

How to style your X+ HTML reports (CSS)

If you create a HTML report (setup sheet or tooling list) with X+ , a CSS file will be linked to the report. The CSS file is responsible for all the formatting and how the report will be rendered in your browser.

The name of the CSS file is always the same like your current configuration name. I.e. if your configuration name is **default** then a CSS file named **default.css** will be linked to the report. The location of the CSS file depends from the kind of report (setup sheet or tooling list).

C:\Users\Public\Documents\X+\templates\tool sheets\css

Or

C:\Users\Public\Documents\X+\templates\setup sheets\css

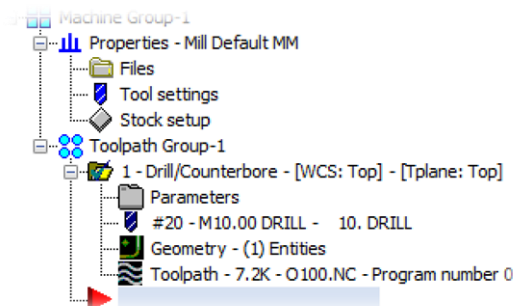
In this tutorial we are going to modify a CSS file by applying new styles/rules for our HTML report.

Create a new configuration

Let's start with a new configuration.

Launch Mastercam 2020 and create a simple drill toolpath.

Don't care about the operation setup since it doesn't matter for this tutorial.



Launch the X+ setup sheet chook.



Set up the dialog like below. We keep it simple ;c).

The image shows two side-by-side screenshots of the 'X+ Setup sheet' dialog box. The left screenshot shows the 'Configuration' field set to 'mydefault', 'Output' set to 'HTML', and 'CSS' selected. The right screenshot shows the 'Configuration' field set to 'default', 'Output' set to 'HTML', and 'CSS' selected. Both screenshots show a list of parameters on the left and a list of operations on the right.

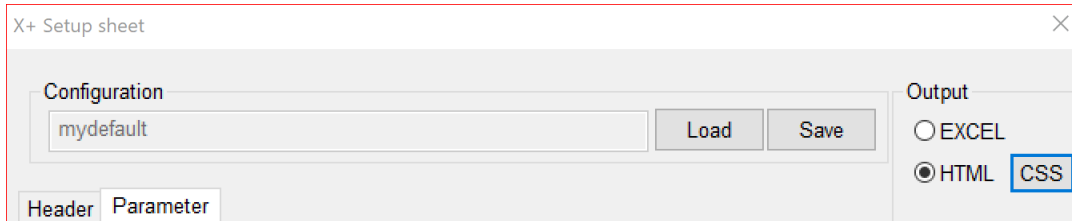
Click the save button.

The image shows a screenshot of the 'X+ Setup sheet' dialog box. The 'Save' button is highlighted with a blue rectangle. The 'Configuration' field is set to 'default', 'Output' is set to 'HTML', and 'CSS' is selected.

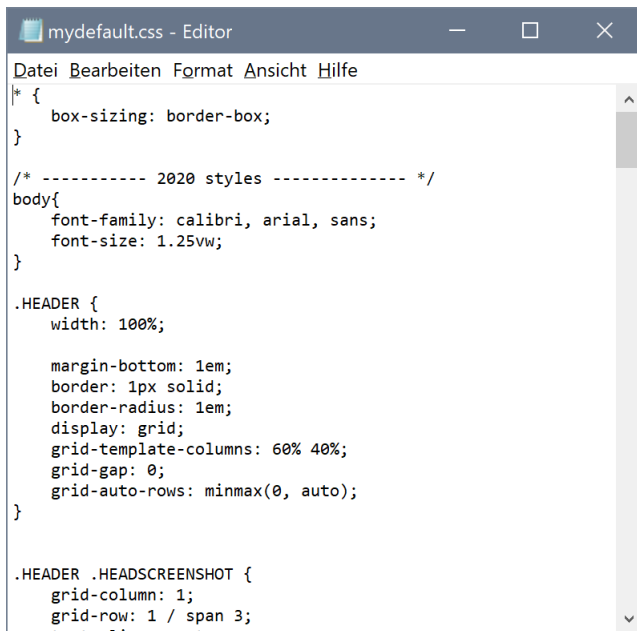
Enter the new configuration name **mydefault** and save it.

The image shows a screenshot of the 'Speichern unter' (Save As) dialog box. The 'Dateiname' (Filename) field is set to 'mydefault' and the 'Dateityp' (File type) is set to 'X+ template (*.xpt)'. The 'Speichern' (Save) button is highlighted.

Now click on the CSS button

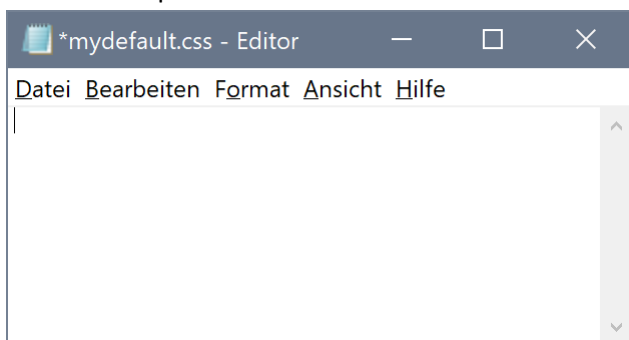


The CSS file will be opened with the editor.



In this tutorial, we'll create the CSS file from scratch therefore we are going to delete everything first.

In the editor press **Ctrl + A** then **Delete**. The editor should look empty now.



Now save the CSS file by pressing **Ctrl + S**

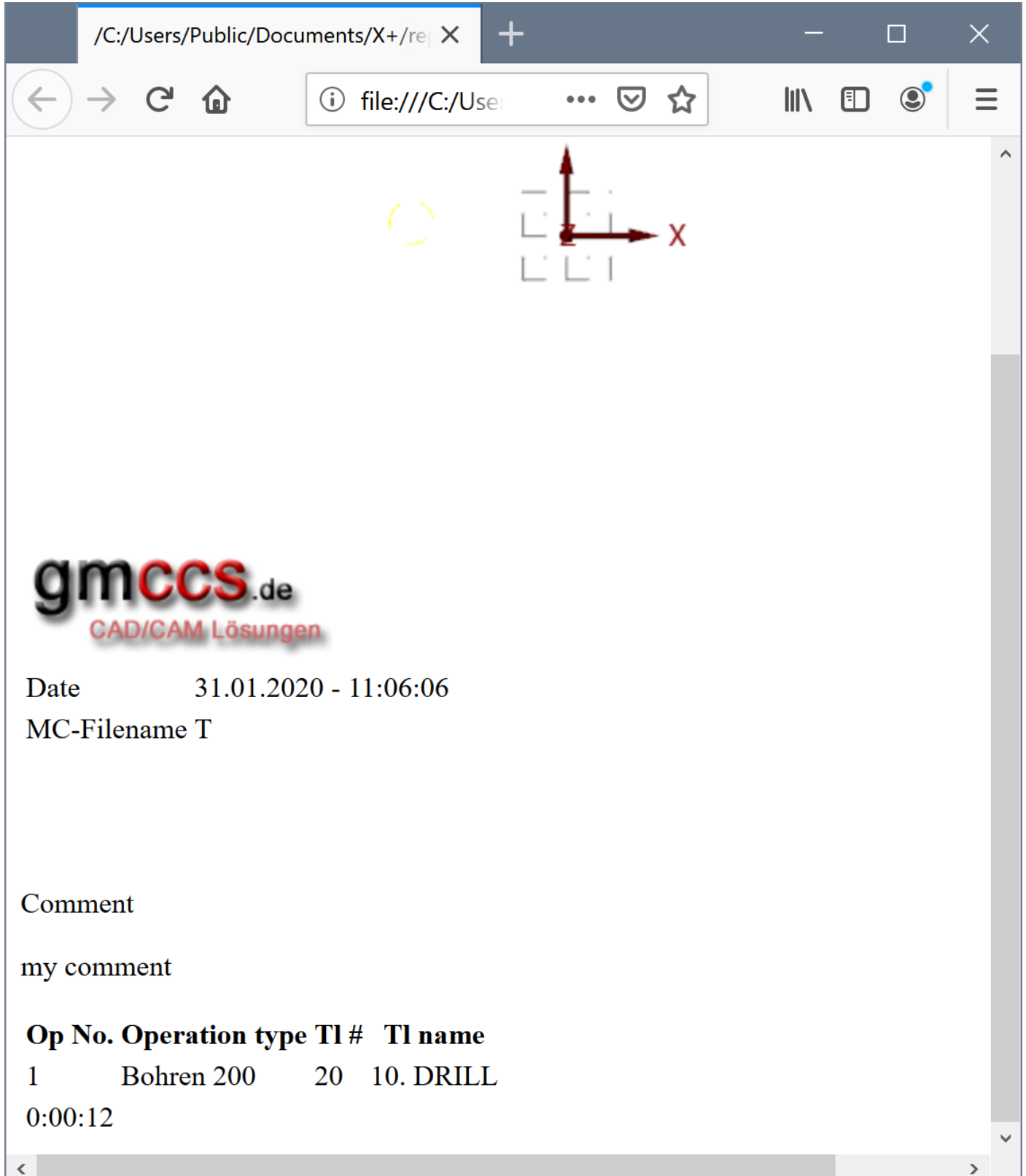
Let the editor opened while clicking the OK button in the X+ setup sheet dialog.



The report will be generated and displayed in your default web browser.

(Using a modern web browser like Chrome, Firefox or Edge is highly recommended. In this tutorial Firefox will be used)

As you can see, the report looks unformatted. This is because we didn't set up any styles/rules in the CSS file!



Applying new CSS rules to the HTML elements

Before we can apply new CSS rules to our HTML report, we need to know how the raw HTML document structure looks like.

In Firefox you can just press **Shift + Ctrl + C** to open the Firefox inspector view.

The HTML structure will be displayed in the lower left corner.

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Inspector Konsole Debugger Netzwerkanalyse Stilbearbeitung Laufzeitanalyse

HTML durchsuchen

```
<!DOCTYPE html>
<html> event scroll
<head> ... </head>
<body>
  <div class="HEADER"> ... </div>
  <div class="CONTENT"> ... </div>
  <div id="THBMP" style="position: absolute;
border: 1px solid; background-color: rgb...
box-shadow: rgb(136, 136, 136) 10px 10px
5px; display: none;"> ... </div>
</body>
</html>
```

Stile filtern

```
:hov .cls +
Element { Inline
}
```

Layout Berechnet Änderungen Schriftarten Anim

Flexbox

Raster

Box-Modell

margin 8 0 0 8

border 0 0 0 0

padding 0 0 0 0

797.5 x 674

html > body > div.CONTENT

We are interested in the HTML elements that are hierarchically inside the **body** element.

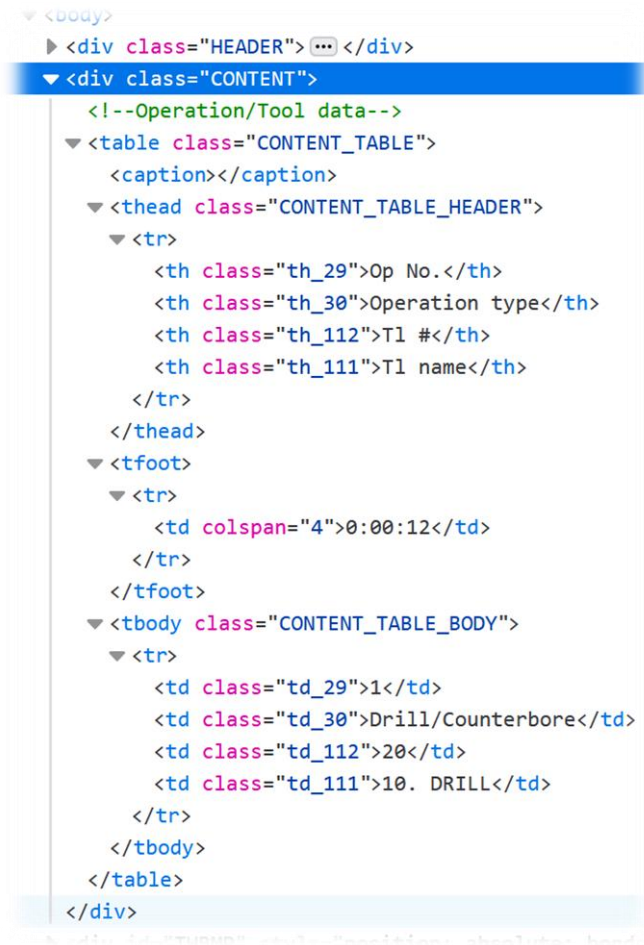
```
<!DOCTYPE html>
<html> event scroll
<head> ... </head>
<body>
  <div class="HEADER"> ... </div>
  <div class="CONTENT"> ... </div>
  <div id="THBMP" style="position:
  </div>
</body>
</html>
```

In this case we have 3 **div** elements. The first two **div** elements are important for us.

The 3rd **div** element has been inserted via JavaScript. This is advanced stuff ;c). We just ignore it for this tutorial.

Looking at the first two **div** elements, you can see that they have a **class** attribute. This class attribute can be used to assign a CSS rule for that specific HTML element.

Now let's expand the 2nd **div** element (**CONTENT**) by clicking the bold gray arrow.



As you can see, the 2nd **div** element owns a **table** element. The table element owns other elements like **caption**, **thead**, **tfoot**, and **tbody**. All these elements have their own **class** attribute.

Styling the CONTENT table

Now let's set up some rules for the **table** element.

The **table** should occupy the whole width of the page.

Switch to the opened CSS file and enter the following rule.

```

.CONTENT table {
    width : 100%; /* set the width to 100% */
}

```

The first line

```

.CONTENT table {

```

selects all **table** elements inside elements with the **CONTENT** **class** attribute.

The next line

```

    width : 100%;

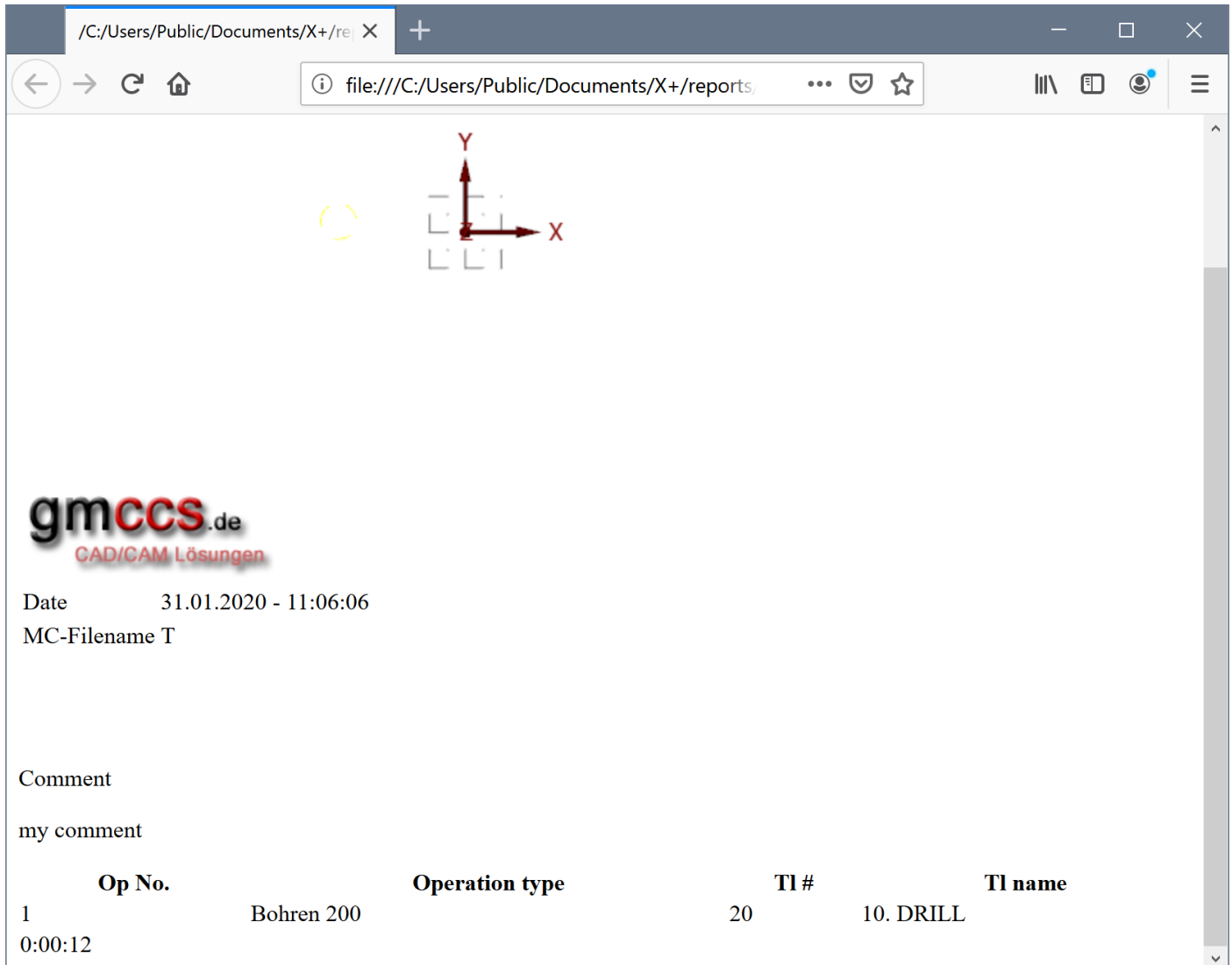
```

sets the width for the table element to 100% of its parent element (in this case, the parent element is the **div** element). The following curly bracket closes the rule.

See https://www.w3schools.com/css/css_table.asp as reference for applicable CSS rules.

Press **Ctrl + S** in the editor to save the CSS file. Then switch back to the browser and press the **F5** key to update the report.

We can see that the operation list now expands to the width of the page.



In the next step we are going to make the cell borders visible.

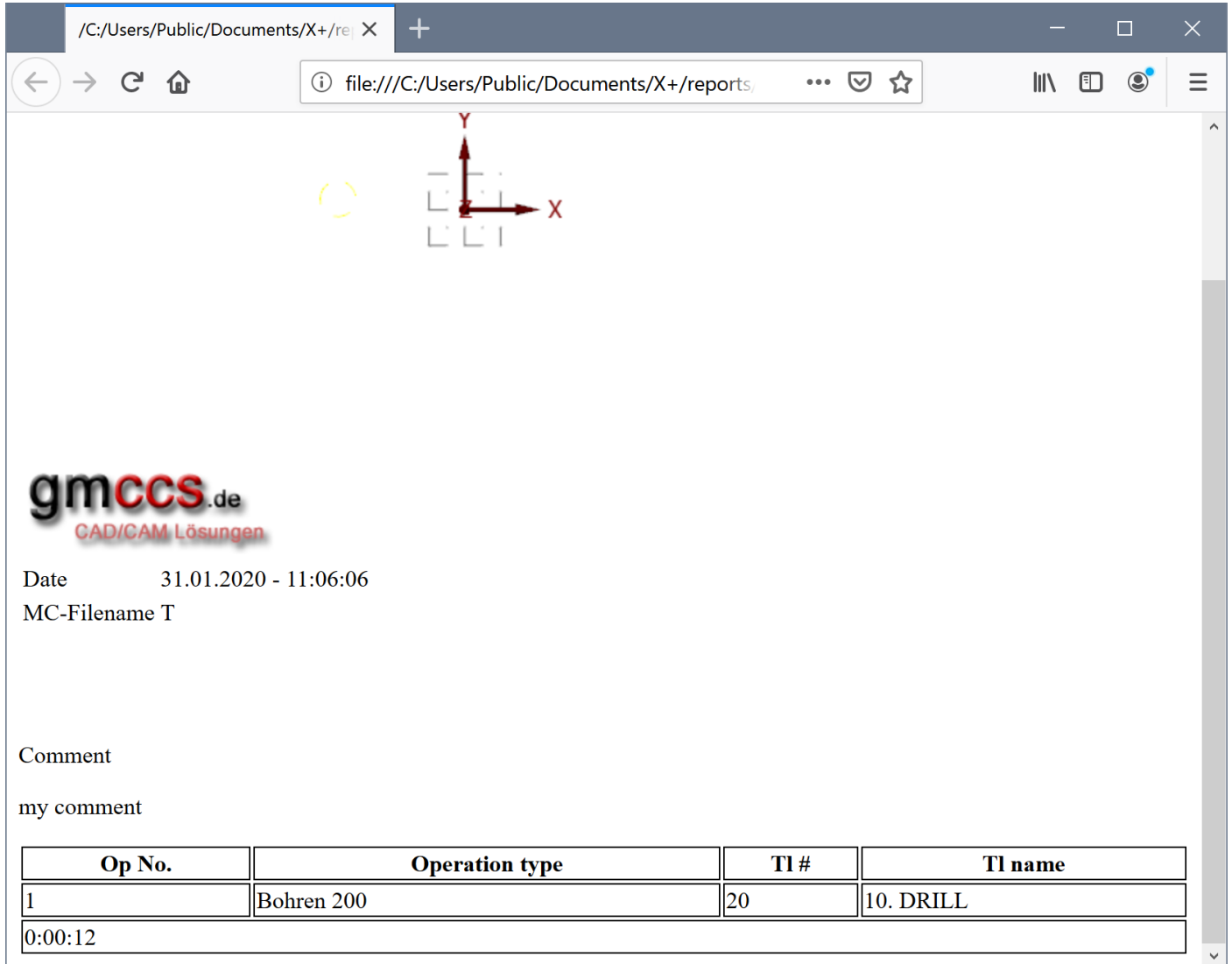
To do that, we need to select all table cells for our new rule. Table cells are defined as **td** or **th** elements.

To select all **td** and **th** elements inside our **table** element, we can use a combined selector and apply the **border** style.

```
.CONTENT td, .CONTENT th {
    border : 1px solid black;    /* set a black 1 pixel border to all cells */
}
```

After adding the new rule to our CSS file, we save the CSS file and update our browser by pressing **F5**.

Now the cell borders appear, but there is some space between the cells.



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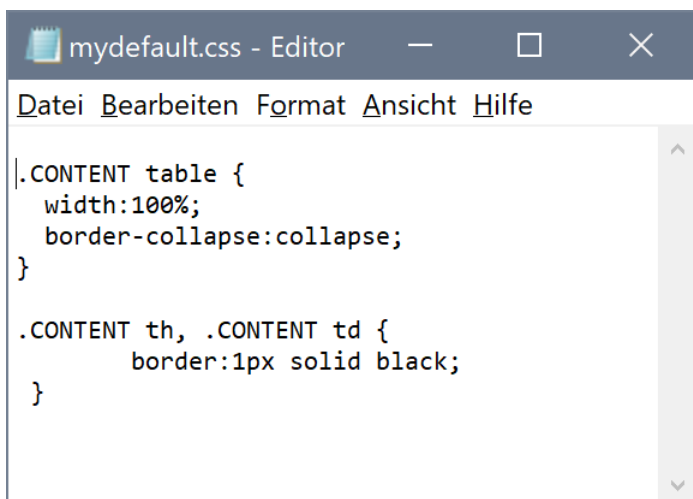
Op No.	Operation type	Tl #	Tl name
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0:00:12

To get rid of the space, we can add the ***border-collapse*** style for **table** elements.

So we can add this style to our first rule: ***border-collapse : collapse;***

Our CSS file should look like this now:



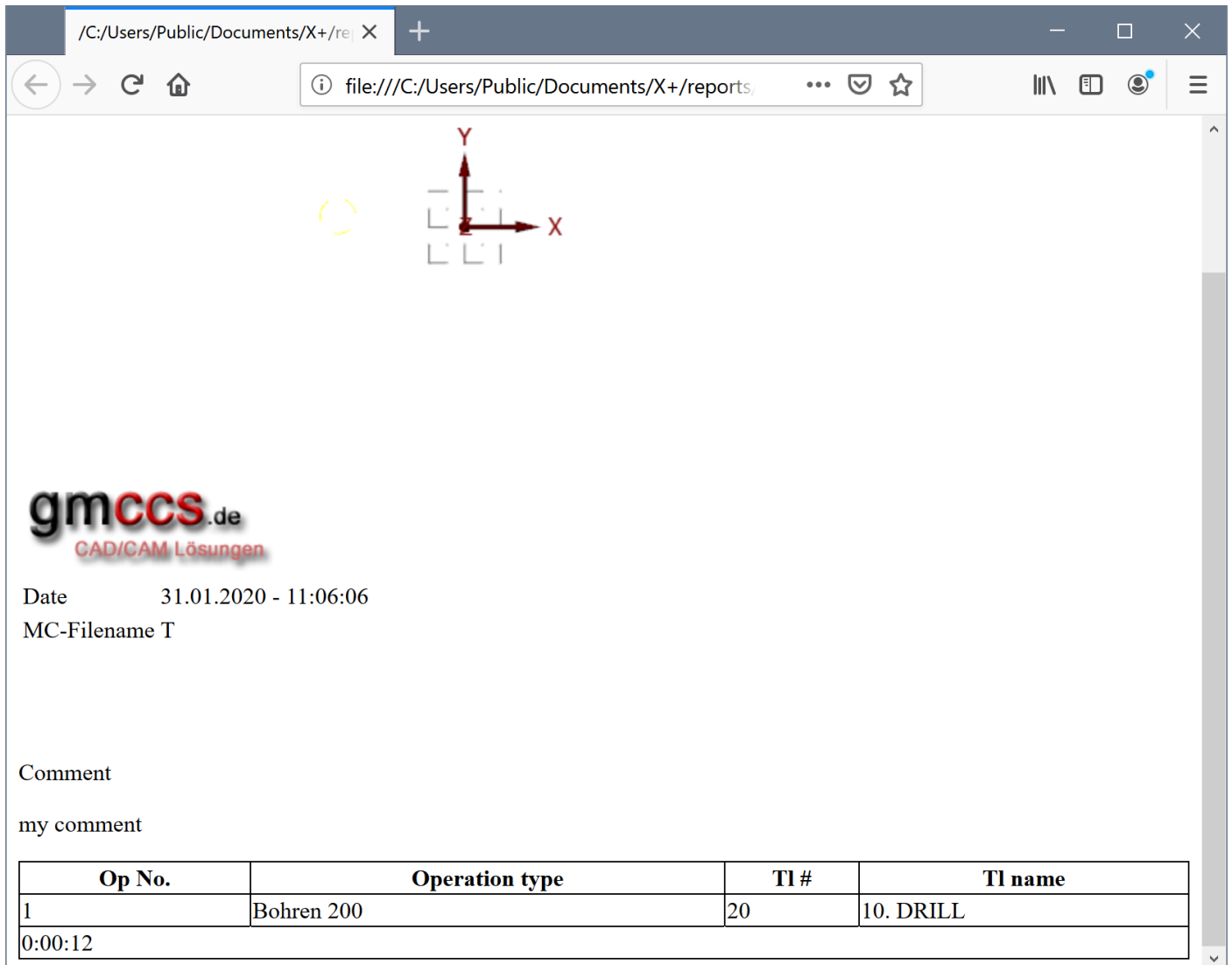
```

mydefault.css - Editor
Datei Bearbeiten Format Ansicht Hilfe

.CONTENT table {
  width:100%;
  border-collapse:collapse;
}

.CONTENT th, .CONTENT td {
  border:1px solid black;
}
  
```


After updating our report, it should look like this now:



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0:00:12

The next two steps will hide the **tfoot** element (overall cycle time) and align the text to center for all cells:

```
mydefault.css - Editor
Datei Bearbeiten Format Ansicht Hilfe

.CONTENT table {
  width:100%;
  border-collapse:collapse;
}

.CONTENT th, .CONTENT td {
  border:1px solid black;
  text-align:center;
}

.CONTENT tfoot{
  display:none;
}
```

So far our report looks like this now:

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We are done for the CONTENT.

Styling the HEADER

For the HEADER we would like to re-arrange the elements (screenshot, logo, info, comment).

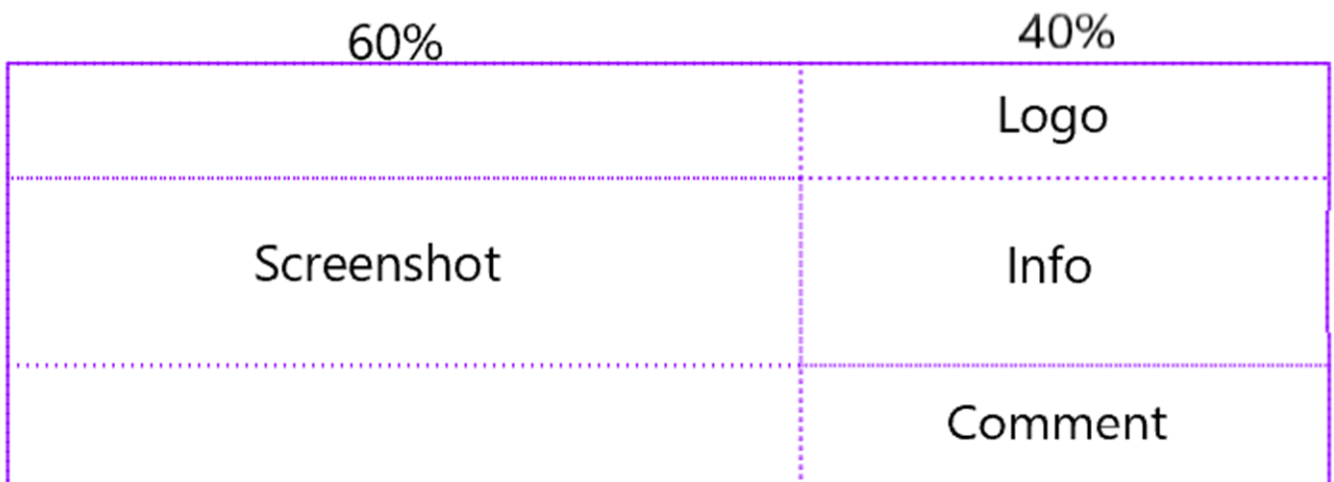
Let's have a look to the **div** element with its **class** attribute **HEADER**.

```
<body>
  <div class="HEADER">
    <div class="HEADSCREENSHOT"> ... </div>
    <div class="LOGO"> ... </div>
    <div class="HEADINFOTEXT"> ... </div>
    <div class="COMMENT"> ... </div>
  </div>
  <div class="CONTENT"> ... </div>
  <div id="THBMP" style="position:
```

There are four **div** elements inside the **HEADER**. And again, each of it has its own **class** attribute.

To re-arrange the elements in our report view, we can set up a grid for the HEADER and assign the underneath div elements to specific columns and rows of the grid.

This is how our new layout for the HEADER should look like. We create 2 columns and 3 rows!



The first step is to assign the **grid** style to the **HEADER** and also set its **width** to 100% of the page width.

```
.HEADER {
  display : grid;                /* assign a grid to HEADER */
  width : 100%;                  /* set its width to 100% of page width */
  grid-template-columns: 60% 40%; /* assign 2 columns to the grid, width is 60% and 40% */
  grid-auto-rows: minmax(0, auto); /* the number of rows will be set automatically by following rules*/
}
```

Next step is to assign the four underneath **div** elements to their specific columns and rows.

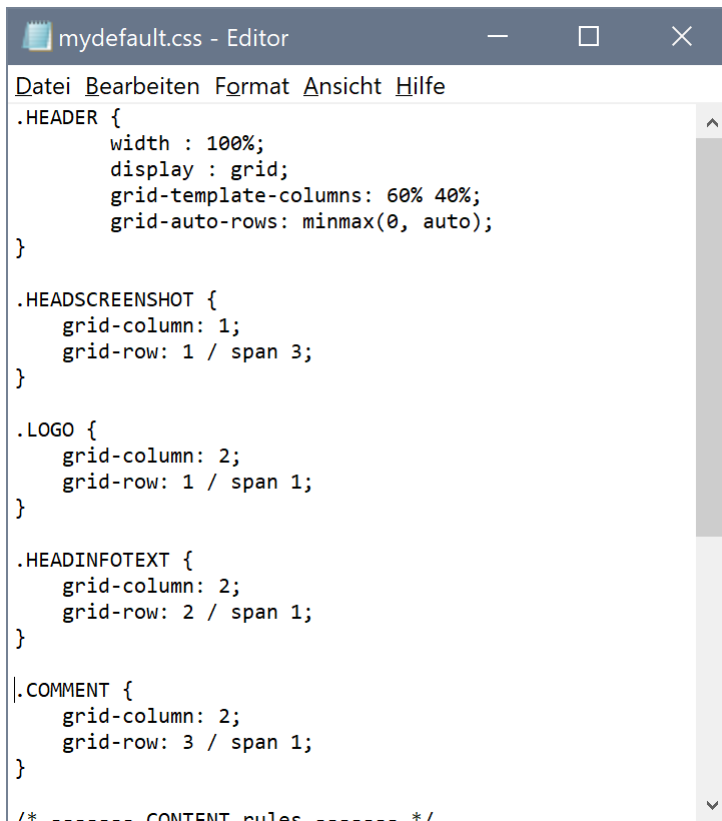
```
.HEADSCREENSHOT {
    grid-column: 1;          /* the screenshot will be in column 1 */
    grid-row: 1 / span 3;    /* it will occupy rows 1 – 3 */
}

.LOGO {
    grid-column: 2;          /* the logo will be in column 2 */
    grid-row: 1 / span 1;    /* it will occupy row 1 */
}

.HEADINFOTEXT {
    grid-column: 2;          /* the info will be in column 2 */
    grid-row: 2 / span 1;    /* it will occupy row 2 */
}

.COMMENT {
    grid-column: 2;          /* the comment will be in column 2 */
    grid-row: 3 / span 1;    /* it will occupy row 3 */
}
```

So far, this is what we have added to our CSS file.



```
mydefault.css - Editor
Datei Bearbeiten Format Ansicht Hilfe
.HEADER {
    width : 100%;
    display : grid;
    grid-template-columns: 60% 40%;
    grid-auto-rows: minmax(0, auto);
}

.HEADSCREENSHOT {
    grid-column: 1;
    grid-row: 1 / span 3;
}

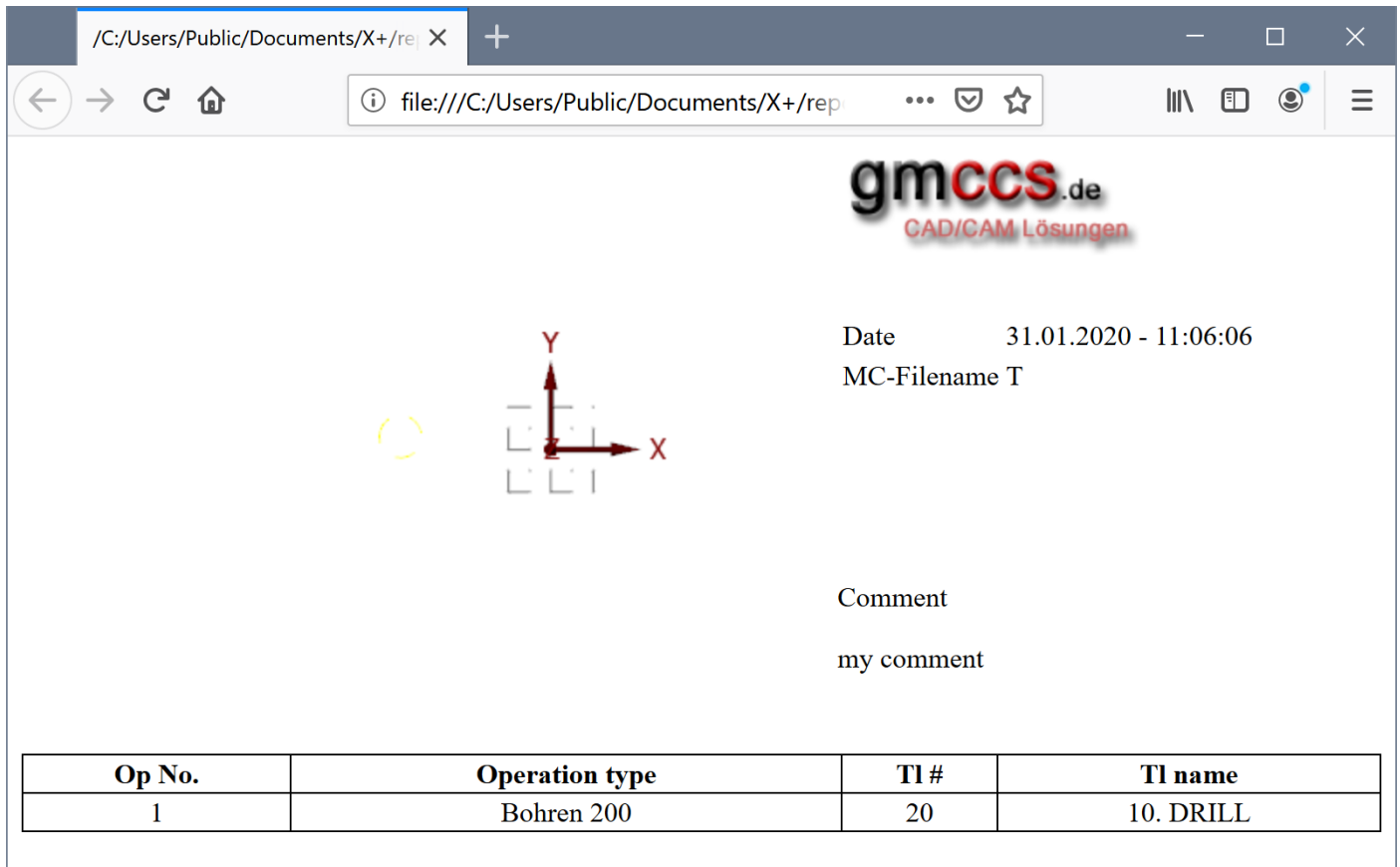
.LOGO {
    grid-column: 2;
    grid-row: 1 / span 1;
}

.HEADINFOTEXT {
    grid-column: 2;
    grid-row: 2 / span 1;
}

.COMMENT {
    grid-column: 2;
    grid-row: 3 / span 1;
}

/* ----- CONTENT rules ----- */
```

After saving the CSS file and updating our report with the F5 key, the report looks like this:



The overall layout is done!

We can now start to set individual rules for the four specific **div** elements inside the HEADER.

The **logo** should be aligned right. So we just add the **text-align** style to the LOGO rule.

```
.LOGO {
    grid-column: 2;           /* the logo will be in column 2 */
    grid-row: 1 / span 1;     /* it will occupy row 1 */
    text-align : right;       /* align the logo to the right */
}
```

The **images** (logo and screenshot) should be able to shrink its size when necessary.

```
.HEADER img{
    max-width : 100%;        /* max width is 100% of image size, but they can shrink if necessary */
}
```

The **info** table should have cell borders and empty cells shouldn't be displayed. Empty cells also shouldn't occupy some space in the table. We add 3 rules.

```
.HEADINFOTEXT table{
    width : 100%;            /* use 100% of column width = 40% width of page size*/
    border-collapse : collapse; /* remove cell spacing */
}
```

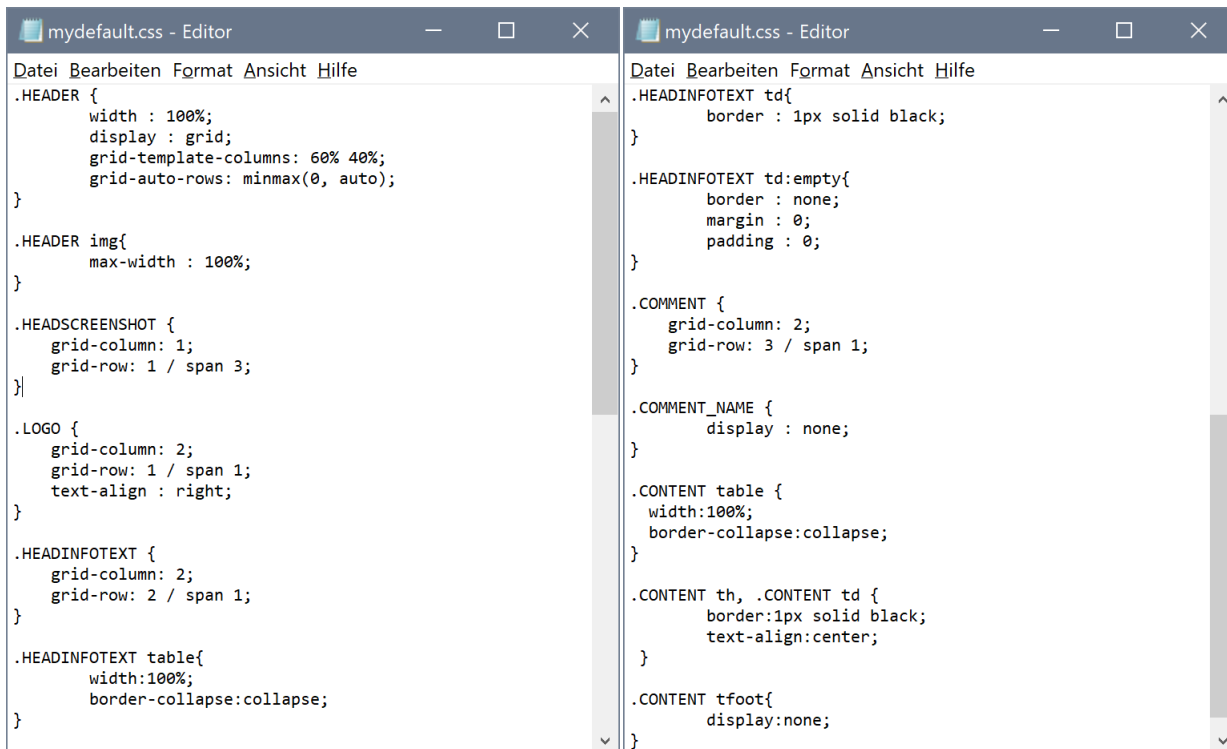
```
.HEADINFOTEXT td{
    border : 1px solid black;    /* all info cells (td elements) should have a border */
}

.HEADINFOTEXT td:empty{
    border : none;              /* all empty info cells shouldn't have a border */
    margin : 0;                /* set margin to 0 */
    padding : 0;               /* set padding to 0 */
}
```

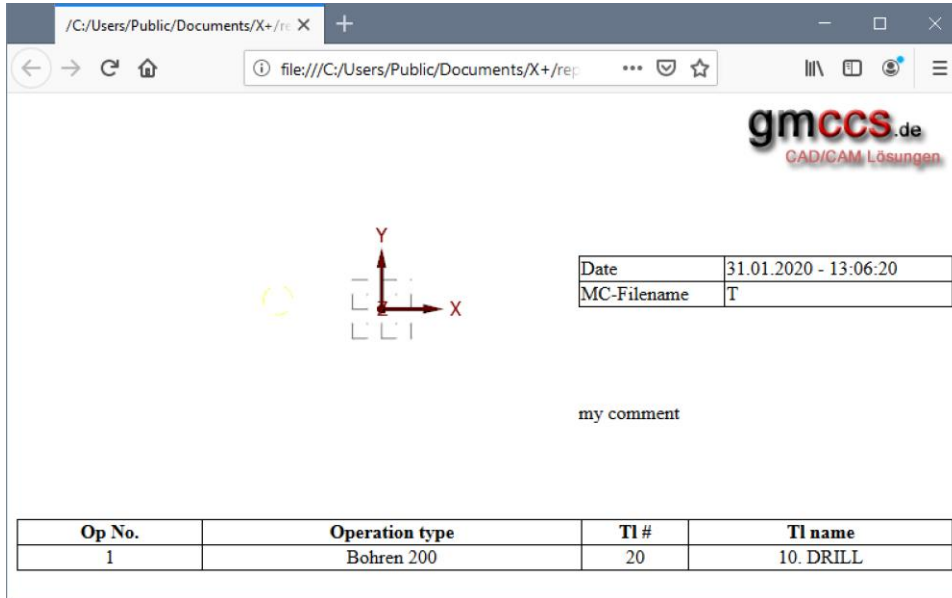
For the **comment**, we want to hide the word “Comment” .

```
.COMMENT_NAME {
    display : none;            /* don't display “Comment” */
}
```


After adding all the rules to our CSS file, it should look like this:



The final layout of our report looks like this now.



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There is a lot more possible with CSS. Just try it out!

The whole CSS reference can be found at: <https://www.w3schools.com/css/> or just search the web for CSS.