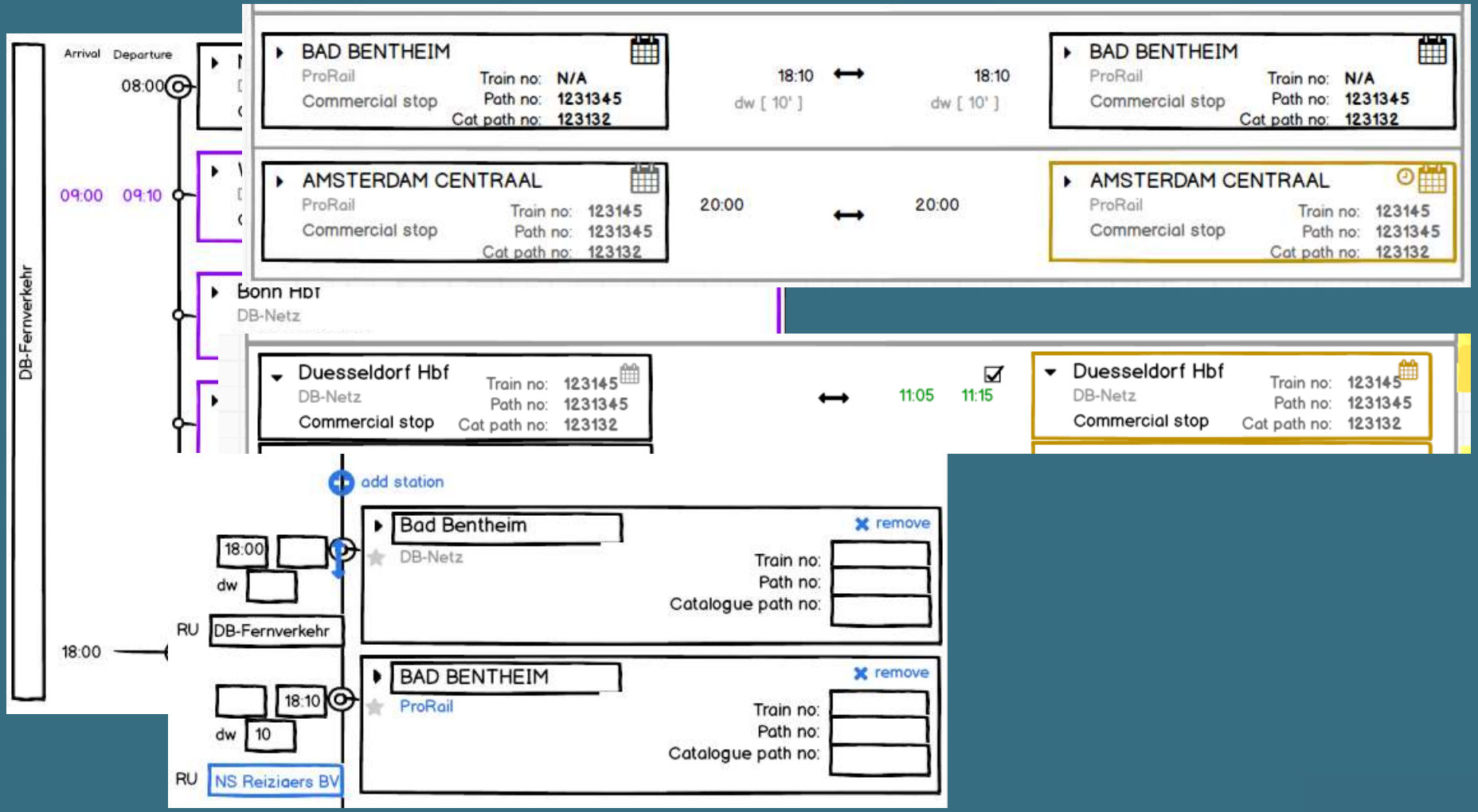
Real-life examples

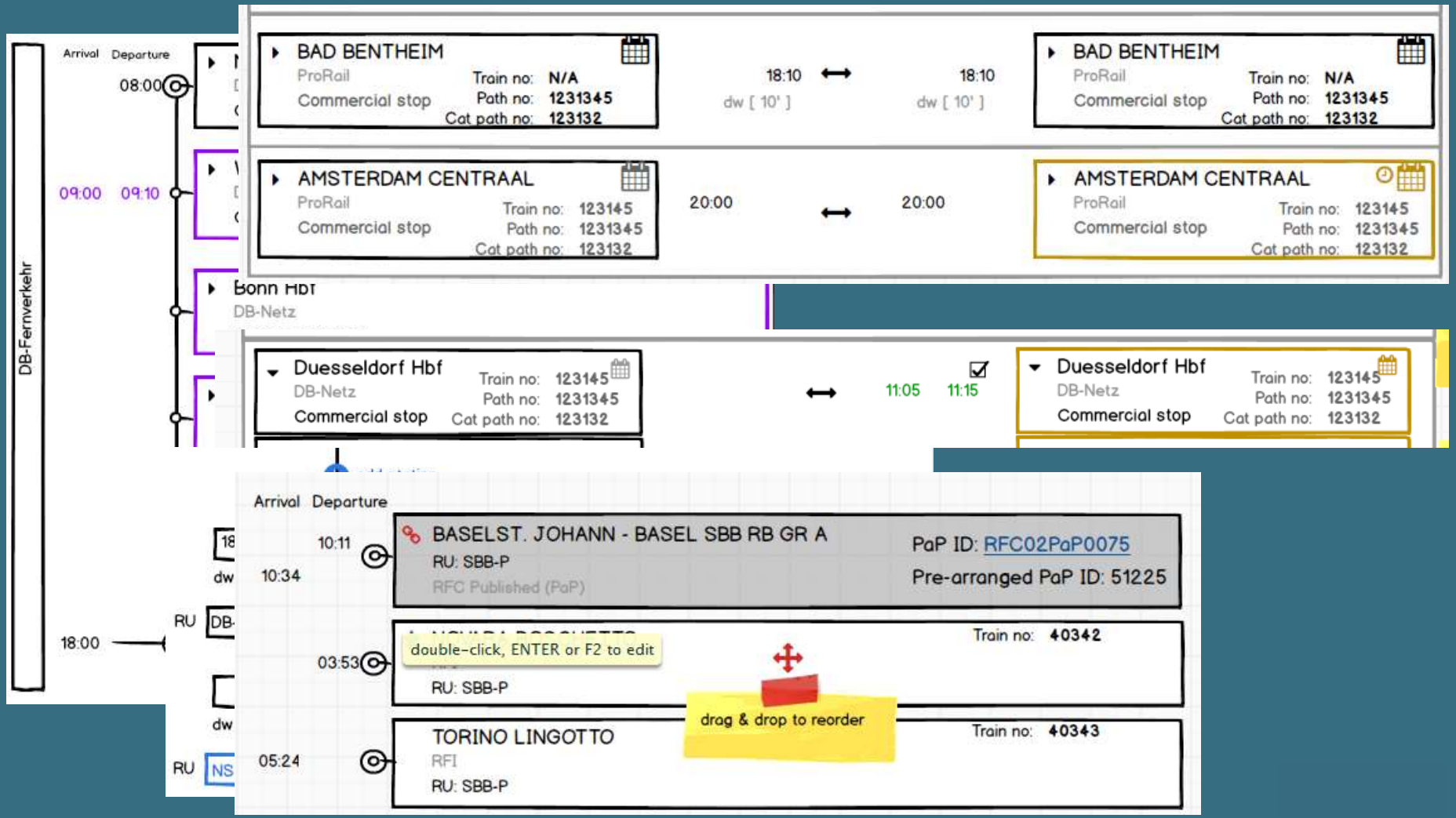
- **A repeatable component**
  - The same essentiality
  - Different content and size

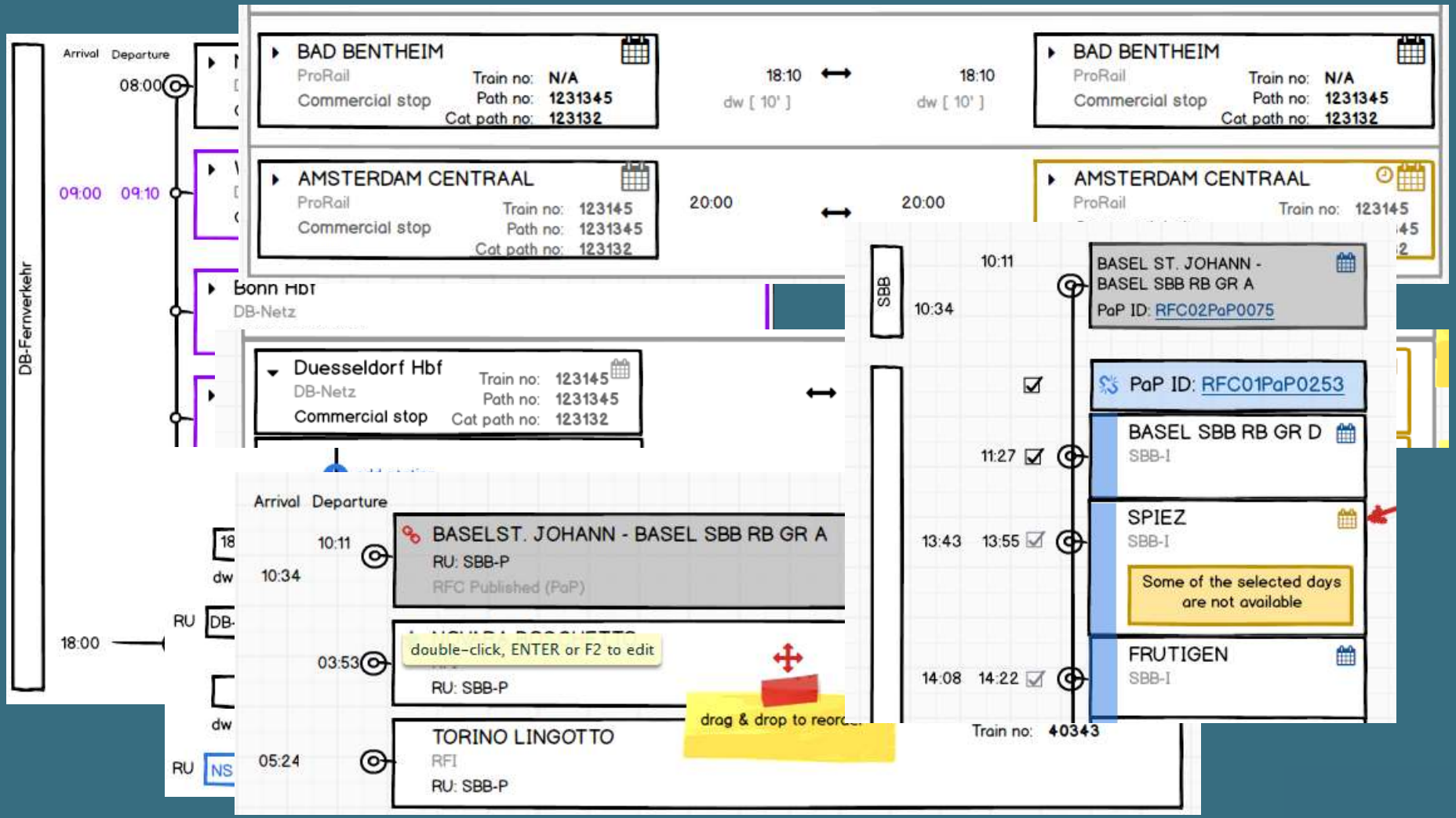


Just a timetable

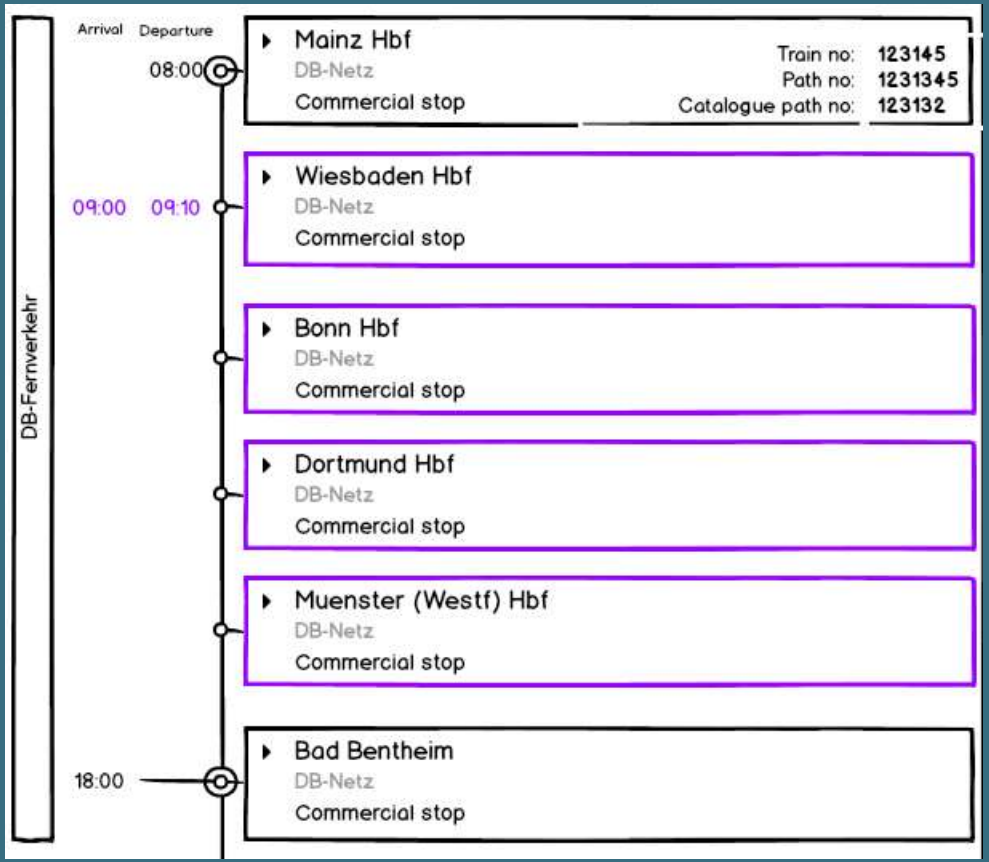

DB-Fernverkehr
Arrival
Departure
08:00
Mainz Hbf
DB-Netz
Commercial stop
Train no: 123145
Path no: 1231345
Catalogue path no: 123132
09:00
09:10
Wiesbaden Hbf
DB-Netz
Commercial stop
Bonn Hbf
DB-Netz
Commercial stop
Dortmund Hbf
DB-Netz
Commercial stop
add station
18:00
dw
RU
DB-Fernverkehr
Bad Bentheim
DB-Netz
remove
Train no:
Path no:
Catalogue path no:
18:00
18:10
dw
10
RU
NS Reiziaers BV
BAD BENTHEIM
ProRail
remove
Train no:
Path no:
Catalogue path no:


DB-Fernverkehr
Arrival
Departure
08:00
09:00
09:10
18:00
BAD BENTHEIM
ProRail
Commercial stop
Train no: N/A
Path no: 1231345
Cat path no: 123132
18:10
dw [10']
18:10
dw [10']
BAD BENTHEIM
ProRail
Commercial stop
Train no: N/A
Path no: 1231345
Cat path no: 123132
AMSTERDAM CENTRAAL
ProRail
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
20:00
20:00
AMSTERDAM CENTRAAL
ProRail
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
Bonn Hbf
DB-Netz
Duesseldorf Hbf
DB-Netz
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
11:05
11:15
Duesseldorf Hbf
DB-Netz
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
add station
Bad Bentheim
DB-Netz
remove
Train no:
Path no:
Catalogue path no:
18:00
dw
RU
DB-Fernverkehr
BAD BENTHEIM
ProRail
remove
Train no:
Path no:
Catalogue path no:
18:10
dw
10
RU
NS Reizigers BV

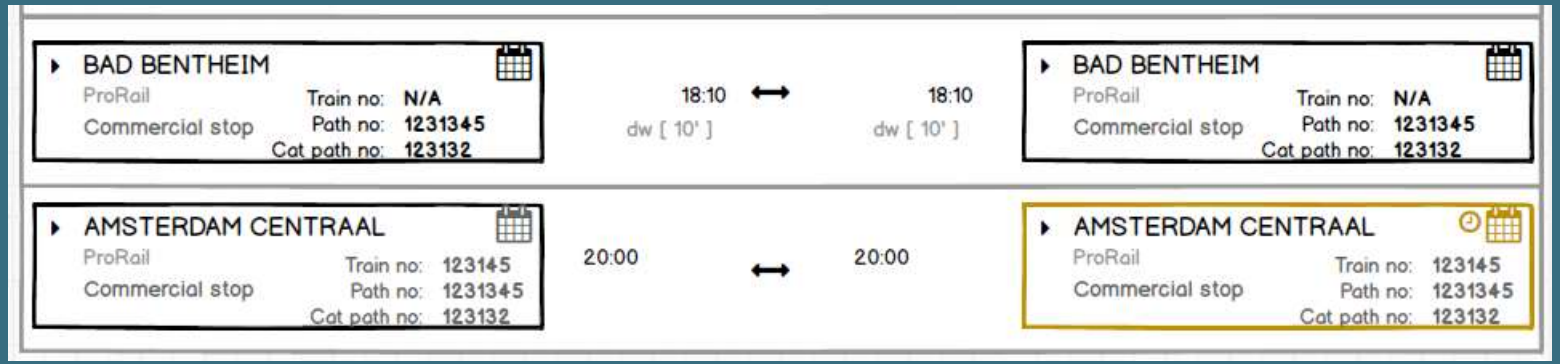

DB-Fernverkehr
Arrival Departure
08:00
BAD BENTHEIM
ProRail
Commercial stop
Train no: N/A
Path no: 1231345
Cat path no: 123132
18:10
dw [10']
18:10
dw [10']
BAD BENTHEIM
ProRail
Commercial stop
Train no: N/A
Path no: 1231345
Cat path no: 123132
09:00 09:10
AMSTERDAM CENTRAAL
ProRail
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
20:00
20:00
AMSTERDAM CENTRAAL
ProRail
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
Bonn Hbf
DB-Netz
Duesseldorf Hbf
DB-Netz
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
11:05 11:15
Duesseldorf Hbf
DB-Netz
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
18:00
Arrival Departure
10:11
10:34
BASELST. JOHANN - BASEL SBB RB GR A
RU: SBB-P
RFC Published (PaP)
PaP ID: RFC02PaP0075
Pre-arranged PaP ID: 51225
03:53
double-click, ENTER or F2 to edit
RU: SBB-P
Train no: 40342
drag & drop to reorder
05:24
TORINO LINGOTTO
RFI
RU: SBB-P
Train no: 40343


DB-Fernverkehr
Arrival Departure
08:00
09:00 09:10
18:00
BAD BENTHEIM
ProRail
Commercial stop
Train no: N/A
Path no: 1231345
Cat path no: 123132
18:10
dw [10']
18:10
dw [10']
BAD BENTHEIM
ProRail
Commercial stop
Train no: N/A
Path no: 1231345
Cat path no: 123132
AMSTERDAM CENTRAAL
ProRail
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
20:00
20:00
AMSTERDAM CENTRAAL
ProRail
Train no: 123145
Bonn Hbf
DB-Netz
Duesseldorf Hbf
DB-Netz
Commercial stop
Train no: 123145
Path no: 1231345
Cat path no: 123132
SBB
10:11
10:34
BASEL ST. JOHANN -
BASEL SBB RB GR A
PaP ID: RFC02PaP0075
PaP ID: RFC01PaP0253
11:27
BASEL SBB RB GR D
SBB-I
13:43 13:55
SPIEZ
SBB-I
Some of the selected days are not available
14:08 14:22
FRUTIGEN
SBB-I
Train no: 40343
Arrival Departure
10:11
10:34
BASELST. JOHANN - BASEL SBB RB GR A
RU: SBB-P
RFC Published (PaP)
RU
03:53
double-click, ENTER or F2 to edit
RU: SBB-P
drag & drop to reorder
05:24
TORINO LINGOTTO
RFI
RU: SBB-P

col-xs-1 col-xs-2 col-xs-1 col-xs-8



col-xs-3 | col-xs-2 | col-xs-1 | col-xs-2 | col-xs-?

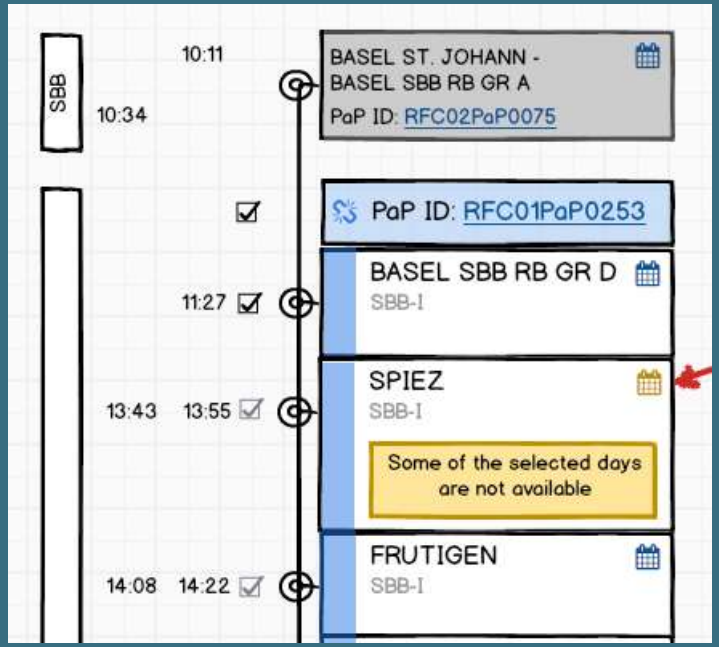


col-xs-3 | col-xs-2 | col-xs-1 | col-xs-2 | col-xs-1 | col-xs-3

col-xs-4

col-xs-8

col-xs-1 | col-xs-2 | col-xs-1 | col-xs-1 | col-xs-7



30px flex-direction: column;

flex: 4 35px; (1) 29px 29px flex-grow: 20; (5)

Arrival Departure

NS Reizigiger

09:00 11:00 [10'] 09:00 11:00 09:00 09:00

PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORDPARIS-NORD

RFF, Direction des Sillons

Commercial stop

Train No: 9401-00-0000

Path no: 9401

Common Train Parameters

IM Parameters

09:00 11:00 [10'] 09:00 11:00

PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORDPARIS-NORD

RFF, Direction des Sillons

Commercial stop

Train No: 9401-00-0000

Path no: 9401

Common Train Parameters

IM Parameters

Pap ID: RFX01PaP0253 Dossier ID: RFX01PaP0253

09:00 11:00 [10'] 09:00 11:00

PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORDPARIS-NORD

RFF, Direction des Sillons

Commercial stop

Train No: 9401-00-0000

Path no: 9401

Common Train Parameters

Flex PaP constraints

09:00 11:00

PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORD PARIS-NORDPARIS-NORD

.timetable
wrapper - use it everywhere around a timetable

.rt-block
(+.pap-header only for pap headers) use it as a wrapper for all the path sections which have the same RU agency. Have a separate block for PaPs and PaPs with changing agencies.

.ru-agency
Leave empty in header

.path-sections
a wrapper to group all path-sections that align with the same agency on the left

.path-section
a wrapper for each path section: times, checkbox (.cb-path-section), circle, operation point

+.pap-all
add class .pap-all for any type of pap, including intermediate stations in pap-flex

+.pap-fix/.pap-flex
add class the appropriate class for types of paps

.times
a wrapper for the times/labels, always use both (repeat the same for earliest/latest)

- **.arrival-time** (+.dimmed for label)
- **.departure-time** (+.dimmed for label)
- **.dwell-time** (spreads 2)
- **earliest arrival**
- **earliest departure**
- **latest arrival**
- **latest departure**

.cb-path-section
for checkbox

.op-circle
circle for op-point

.full-circle
show for border op-point, hide for regular

.operation-point
(+.b0) for header without border (arrival/departure times).
A wrapper for op-header/op-body

.op-header
use for pap-s in edit mode, also without .op-body for pap header rows
Use the structure below for .op-icons/.op-content division in the header row (ex: pap selection)

.op-icons
pap icons go here

.op-content

.op-section
flexbox division of the two columns with left and right padding. The left column always has content, while the right column may contain content or just icons.

- **.op-col-left**
- **.op-col-right**

.op-body
a wrapper to split up the icons from the content

.op-icons
place for accordion arrow
+ star for ref. point
+ lock for protected flex border

.op-content
any kind of content in the path-section (operation point name, train no, accordions, etc.) Add the class to an accordion instead of div if it exists.

.op-section
flexbox division of the two columns with left and right padding. The left column always has content, while the right column may contain content or just icons.

- **.op-col-left**
- **.op-col-right**

MS Reisinger