Defining Grids: In-depth



Track sizes

Grid shorthands

Grid flow

Implicit grids

Grid gaps

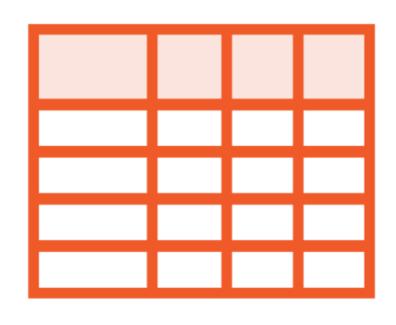
12-column grid system



Up Next: Grid Track Sizes



Grid Track Sizes



Static values

Percentage

auto

fr

min-content, max-content

minmax()

fit-content()



```
[grid container] {
    grid-template-columns: 200px 10em 30ch;
}
```

Static Values

ems, rems, pixels, ch, pt, pc...



```
[grid container] {
    grid-template-columns: 25% 25% 50%;
}
```

Percentage

Relative to the size of the grid



```
[grid container] {
    grid-template-columns: 15em auto 15em;
}
```

auto

Let the browser decide



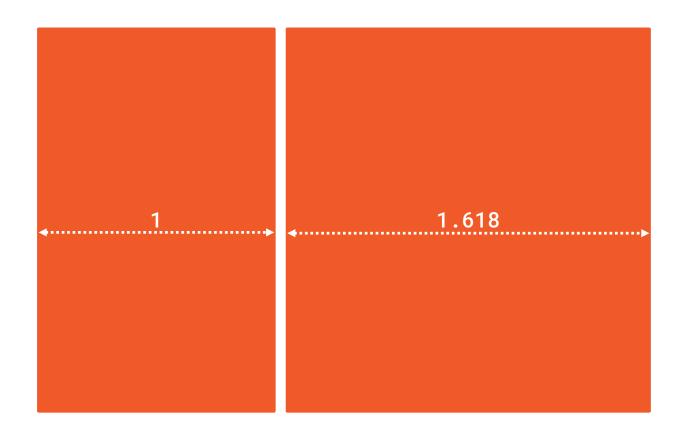
```
[grid container] {
    grid-template-columns: 25em 1fr 1fr;
}
```

fr

Fractional unit, divide up the remaining space



The Golden Ratio





Viewport-responsive vs. Content-responsive

Viewport-responsive

Percentage

fr

auto

Content-responsive

min-content

max-content

fit-content()



```
[grid container] {
    grid-template-columns: 1fr min-content 1fr;
}
```

min-content

Make track as small as possible to fit its content



```
[grid container] {
    grid-template-columns: 1fr max-content 1fr;
}
```

max-content

Make track as large as necessary to contain its content



Viewport-responsive vs. Content-responsive

Viewport-responsive

Percentage

fr

auto

Content-responsive

min-content

max-content

fit-content()



```
[grid container] {
    grid-template-columns: 1fr minmax(max-content, 50%) 1fr;
}
```

minmax(min size, max size)

Function to specify minimum and maximum values for a track



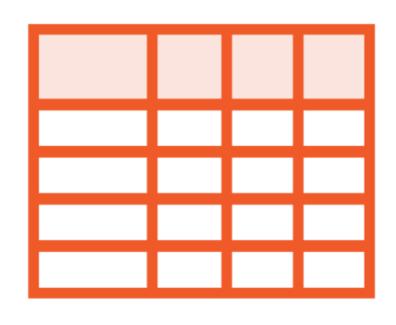
```
[grid container] {
    grid-template-columns: 1fr fit-content(30em) fit-content(30em) 1fr;
}
```

fit-content(max size)

Fit track size to the content, but don't go above specified value



Grid Track Sizes



Static values

Percentage

auto

fr

min-content, max-content

minmax()

fit-content()



Up Next: Grid Shorthands



```
[grid container] {
    grid-template-columns: repeat(3, 20em);
}
```

repeat(number of repetitions, track sizes)

Function to repeat a pattern of track sizes multiple times



```
[grid container] {
    grid-template: 20em 10em / repeat(6, 1fr);
}
```

grid-template

Property to consolidate grid-template-rows and grid-template-columns.



```
[grid container] {
    grid: 20em 10em / repeat(6, 1fr);
}
```

grid

Property to consolidate grid-template-rows and grid-template-columns and some additional things



Up Next: Grid Flow



Your objective is not to write the least possible code



Grid Flow



```
[grid container] {
    grid-auto-flow: column;
}
```

grid-auto-flow

Whether the grid fills rows or columns first while assigning grid items

Default: row

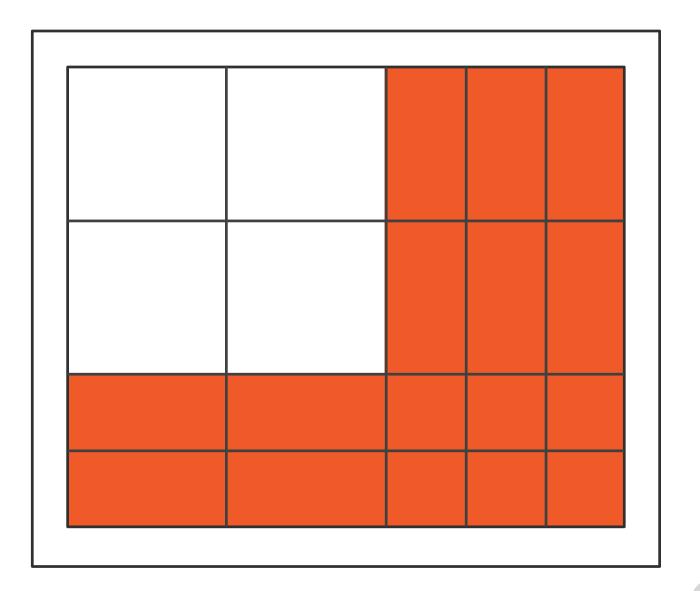


Up Next: Implicit Grid



Implicit Grid

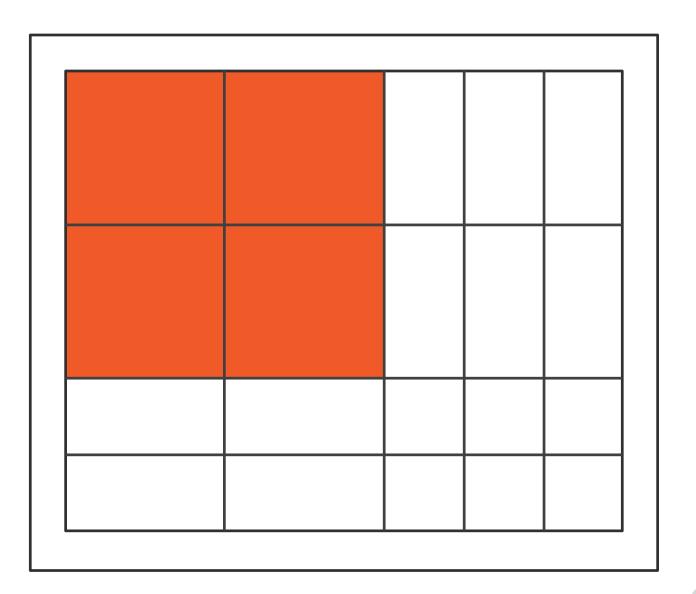
The columns and rows
CSS Grid creates itself
to accommodate your
grid items





Explicit Grid

The columns and rows you define yourself





```
[grid container] {
    grid-auto-rows: 10em;
}
```

grid-auto-rows

The size of any implicitly-created rows



```
[grid container] {
    grid-auto-columns: 10em;
}
```

grid-auto-columns

The size of any implicitly-created columns



```
[grid container] {
    grid: 10em 10em / auto-flow 10em;
}
```

auto-flow

A keyword added to the grid shorthand property which determines the axis new tracks are added implicitly, and their size



```
grid: 10em 10em / auto-flow 10em;
grid-template-columns: 10em 10em;
grid-auto-flow: columns;
grid-auto-columns: 10em;
```

Concise Implicit Grid Rules with grid

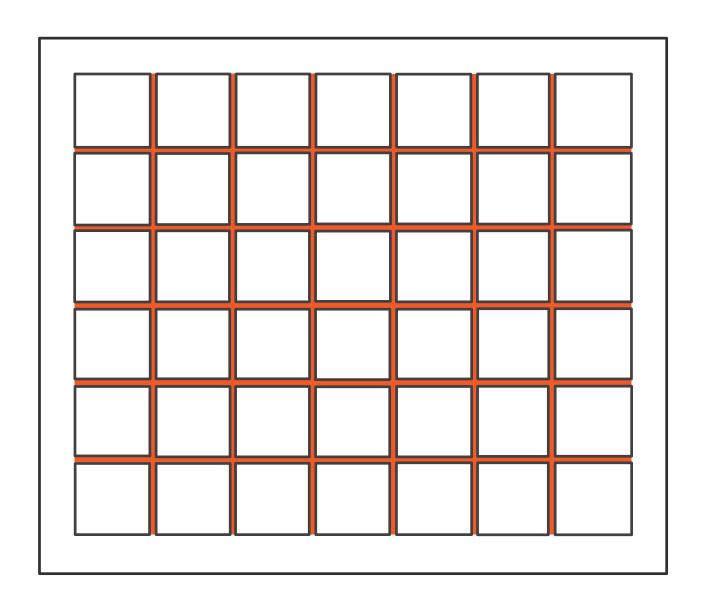
The first line can replace the bottom three lines



Up Next: Grid Gaps



Gutters / Gaps



```
[grid container] {
    grid-column-gap: 1em;
}
```

grid-column-gap

The gap between each column in your grid



```
[grid container] {
    grid-row-gap: 1em;
}
```

grid-row-gap

The gap between each row in your grid



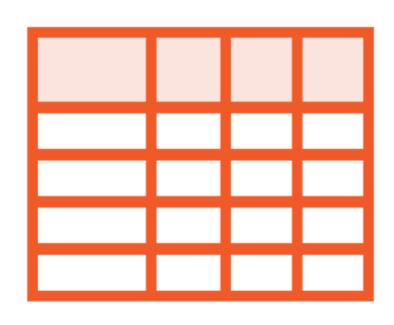
```
[grid container] {
    grid-gap: 1em 2em;
}
```

grid-gap

Property to define grid-row-gap and grid-column-gap at once



Grid Gap Properties



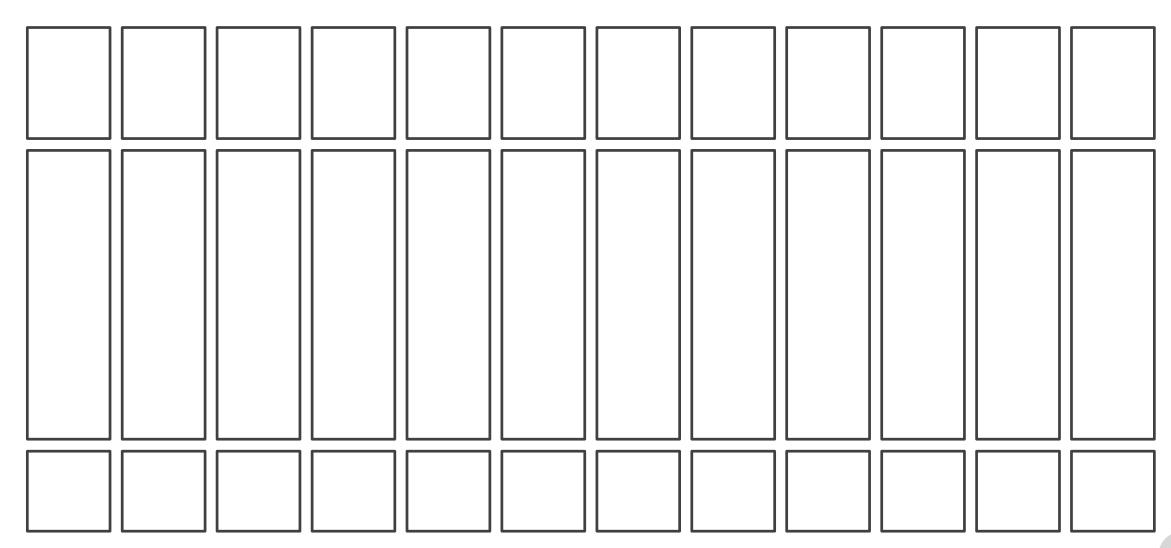
grid-row-gap
grid-column-gap
grid-gap



Up Next: 12-column Grid System



12-column Grid System

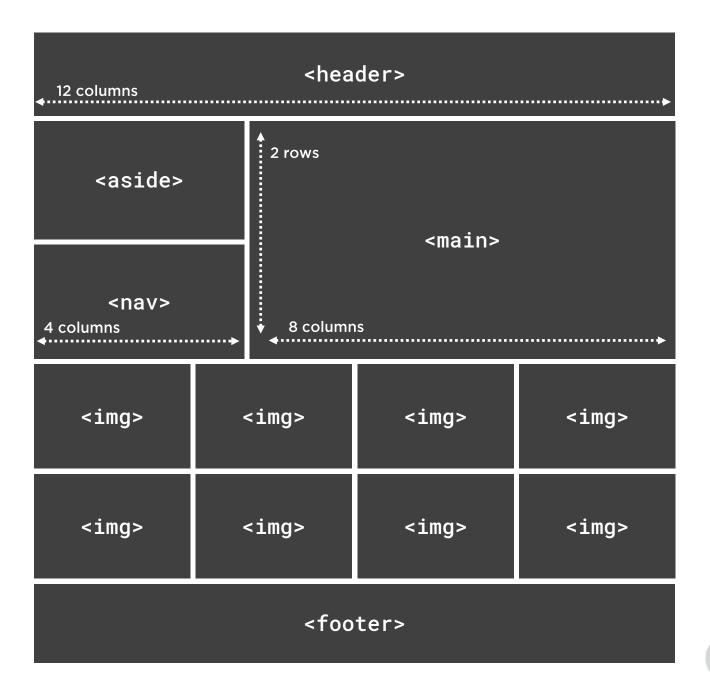


Columns: 12, equal width

Rows: all min-content

Grid Gap: 1em

Margin: 1em





Up Next: Module Summary



CSS Grid Properties

align-content	align-items	align-self	grid	grid-area
grid-auto-columns	grid-auto-f	low grid-au	ito-rows	grid-column
grid-column-end	rid-column-end grid-column-gap		grid-column-start grip-gap	
grid-row	rid-row grid-row-end grid-row-gap grid-row-start			
grid-template grid-template-areas grid-template-columns				
grid-templ	tify-content	justify-i	tems	
justify-self order				



CSS Grid Properties





```
[grid container] {
    grid-template-rows: 200px 200px;
}
```

grid-template-rows



```
[grid container] {
    grid-template-columns: 200px 200px;
}
```

grid-template-columns



```
[grid container] {
    grid-template: 20em 10em / repeat(6, 1fr);
}
```

grid-template



```
[grid container] {
   grid: 20em 10em / repeat(6, 1fr);
}
```

grid



```
[grid container] {
    grid-template-columns: 1fr min-content 1fr;
}
```

min-content



```
[grid container] {
    grid-template-columns: 1fr max-content 1fr;
}
```

max-content



```
[grid container] {
    grid-template-columns: 1fr fit-content(30em) fit-content(30em) 1fr;
}
```

fit-content(max size)



```
[grid container] {
    grid-template-columns: 25em 1fr 1fr;
}
```

fr



```
[grid container] {
    grid-template-columns: repeat(3, 20em);
}
```

repeat(number of repetitions, track sizes)



```
[grid container] {
    grid-template-columns: 1fr minmax(max-content, 50%) 1fr;
}
```

minmax(min size, max size)



```
[grid container] {
    grid-auto-flow: column;
}
```

grid-auto-flow



```
[grid container] {
    grid-auto-rows: 10em;
}
```

grid-auto-rows



```
[grid container] {
    grid-auto-columns: 10em;
}
```

grid-auto-columns



```
[grid container] {
   grid: 10em 10em / auto-flow 10em;
}
```

auto-flow



```
[grid container] {
    grid-row-gap: 1em;
}
```

grid-row-gap



```
[grid container] {
    grid-column-gap: 1em;
}
```

grid-column-gap



```
[grid container] {
    grid-gap: 1em 2em;
}
```

grid-gap



Up Next:

Positioning Items: In-depth

