

BETTER ACCESS CHARTS

The real "Modern Charts" for Access



About me

- Thomas Möller (Graduated banker)
- 2000 - 2013 Access developer
- 2013 - 2017 Data Governance /
Data Quality Management
- 2017 - 2021 Project Manager DWH
- Since 04/2021 Head of Process-Team
- 2007 - 2016 MVP MS Access
- Spare-time activity: [Team-Moeller.de](https://www.team-moeller.de)



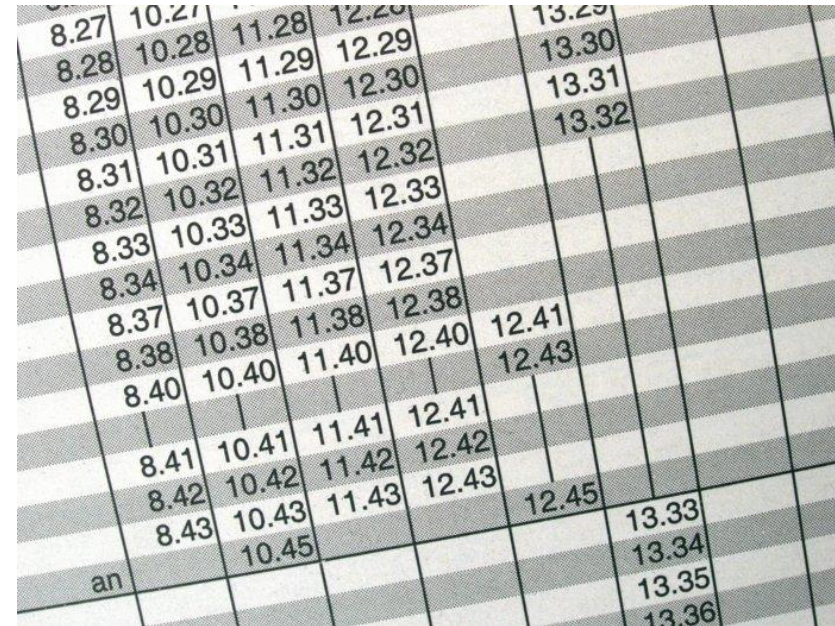
Contact

- Website www.Team-Moeller.de
- Blog Blog.Team-Moeller.de
- E-Mail Thomas@Team-Moeller.de
- Twitter <https://twitter.com/ThomasMoeller>
- GitHub <https://github.com/team-moeller>
- XING [https://www.xing.com/profile/Thomas Moeller40](https://www.xing.com/profile/Thomas_Moeller40)
- Linked In <https://www.linkedin.com/in/TeamMoeller>
- Facebook <https://www.facebook.com/TeamMoeller>
- MVP <http://mvp.microsoft.com/de-de/mvp/Thomas%20Moeller-37548>



Schedule

- Charts in Access
- How it came about?
- External dependencies
- Chart.js basics
 - Data, Label, Legend, ...
- Class modules
 - Implementation, data binding, documentation, ...



The image shows a tilted view of a spreadsheet with numerical data. The data is organized in a grid with columns and rows. The numbers are arranged in a way that suggests a sequence or a pattern, possibly representing a schedule or a timeline. The numbers are: 8.27, 10.27, 11.28, 12.29, 13.29, 8.28, 10.28, 11.29, 12.29, 13.30, 8.29, 10.29, 11.30, 12.30, 13.31, 8.30, 10.30, 11.31, 12.31, 13.32, 8.31, 10.31, 11.32, 12.32, 8.32, 10.32, 11.33, 12.33, 8.33, 10.33, 11.34, 12.34, 8.34, 10.34, 11.37, 12.37, 8.37, 10.37, 11.38, 12.38, 8.38, 10.38, 11.40, 12.40, 12.41, 8.40, 10.40, 11.41, 12.41, 12.43, 8.41, 10.41, 11.42, 12.42, 12.45, 8.42, 10.42, 11.43, 12.43, 13.33, 8.43, 10.43, 11.45, 13.34, 13.35, 13.36.

Classic Charts

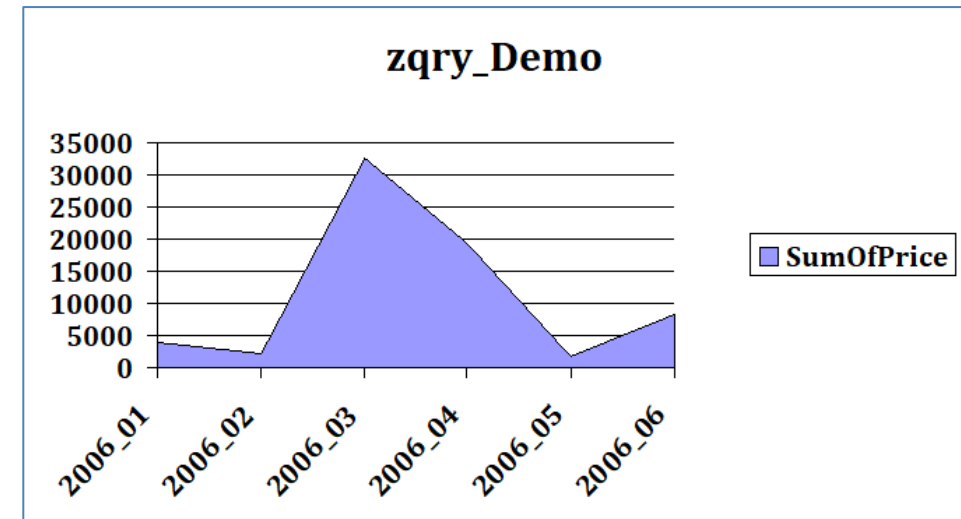
Modern Charts

Alternative Solutions

CHARTS IN ACCESS

Classic Charts *

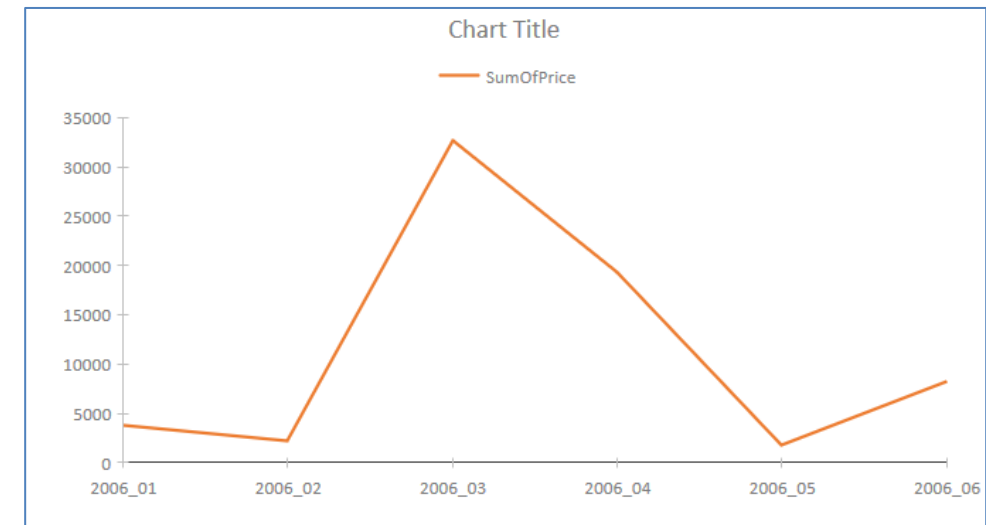
- Microsoft Graph Chart, since Office 97
- ActiveX control
- Integrated since Access 2010
- Look somewhat dated
- Non-intuitive
- Steep learning curve



* Modern Charts in Access 2019: <https://www.youtube.com/watch?v=LW2Ct8Npyzs>

Modern Charts *

- + Modern design, easy to use
 - + No external dependencies
 - + Usable in Continuous forms
-
- Limited set of chart types
 - Limited formatting options
 - No recordset as data source

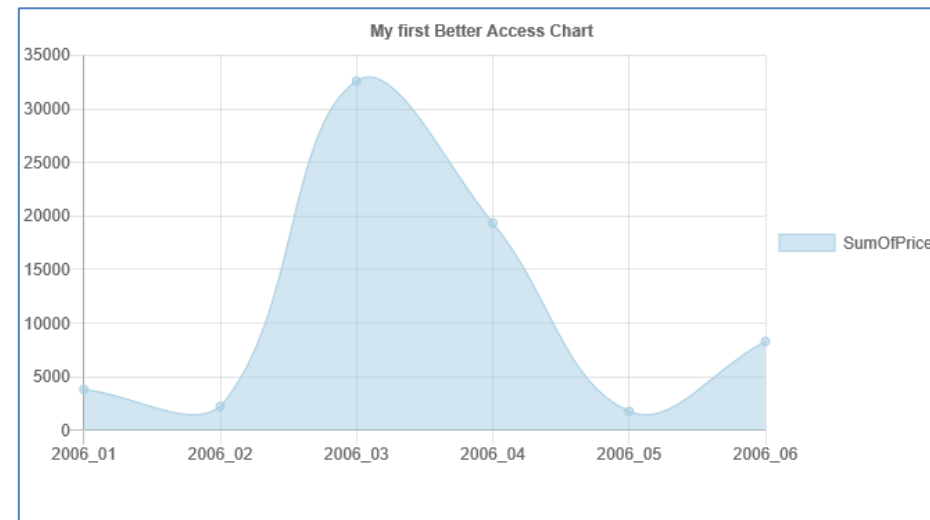
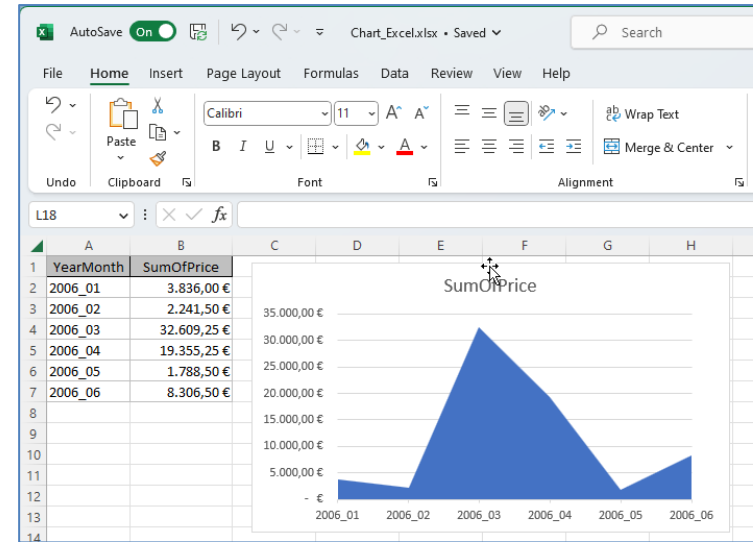


* Modern Charts in Access 2019: <https://www.youtube.com/watch?v=LW2Ct8Npyzs>

Alternative solutions

- Export to Excel
- Reporting with Excel
- But on the web ...
- ... there are such great solutions
- Isn't that also possible with Access?

Demo



Survey

- I use Classic Charts ...
regularly, rarely, never
- I use Modern Charts ...
regularly, rarely, never
- I do charting with Excel ...
regularly, rarely, never



Initial situation

First thoughts

The first try

Webbrowser control

Schematic structure

HOW IT CAME ABOUT

Initial situation

Corona

Home
Office

Autumn

It's
raining

Getting
dark

Monotony

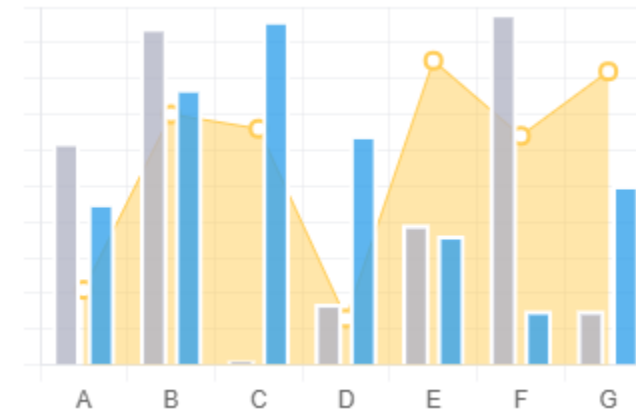
I can not
get out

Need
distraction



First thoughts

- Charts with Javascript
- Think, I have seen something like this before



- Research on the Internet
- Can't find anything suitable

The first try

- *.html file with chart „commissioned“
- Choice of framework free
- Static *.html file received
- Database
 - Form with webbrowser control
 - Code to load the file
- Works as expected



Digression webbrowser control

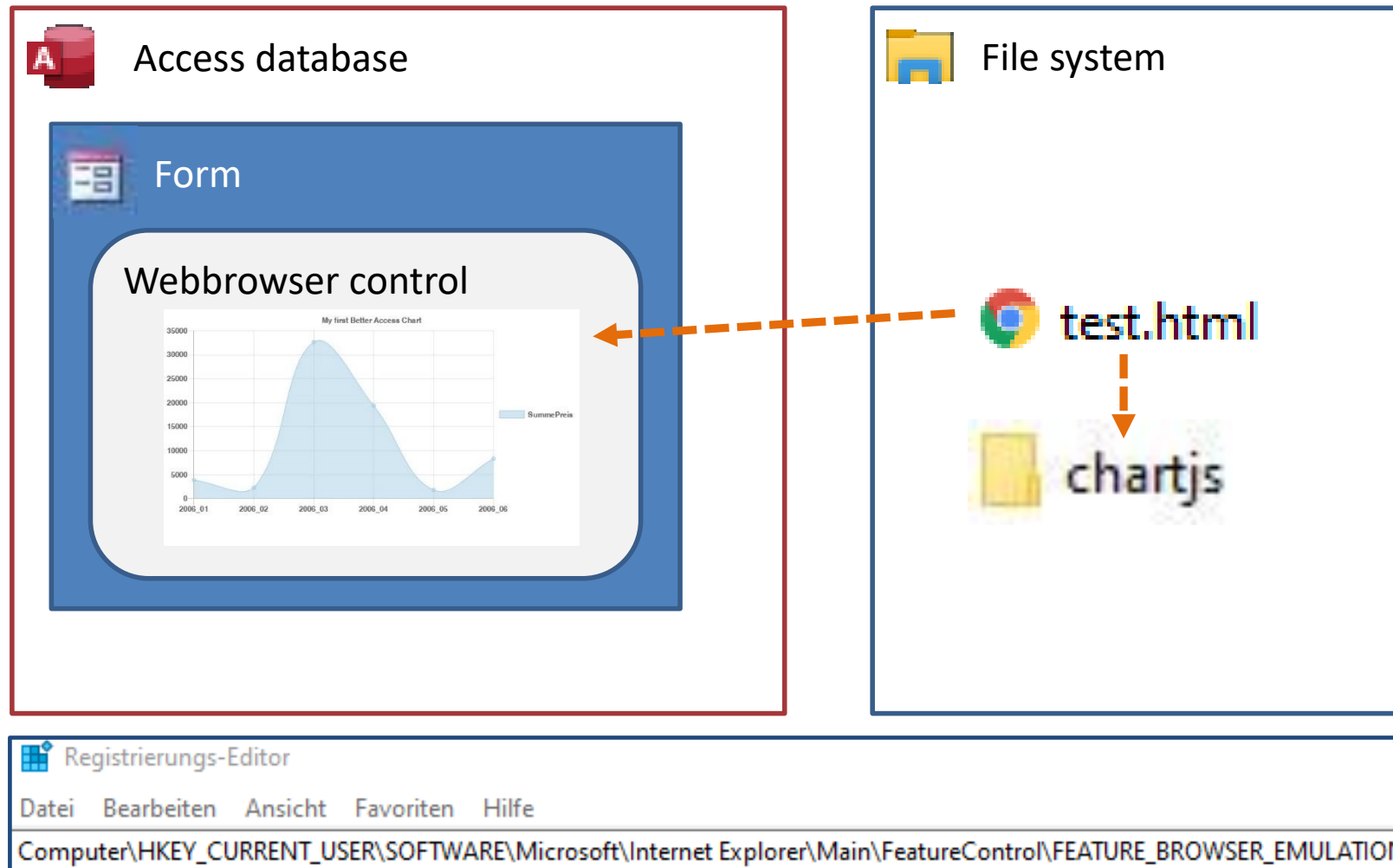
- Available since Access 2010
- Extensively documented by Daniel Pineault:

[Everything You Never Wanted to Know About the Access WebBrowser Control](#)

- Feature Browser Emulation
- Mark of the Web (MOTW)

- [WebBrowser Control Limitations!](#)
- [URLs From A Table](#)
- [URLs From VBA](#)
- [Content From a Local File](#)
- [Dynamic Content on the Fly](#)
- [Opening a Blank Page](#)
- [Working With the WebPage](#)
- [Retrieving a Page's HTML Source Code](#)
- [Executing Code on the Webpage](#)
- [Refreshing the Webpage](#)
- [Where's Intellisense?](#)
- [Feature Browser Emulation](#)
- [Mark of the Web \(MOTW\)](#)
- [Simply Ignoring Script Errors](#)
- [Resources on the Subject](#)
- [Special Thanks](#)
- [Page History](#)

Schematic structure



Existing dependencies

Chart.js: File vs. CDN

Digression: CDN

Feature Browser Emulation

Solution „without“ dependencies

EXTERNAL DEPENDENCIES

Existing dependencies

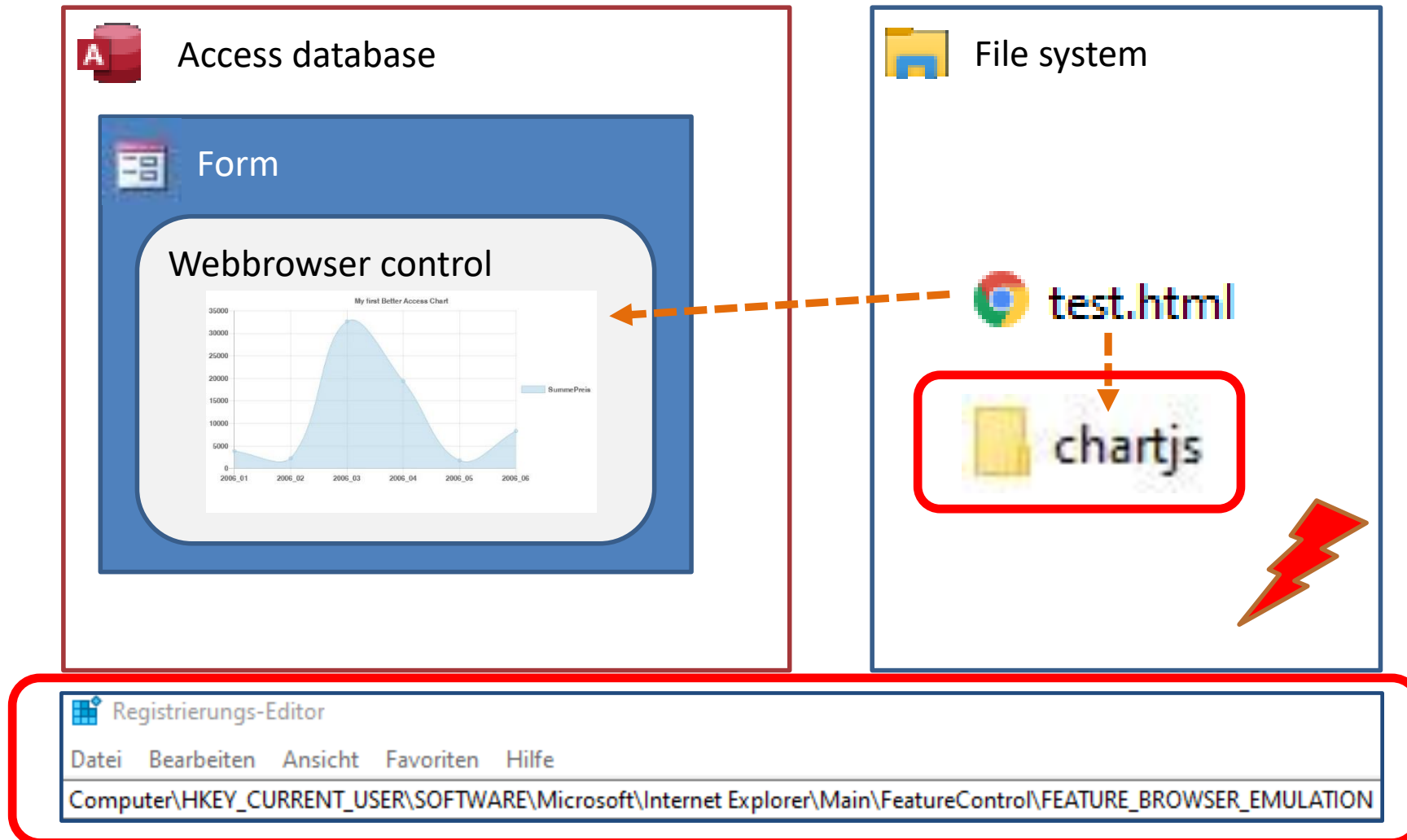
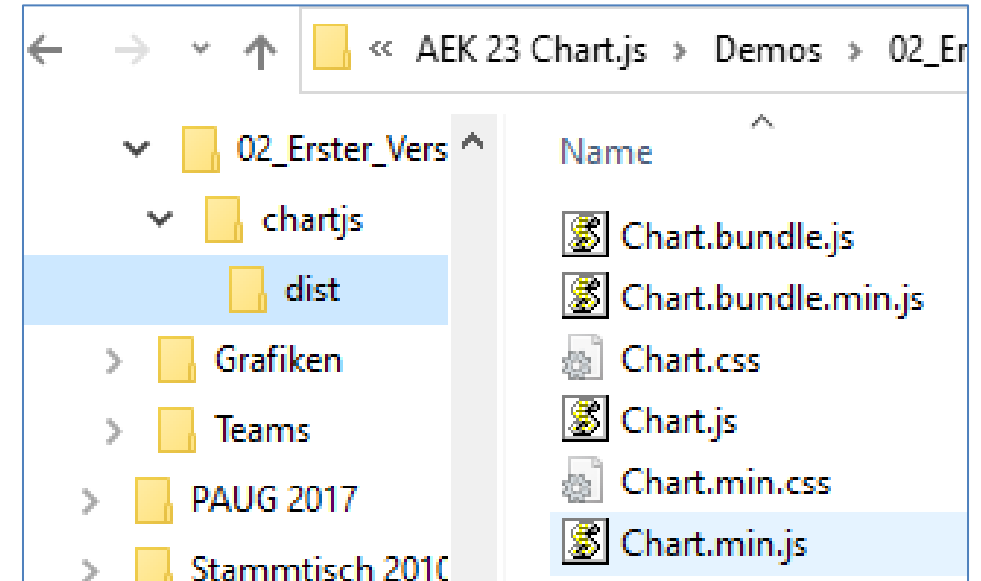


Chart.js

- Local file
 - In the application directory
 - Or in a central directory
 - Where is the file from?
 - Save file to a table ...
 - ... and export if necessary
- CDN
 - Internet connection required



```
<script src="https://cdnjs.cloudflare.com/ajax/libs/Chart.js/2.9.4/Chart.min.js"></script>
```

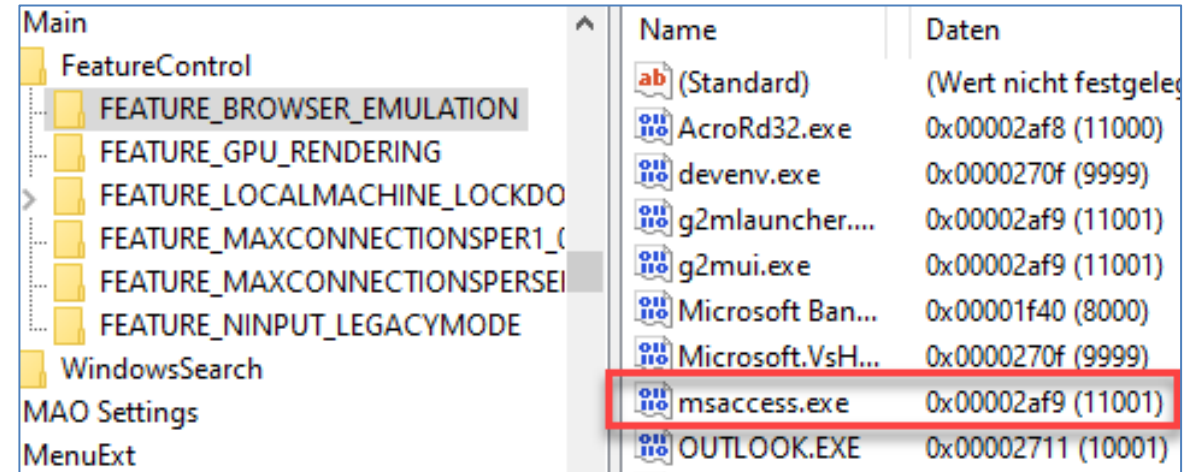
Digression: What is a CDN?

- CDN: [Content Delivery Network](#)
- Network of regional distributed Servers
- Goals:
 - Resiliency
 - Fast delivery
- Example: [Cloudflare](#)
- Chart.js, for example, is also hosted here
- In more than 250 data centers spread all over the world



Feature Browser Emulation

- Source: [Daniel Pineault](#)
- Webbrowser emulates IE 7
- Setting in the registry
- Can be customized using VBA

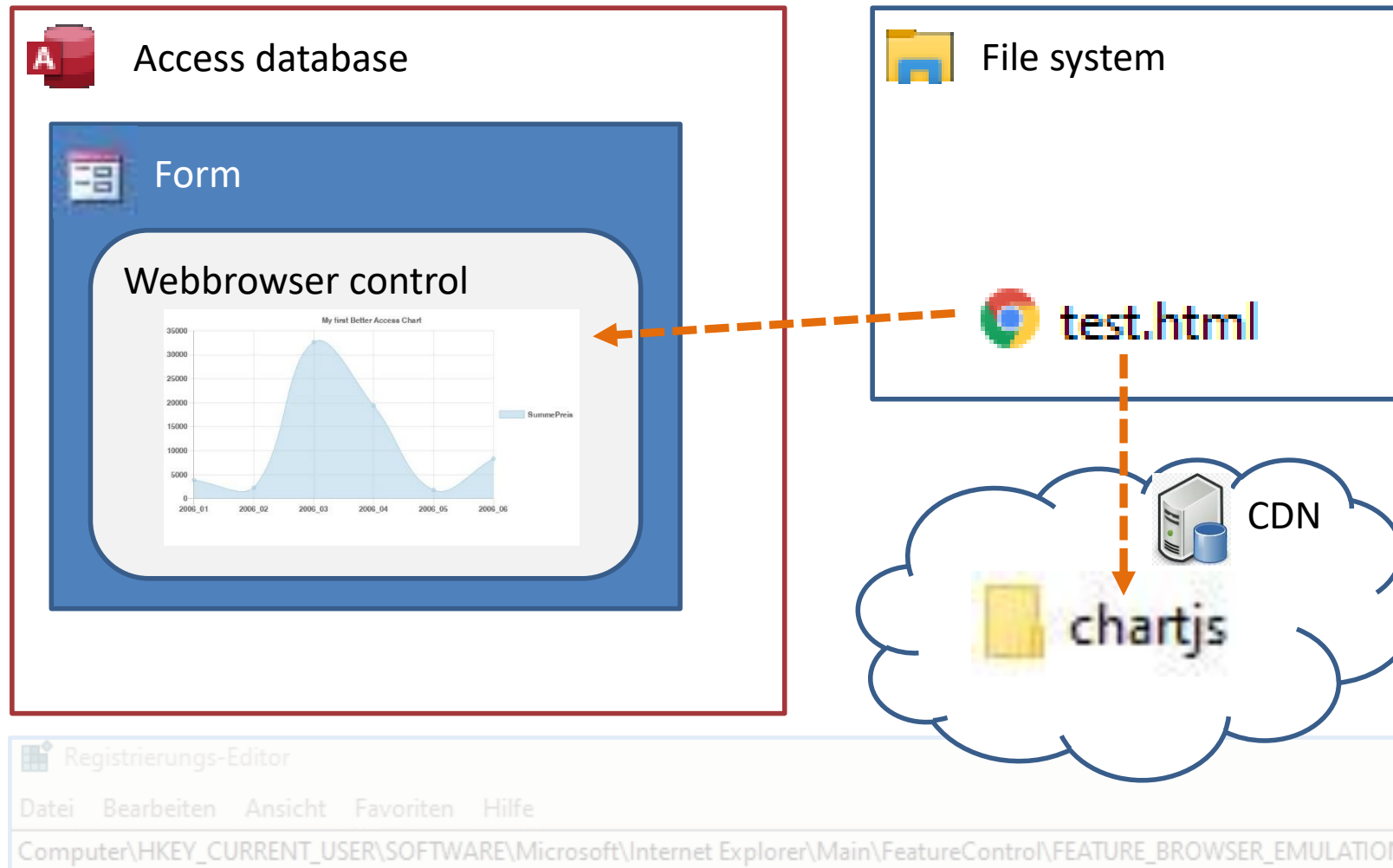


Name	Daten
(Standard)	(Wert nicht festgelegt)
AcroRd32.exe	0x00002af8 (11000)
devenv.exe	0x0000270f (9999)
g2mlauncher....	0x00002af9 (11001)
g2mui.exe	0x00002af9 (11001)
Microsoft Ban...	0x00001f40 (8000)
Microsoft.VsH...	0x0000270f (9999)
msaccess.exe	0x00002af9 (11001)
OUTLOOK.EXE	0x00002711 (10001)

- Better alternative
 - Directive in HTML Code

```
<head>  
  <meta charset="utf-8">  
  <meta http-equiv="X-UA-Compatible" content="IE=Edge"/>  
  <title>Chart</title>  
  <style>body{margin:0;padding:0;}</style>
```

“Without” dependencies



Licence

Basic structure of the *.html file

Chart types, data and labels

Colors, title, legend

Axes and plugins

CHART.JS BASICS

Licence

- Published under “[MIT Licence](#)”:



chartjs/Chart.js is licensed under the
MIT Licence

A short and simple permissive license with conditions only requiring preservation of copyright and license notices. Licensed works, modifications, and larger works may be distributed under different terms and without source code.

Permissions

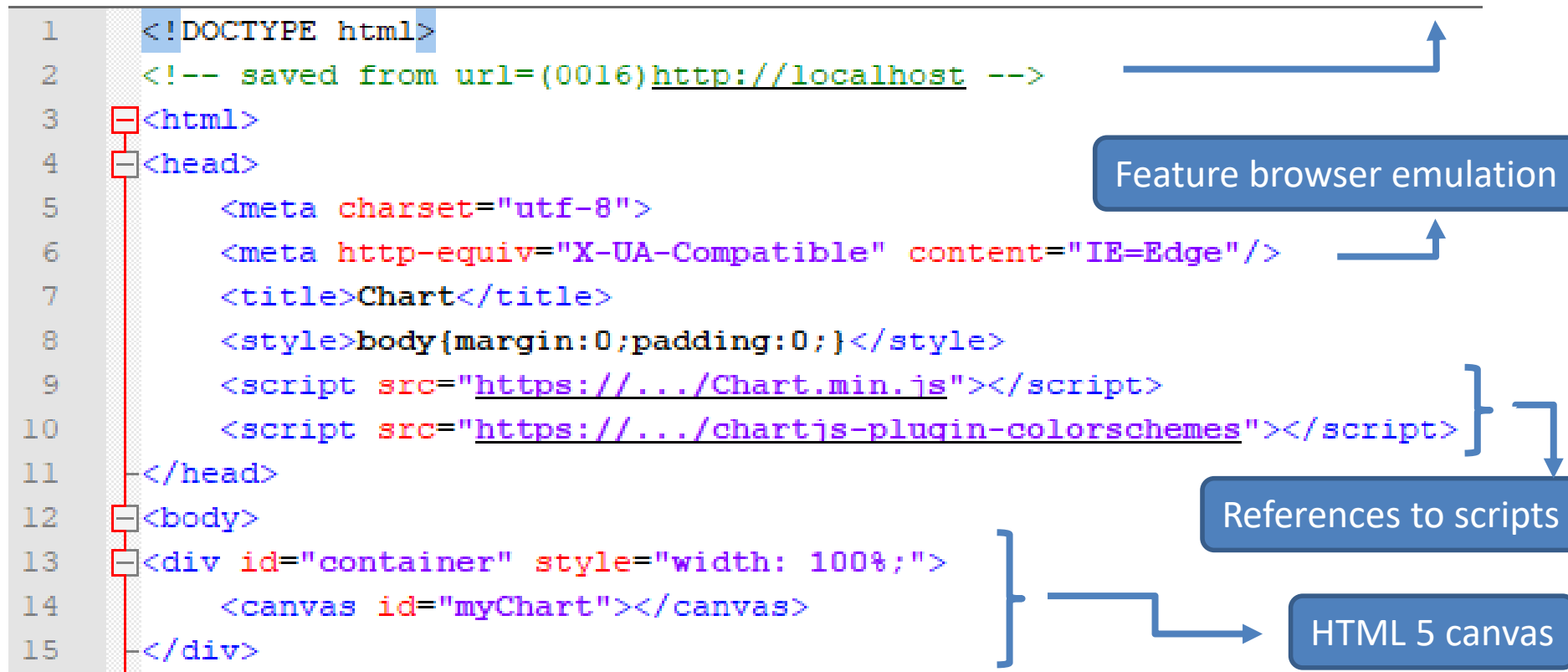
- ✓ Commercial use
- ✓ Modification
- ✓ Distribution
- ✓ Private use

Limitations

- ✗ Liability
- ✗ Warranty

⇒ Freely useable, even in commercial products

Basic structure of the *.html file (1)



Basic structure of the *.html file (2)

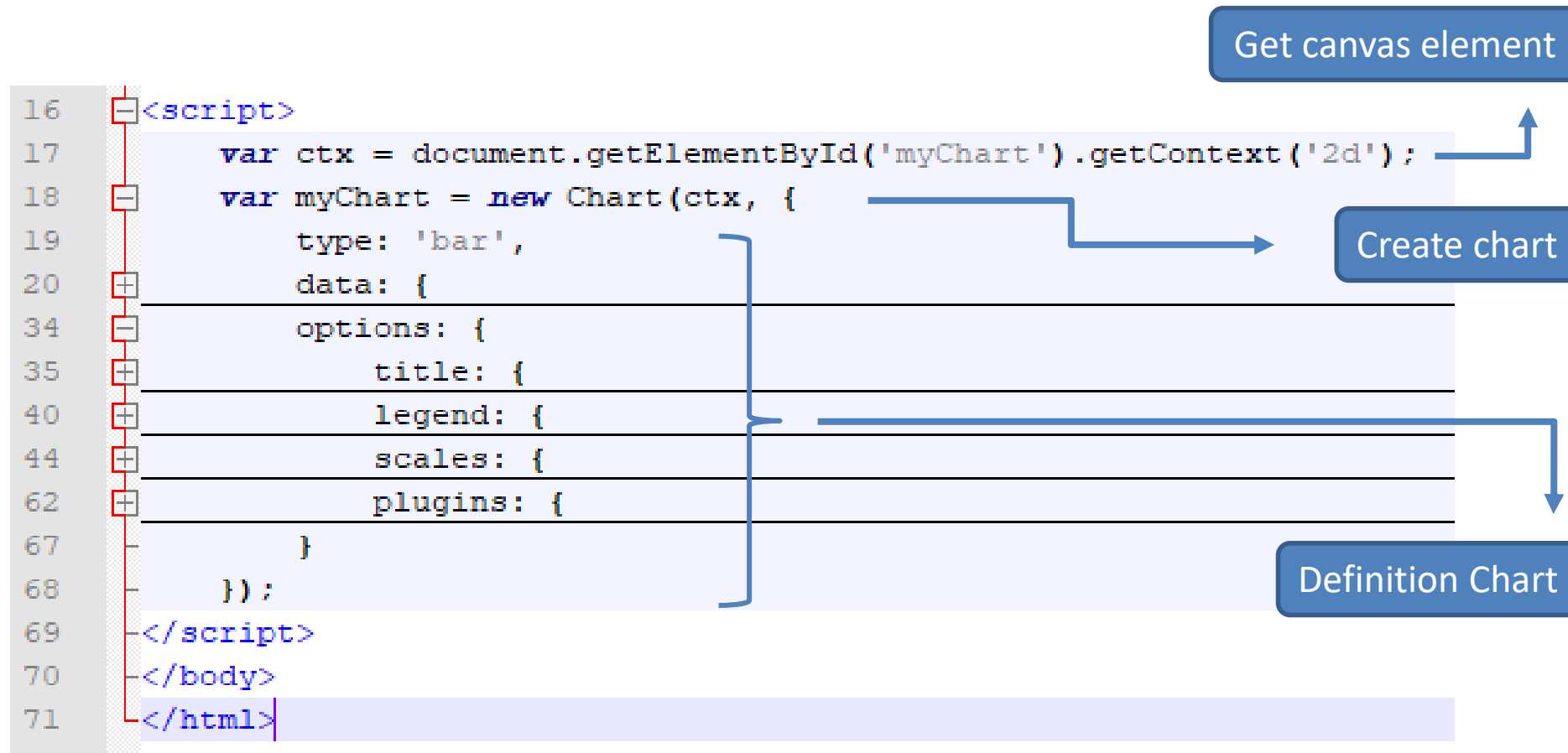


Chart types

- A total of 9 chart types: <https://www.chartjs.org/docs/2.9.4/charts/>

Typ	In Excel	Stacked?	Filled?
Line	Line	Yes	Yes
Bar	Column	Yes	
horizontalBar	Column	Yes	
Radar	Radar		Yes
Doughnut	Doughnut		
Pie	Pie		
Polar Area	---		
Bubble	Bubble		
Scatter	Scatter		

Data and lables

- Definition of lables und datasets
 - <https://www.chartjs.org/docs/2.9.4/charts/radar.html#data-structure>

```
21 data: {  
22   labels: ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun'],  
23   datasets: [  
24     {label: 'Dataset1' ,  
25       data: [ 5.5, 4, 7, 2, 5, 6],  
26       borderWidth: 1},  
27     {label: 'Dataset2' ,  
28       data: [ 4, 8, 3, 5, 1, 9],  
29       borderWidth: 1},  
30     {label: 'Dataset3' ,  
31       data: [ 3, 5, 7, 6, 2, 4],  
32       borderWidth: 1}  
33   ]  
34 },
```

Colors

- Definition within datasets possible
 - <https://www.chartjs.org/docs/2.9.4/general/colors.html>
- RGB, RGBA, standard color codes

```
datasets: [{  
  label: 'My First dataset',  
  backgroundColor: 'rgb(255, 99, 132)',  
  borderColor: 'rgb(255, 99, 132)',  
  data: [0, 10, 5, 2, 20, 30, 45]  
}]
```

- Alternative: Plug-In

Chart title

- Definition of the title and its properties
 - <https://www.chartjs.org/docs/2.9.4/configuration/title.html>

```
35  options: {  
36      title: {  
37          display: true,  
38          position: 'top',  
39          text: 'I love BetterAccess Charts'  
40      },
```

Legend

- Definition of the legend and its properties
 - <https://www.chartjs.org/docs/2.9.4/configuration/legend.html>

```
35  options: {  
36    title: {  
41    legend: {  
42      display: true,  
43      position: 'right'  
44    },  
    },  
  }
```

Axes

- Definition of the axes and their properties
 - <https://www.chartjs.org/docs/2.9.4/axes/>

```
38 options: {  
39   title: {  
44   legend: {  
48   scales: {  
49     yAxes: [{  
50       id: 'first-y-Axis',  
51       display: true,  
52       scaleLabel: {  
53         display: true,  
54         labelString: 'Demo y-axis'  
55       },  
56       ticks: {  
57         beginAtZero: true,  
58         max: 10  
59       }  
60     }],  
61     xAxes: [{
```

Plugins

- Definition of plugins and their properties
 - <https://www.chartjs.org/docs/2.9.4/developers/plugins.html>

```
71 |   plugins: {  
72 |     colorschemes: {  
73 |       scheme: 'brewer.Paired12'  
74 |     },  
75 |     datalabels: {  
76 |       anchor: 'center',  
77 |       color: 'red'  
78 |     }  
79 |   }
```

- List of plugins and other extensions:
 - <https://github.com/chartjs/awesome>

Basic ideas

Schematic structure

Installation in your application

Data binding, properties

Documentation

CLASS MODULES

Basic ideas

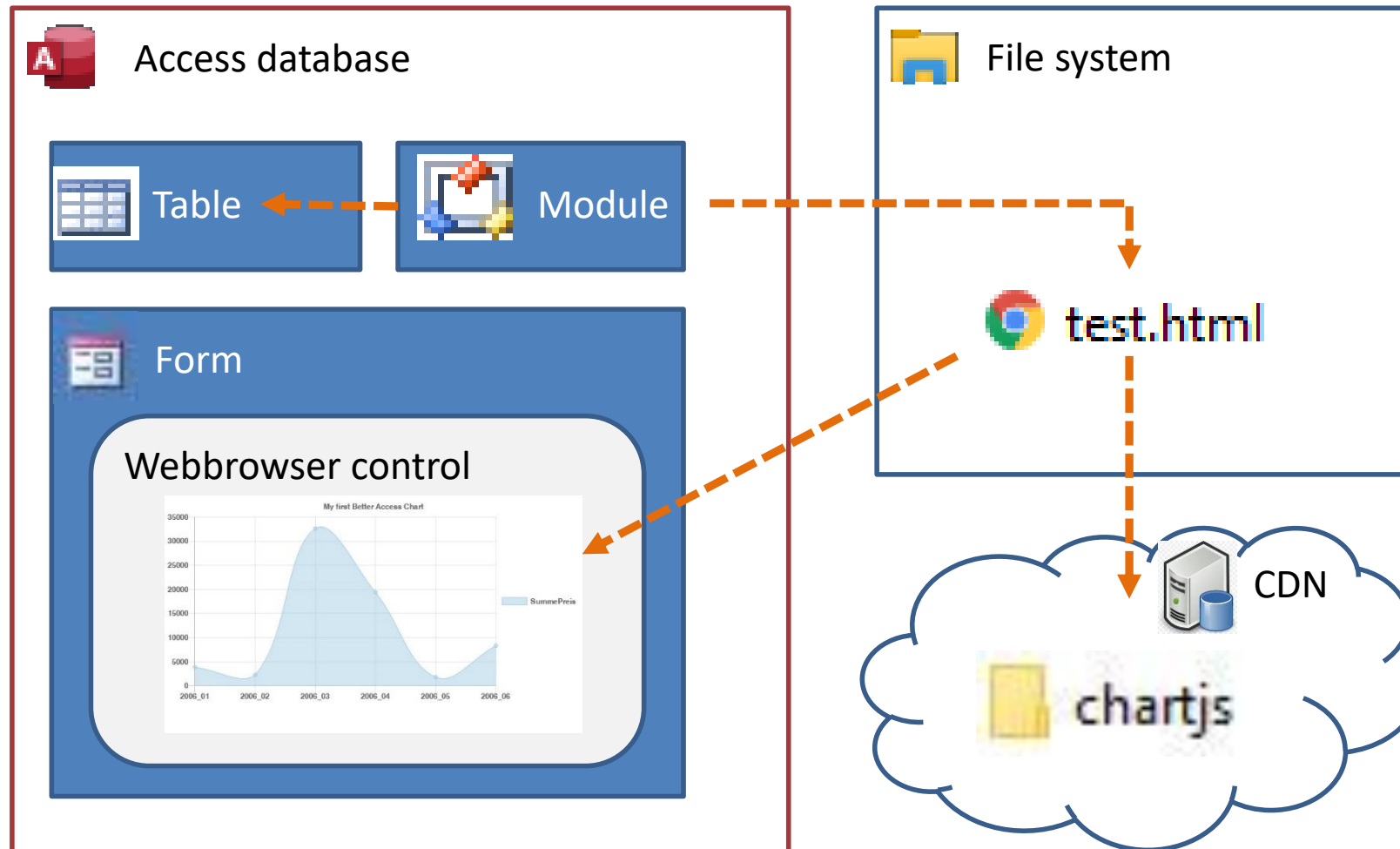


- Easy integration in your own application
 - No prior knowledge of HTML/Javascript required
 - No detailed knowledge of Chart.js necessary
 - Simple data binding
-
- Implementation in class modules
 - Configuration via VBA code
 - Similar to Excel charts
 - IntelliSense, where possible

```
Private Sub cmdChart_Click()  
    Dim myChart As BAC_Chart  
    Set myChart = BAC.Chart(Me.ctlWebbrowser)  
    myChart.ChartType =  
    myChart.CreateChar  
End Sub
```

A screenshot of a VBA editor showing a dropdown menu for the 'myChart.CreateChar' property. The menu lists seven chart types: Bar, Bubble, Doughnut, HorizontalBar, Line, Pie, and PolarArea. The 'Bar' option is currently selected and highlighted.

Schematic structure



Installation in your application

1. Import of class modules
2. Insert webbrowser control
3. First lines of Code (basic function)

Demo

```
Private Sub cmdChart_Click()  
  
    Dim myChart As BAC_Chart  
  
    Set myChart = BAC.Chart(Me.ctlWebbrowser)  
    myChart.CreateChart  
  
End Sub
```



Data binding and chart type

- Select chart type from enumeration
- Pass table, query, SQL string or recordset
- Specify field with description
- Specify data fields

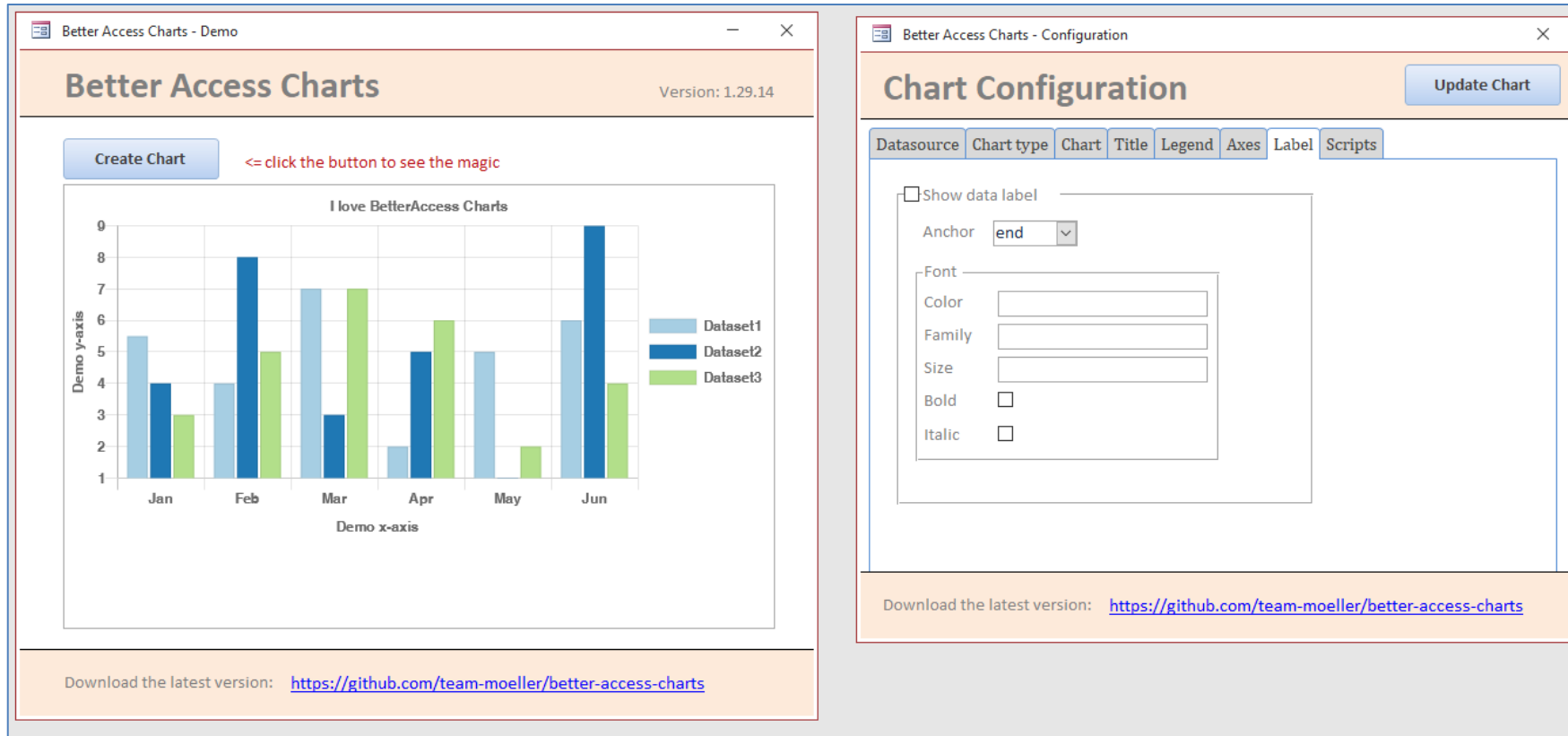
```
myChart.ChartType = chChartType.Line  
myChart.DataSource.ObjectName = "tbl_DemoData"  
myChart.DataSource.LabelFieldName = "DataLabel"  
myChart.DataSource.DataFieldNames = Array("Dataset1", "Dataset2", "Dataset3")
```

Specify additional properties

- Insert title
- Insert legend
- Format Axes
- ... and other options

```
myChart.Title.Show = True  
myChart.Title.Text = "Demo Access Europe"  
  
myChart.Legend.Show = True  
myChart.Legend.Position = posBottom  
  
myChart.YAxis.Show = True  
myChart.YAxis.beginAtZero = True  
myChart.XAxis.TicksMin = "Feb"
```

Properties overview



Published on GitHub

The screenshot shows the GitHub repository page for `team-moeller/better-access-charts`. The repository is public and has 3 stars, 7 forks, and 4 issues. The main branch is `main` with 1 branch and 36 tags. The repository contains the following files:

File	Action	Time
Better-Access-Charts.accdb	Add files via upload	2 months ago
LICENSE	Update LICENSE	9 months ago
README.md	Update README.md	8 months ago
cls_Better_Access_Chart.cls	Add files via upload	2 months ago

The README.md file is displayed below the file list. It contains the following text:

Better-Access-Charts

Better charts for Access with charts.js

Why Better charts for Access?

Microsoft Access urgently needs modern charts. The original charts in MS Access are from the 90s of the previous century. Microsoft has given the charts in Access a lift. They call it "Modern Charts".

The right sidebar shows the repository's metadata:

- About:** Better charts for Access with charts.js
- access-charts**
- Readme**
- MIT License**
- Releases:** 36 releases, including Version 1.29.14 (Latest) on 24 Jul
- Packages:** No packages published
- Contributors:** 2

Documentation on the wiki

The screenshot shows a web browser window displaying the GitHub Wiki page for the repository 'better-access-charts' by 'team-moeller'. The page is titled 'Home' and indicates it was last edited by Thomas Möller on 27 Nov 2020, with 19 revisions. The main content area includes a welcome message and four sections: 'Roadmap', 'Documentation', 'Useful links', and 'Prerequisites'. The 'Documentation' section is highlighted with a blue header and a book icon. To the right of the main content, there is a sidebar with a 'Pages' section showing 52 pages. Below this, a list of documentation topics is displayed, including 'Roadmap', 'Documentation', 'Methods', 'Properties', and various chart-related properties and controls.

Home · team-moeller/better-access-charts

github.com/team-moeller/better-access-charts/wiki

Search or jump to... Pull requests Issues Marketplace Explore

team-moeller / better-access-charts Public

Unwatch 3 Star 7 Fork 4

Code Issues 4 Pull requests Actions Projects 1 Wiki Security Insights Settings

Home

Thomas Möller edited this page on 27 Nov 2020 · 19 revisions

Welcome to the Better Access Charts wiki!

Pages 52

Roadmap

Take a look at the [roadmap](#) to get an idea what is coming next.

Documentation

Visit the [documentation](#) to learn more about the available properties.

Useful links

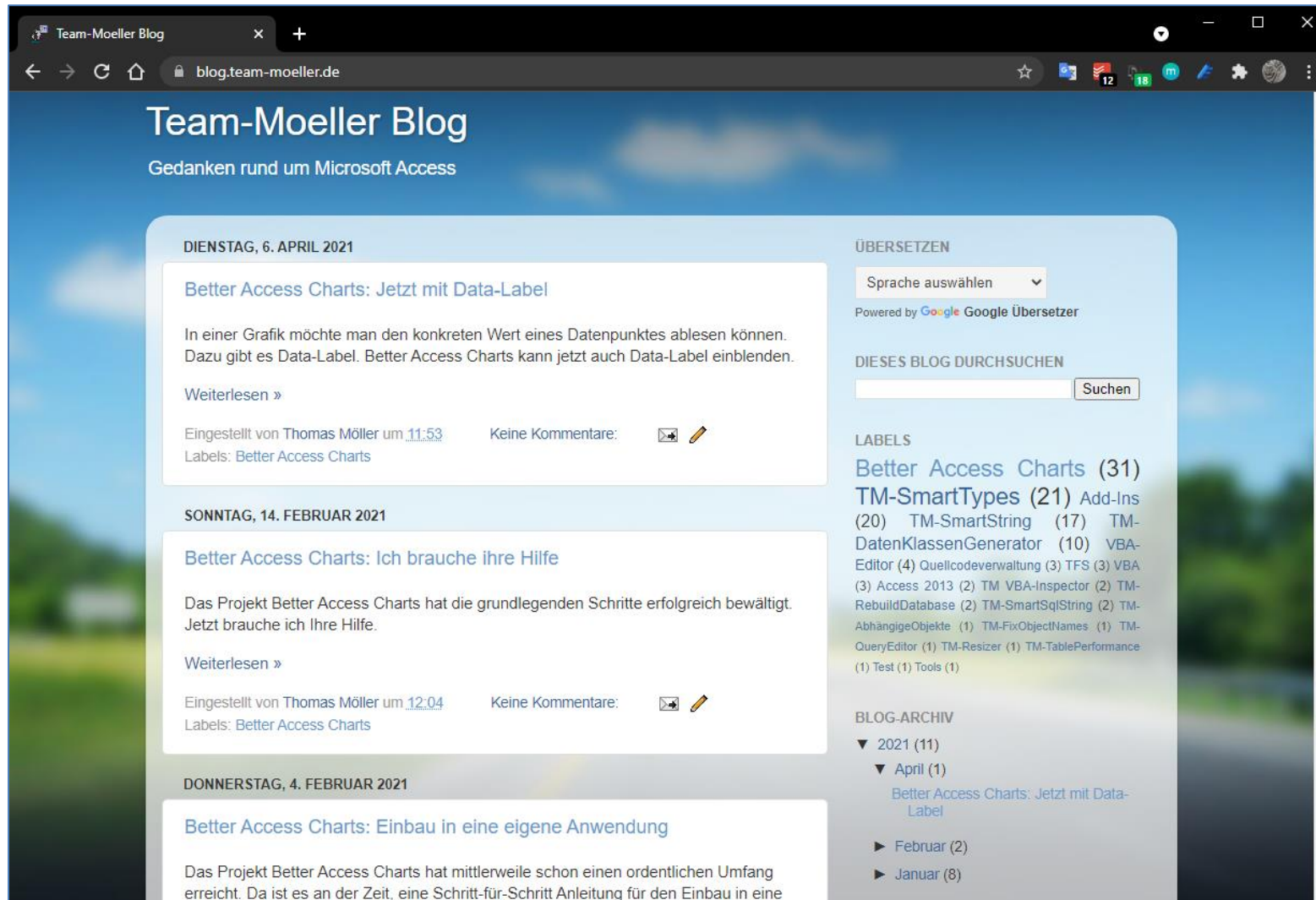
Some [useful links](#) to learn more about chart.js or the webbrowser control.

Prerequisites

Learn more about [prerequisites](#) to get started.

- Roadmap
- Documentation
 - Methods
 - DrawChart
 - Properties
 - AreaFilled
 - ChartBackgroundColor
 - ChartJsCDN
 - ChartJsPathFilename
 - ChartJsSource
 - ChartType
 - ColorSchema
 - ColorSchemaCDN
 - ColorSchemaPathFilename
 - ColorSchemaSource
 - Control

Additions on the blog



Contributions?

Issues · team-moeller/better-access-charts

github.com/team-moeller/better-access-charts/issues

Search or jump to... Pull requests Issues Marketplace Explore

team-moeller / better-access-charts Public

Unwatch 3 Star 7 Fork 4

Code Issues 4 Pull requests Actions Projects 1 Wiki Security Insights Settings

Filters Labels 13 Milestones 0 New issue

☐ 4 Open ✓ 45 Closed

Author Label Projects Milestones Assignee Sort

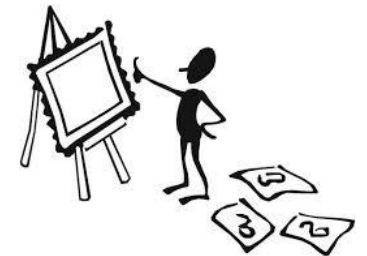
- ☐ **Getting this to work with Chartjs 3.4.1** #49 opened on 24 Jul by pgferrero 1
- ☐ **Multiple Charts on one form** enhancement #48 opened on 10 Jun by HerrMaler 1
- ☐ **add a property "data source" where you can pass whatever you want** class-module enhancement #14 opened on 28 Nov 2020 by team-moeller
- ☐ **Add a property for the version of browser compatability** class-module enhancement #13 opened on 28 Nov 2020 by team-moeller 1

💡 ProTip! Exclude everything labeled bug with -label:bug.

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To be continued ...

- Hierarchy of classes
- Additional properties
- Solution for reports
- Get rid of the html file
- Adjustments to chart.js version 3



Links

Links

Links

RESOURCES

Links

- GitHub Project: Better Access Charts
 - <https://github.com/team-moeller/better-access-charts>
- Blog posts on Better Access Charts
 - <https://blog.team-moeller.de/search/label/Better%20Access%20Charts>
- Better Access Charts Wiki
 - <https://github.com/team-moeller/better-access-charts/wiki>
- Roadmap to Better Access Charts
 - <https://github.com/team-moeller/better-access-charts/wiki/roadmap>
- Documentation on Better Access Charts
 - <https://github.com/team-moeller/better-access-charts/wiki/documentation>
- Releases on Better Access Charts
 - <https://github.com/team-moeller/better-access-charts/releases>

Links

- Chart.js Homepage
 - <https://www.chartjs.org/>
- Chart.js Documentation
 - <https://www.chartjs.org/docs/latest/>
- Chart.js Samples
 - <https://www.chartjs.org/docs/latest/samples>
- YouTube Video „Getting Started With Chart.js“
 - <https://www.youtube.com/watch?v=sE08f4iuOhA&t=761s>
- Curated list on Chart.js
 - <https://github.com/chartjs/awesome>

Links

- WebBrowserControl object (Access)
 - <https://docs.microsoft.com/en-us/office/vba/api/access.webbrowsercontrol>
- Everything you never wanted to know about ...
 - <https://www.devhut.net/2019/10/18/everything-you-never-wanted-to-know-about-the-access-webbrowser-control/>
- MS Access – Improved Charting
 - <https://www.devhut.net/2019/10/10/ms-access-improved-charting/>
- Modern Charts in Access 2019
 - <https://www.youtube.com/watch?v=LW2Ct8Npyzs>

Access Europe session
Wed 1 Feb 2023

BETTER ACCESS CHARTS

The real „Modern Charts“ for Access



Thomas Möller, www.Team-Moeller.de