

Programming Modern Charts

Access DevCon – Thur 10 April 2025



Colin Riddington
Mendip Data Systems



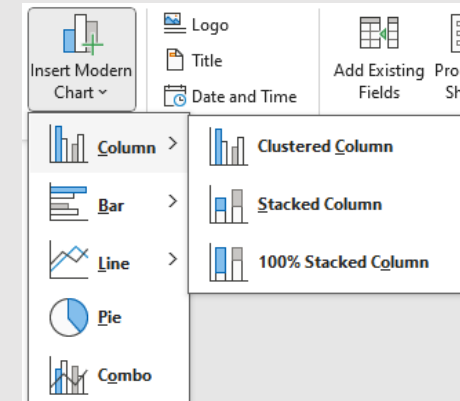
<https://isladogs.co.uk/modern-charts-code>

Background

- Access developer for over 25 years starting with Access 97
- MVP 2022 onwards
- Many years teaching in secondary schools including responsibility for data analysis
- Owner of Mendip Data Systems: info@mendipdatasystems.co.uk
 - ❖ originally created to distribute commercial Access apps for schools
 - ❖ over time, broader focus to creating apps for businesses & developers
- Website: <https://isladogs.co.uk>
 - ❖ Access articles, example apps, sample code and security challenges
 - ❖ commercial applications for schools, businesses and developers
- YouTube channel: <https://www.youtube.com/@IsladogsOnAccess>
- Regular contributor to many forums - user name: *isladogs*
- Active member of the AccessForever.org blog team
- Chair of Europe chapter for AccessUserGroups.org
- Focus on stretching the boundaries of what can be achieved using Access

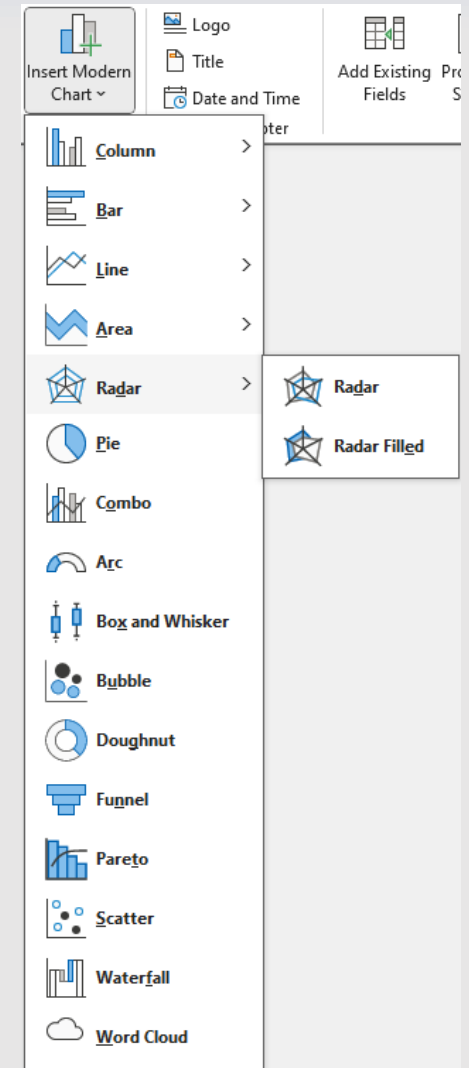
Modern Charts (2019)

- Provided as easier alternative to 'classic' ActiveX charts
- Originally only 5 chart types:
 - ❖ column / bar / line / pie / combo
- Very limited customization
- VBA support for chart object only



Modern Chart Improvements (2024 – 2025)

- Access 365 only
- 11 new chart types:
 - ❖ area / radar / arc / box and whisker
 - ❖ bubble / doughnut / funnel / pareto
 - ❖ scatter / waterfall / word cloud
- Gridlines – major / minor / both / none
- Sorting – ascending / descending / none
- Chart Settings Format pane
- Full VBA support added Version 2502 (March 2025)
- Chart properties can now be edited & 'saved' at runtime



Programming Modern Charts

➤ ChartObject: (54 members)

- ❖ BackColor / BorderColor / BorderStyle / ChartTitle / ChartType
- ❖ HasLegend / LegendPosition / PrimaryValuesAxisDisplayUnits etc ...

➤ ChartAxisCollection: (2 members)

- ❖ Name / GroupType (for date grouping)

➤ ChartValuesCollection: (2 members)

- ❖ Name / AggregateType (for aggregating values)

➤ ChartSeriesCollection: (27 members)

- ❖ Name / DisplayName / DisplayDataLabel / BorderColor / FillColor
- ❖ GridlinesType / LineWeight / MarkerType / DashType / PlotSeriesOn
- ❖ SortOrderType / TrendlineOptions / MissingDataPolicy etc ...

Example Code

➤ ChartObject:

```
Me.Chart0.ChartType = acChartRadar '14  
Me.Chart0.BorderStyle = 0 '0 = Transparent (no intellisense)  
Me.Chart1.LegendPosition = acLegendPositionTop '0
```

➤ ChartAxisCollection:

```
Me.Chart0.ChartAxisCollection.Item(0).GroupType= acDateGroupMonth '3
```

➤ ChartValuesCollection:

```
Me.Chart2.ChartValuesCollection.Item(0).AggregateType = acAggregateTypeCount '6
```

➤ ChartSeriesCollection:

```
Me.Chart0.ChartSeriesCollection.Item(1).SortOrderType = acSortOrderTypeNone '0  
Me.Chart0.ChartSeriesCollection.Item(1).GridlinesType = acGridlineTypeMajor '1  
Me.Chart0.ChartSeriesCollection.Item(1).MarkerType = acMarkerDiamond '2
```

More Code Examples

With Me.Chart0

```
.ChartType = acChartColumnStacked '1  
.BorderStyle = 4 '4 = Dots (no intellisense)  
.BorderColor = RGB(128,128,128)  
.HasLegend = True  
.LegendPosition = acLegendPositionBottom '3  
  
.ChartAxisCollection.Item(0).GroupType = acDateGroupQuarter '2  
.ChartValuesCollection.Item(0).AggregateType = acAggregateTypeSum '1
```

End With

With Me.Chart0.ChartSeriesCollection.Item(1)

```
.SortOrderType = acSortOrderTypeDescending '2  
.GridlinesType = acGridlineTypeMajorMinor '3  
.MarkerType = acMarkerCircle '8
```

End With



'Save' Modern Chart Values at Runtime

- Modify chart & series properties at runtime using code
- Use dictionary to store series data changes to memory at runtime
- Changes to chart design cannot be saved in form view
- Workaround:
 - ❖ Store chart property / series data to tables as required
 - ❖ Retrieve saved data at form load

Modern Charts – Current Issues / Deficiencies

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- Documentation sparse / incomplete (for chart object)
- Scatter chart sorting / trendlines not in chart settings pane
- ComboChartType series do not work correctly in code
- Bubble charts cannot handle 3 variables
- No color in WordCloud charts
- Box whisker chart sorting doesn't work
- Cannot alter data label formatting: size / color / font
- Cannot alter series colors in pie / arc / doughnut charts

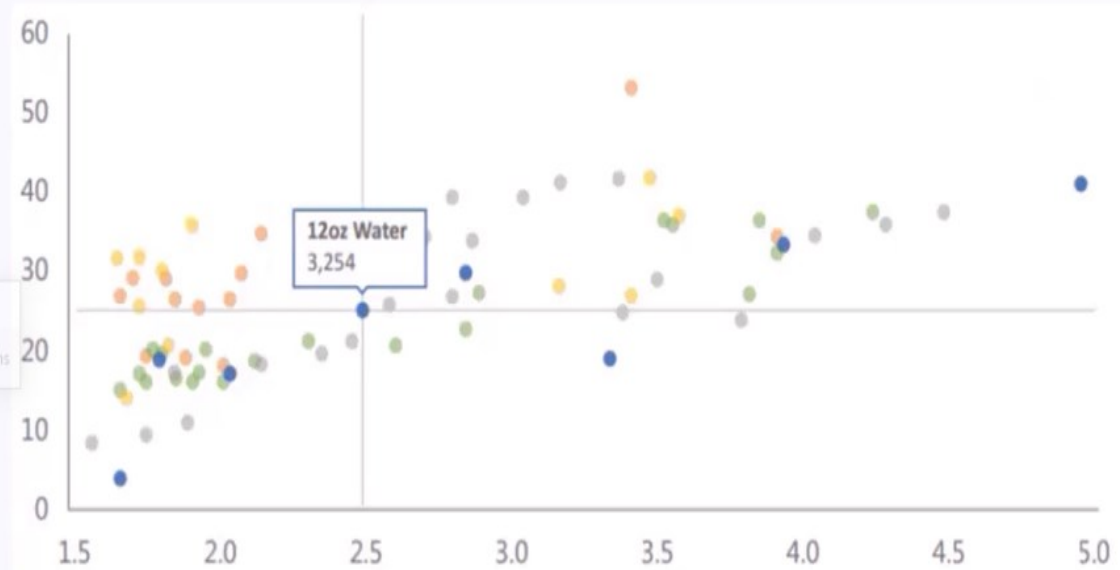
Modern Charts – Features still to come?

- Some features described at DevCon 2024 haven't yet been delivered

- Further feature enriching

Modern Charts in Access

- New Font Orientations
- Granular Customizability of Chart elements
- Dynamic Tooltips & Gridlines



Links

- Programming Modern Charts (with example app):
 - ❖ <https://isladogs.co.uk/modern-charts-code>
- Extend Access across multiple monitors:
 - ❖ <https://isladogs.co.uk/extend-access-across-monitors>
 - <https://isladogs.co.uk/very-wide-forms/>
- Microsoft Learn documentation:
 - ❖ <https://learn.microsoft.com/en-gb/office/vba/api/access.chart>
 - ❖ <https://learn.microsoft.com/en-gb/office/vba/api/access.chartseries>
 - ❖ <https://learn.microsoft.com/en-gb/office/vba/api/access.chartaxis>
 - ❖ <https://learn.microsoft.com/en-gb/office/vba/api/access.chartvalues>