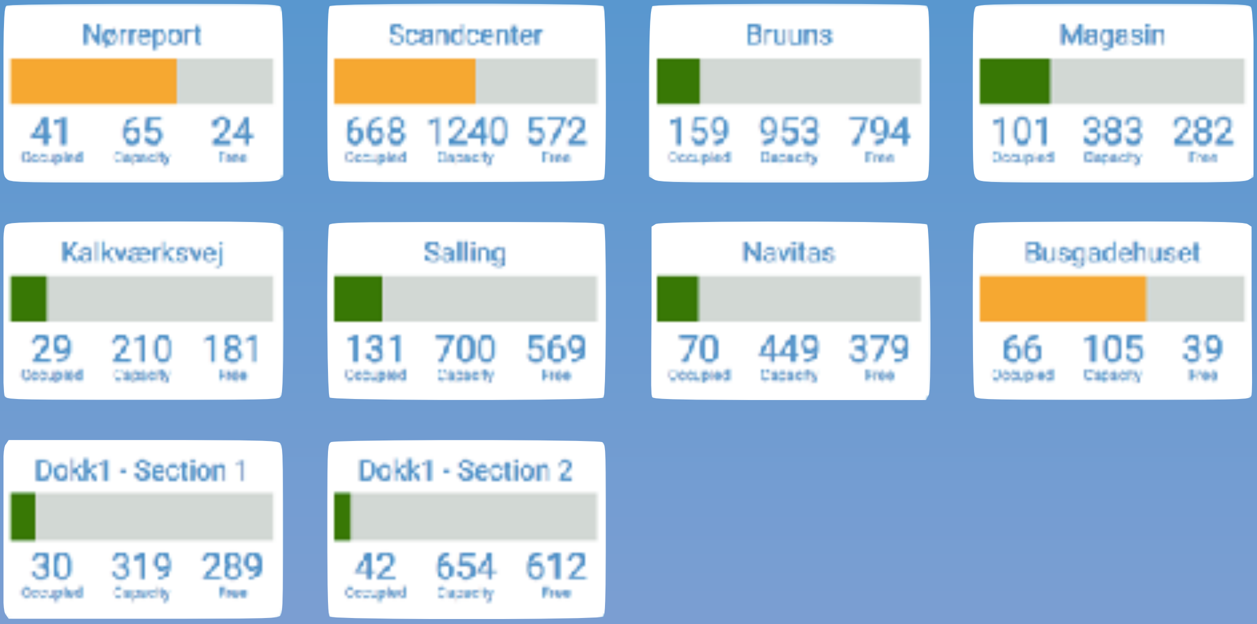
CarParkr



Nørreport
41 Occupied 65 Capacity 24 Free

Scandcenter
668 Occupied 1240 Capacity 572 Free

Bruuns
159 Occupied 953 Capacity 794 Free

Magasin
101 Occupied 383 Capacity 282 Free

Kalkværksvej
29 Occupied 210 Capacity 181 Free

Salling
131 Occupied 700 Capacity 569 Free

Navitas
70 Occupied 449 Capacity 379 Free

Busgadehuset
66 Occupied 105 Capacity 39 Free

Dokk1 - Section 1
30 Occupied 319 Capacity 289 Free

Dokk1 - Section 2
42 Occupied 654 Capacity 612 Free

Dashboard for parking garages in Aarhus

In this assignment you will populate a dashboard with live data from the Open Data Aarhus initiative. You will be working with Php to access the data, parsing the data and preparing it for output.

What you will be working with:

- *Using a php class to load an external data set*
- *Php dates*
- *Php objects*
- *Php arrays*
- *Control structures*
- *JSON*

Step 1 - Get the data

Get the data from Open Data Aarhus with Php.

1) Look at the markup

Open ***"index.php"***. We will be working on this file.

Discuss the markup for each card. How is the graph built? How is it set up in the CSS?
What happens when you change the width of the `.indicator` element?
What does the following classes on .indicator do:

- .low
- .med
- .high

2) Use the class "Request" to load data

Open **"/class_request/example.php"**.
Discuss what is going on here.

In your index file, use this class to load the following JSON file:
`http://www.odaa.dk/api/action/datastore_search?resource_id=2a82a145-0195-4081-a13c-b0e587e9b89c`

This is the data stream from Open Data Aarhus that is updated every 5 minutes with information about how many cars have entered/exited from parking garages in Aarhus.

3) Decode the JSON

Notice go the data received is returned as a text string. Discuss why that is.
To decode the JSON from this string, we can use the built-in php method `json_decode()`. This will return an object from the string.

```
$data = json_decode(
      $request->getFile($url)
);
```

Discuss what happened with the string.

Step 2 - Parse the data

Once the data has been received, it has to be parsed, meaning that we need to prepare the data for how we want to use it.

1) Get the garage name from array
Look at the data we receive. Use `var_dump()` or similar to output it.
The data we receive contains a set of records with the registered data. Notice that this does not contain the name of the garage, only a *garageCode*.

Load in the array in **garageNames.php** in your index file.

With a foreach loop, echo out the garage names,

```
foreach ($garageNames as $garage) {
       $garageName = $garage["garageName"];
       $garageCode = $garage["garageCode"];
       echo "The code ".$garageCode." goes with the name ".$garageName;
}
```

2) Loop through the result data
The result data is an object and we can use the following code to access it.

```
// loop through all of the result records from the live data
foreach ($data->result->records as $record) {
       $recordCode = $record->garageCode;
       echo "This record has the garageCode: ".$recordCode;
}
```

3) Combine the two in a new array
We want to combine them so that each record is name.

```
// create new array to store the combined data
$dataList = array();
```

The array has to be structured so each record has the following:

```
$dataList[] = array(
    ["name"]=>$garageName,
    ["data"]=>$record,
);
```

You should get something similar to this var_dump():

```
array(2) {
    ["name"]=>
    string(10) "Nørreport"
    ["data"]=>
    object(stdClass)#9 (5) {
      ["date"]=>
      string(19) "2017/03/03 07:45:06"
      ["vehicleCount"]=>
      int(28)
      ["_id"]=>
      int(1)
      ["totalSpaces"]=>
      int(65)
      ["garageCode"]=>
      string(9) "NORREPORT"
    }
```

4) Reformat the timestamp

The format of the timestamp is not the standard format for how databases handles timestamps, so we need to reformat the timestamp.

Using the php data object we can create a new instance and format it the way we want it.

Inside your records loop, add the following to make reformat the timestamp:

```
$date = date_create($record->date);
$timestamp = date_format($date,"Y-m-d H:i:s");
$record->date = $timestamp;
```

Look up and discuss what the `"Y-m-d H:i:s"` part mean (http://php.net/manual/en/function.date.php).

The result should be that the time stamp is changed from this format:

`"2017/03/03 07:45:06"`

to this:

`"2017-03-03 07:45:06"`

Hint: If you get warnings regarding the timezone, set it explicitly by using:

```
date_default_timezone_set("Europe/Copenhagen");
```

Step 3 - Update the graph

Now that we have the data in the $dataList array we can use it to populate our HTML.

1) Loop through $dataList and populate the <article> structure for each card.

Some code snippets to help you:

```
foreach ($dataList as $record) {
}
```

```
<?php echo $record["name"];?>
```

```
<?php echo $record["data"]->vehicleCount;?>
```

Hint: To get the information for the "Free" stat, calculate it with the info you already have.

2) Adjust size of graph
Firstly, calculate an $occupancy rate that is a percentage of free space.

Use the `round()` method to round of the number to an integer.
(http://php.net/manual/en/function.round.php)

Adjust the width of the graph by creating an inline style with the $occupancy number as a percentage width.

```
style="width:<?php echo $occupancy;?>%"
```

Discuss how this changes the graph

3) Add color levels
Based upon the $occupancy value, determine which level each graph belongs to:

- Above 75% it should be "high"
- Above 50% it should be "med"
- Else it should be "low"

Hint: Use an if/elseif/else statement.

Assign the above levels as classes to the div.indicator.