

Description

The purpose of this document is to provide several samples of Lava templates that you can use to look up and display several types of dashboard visualizations.

The names of each section in this document, matches the slide titles where we originally presented the samples.

Page Parameter Filter Block Notes

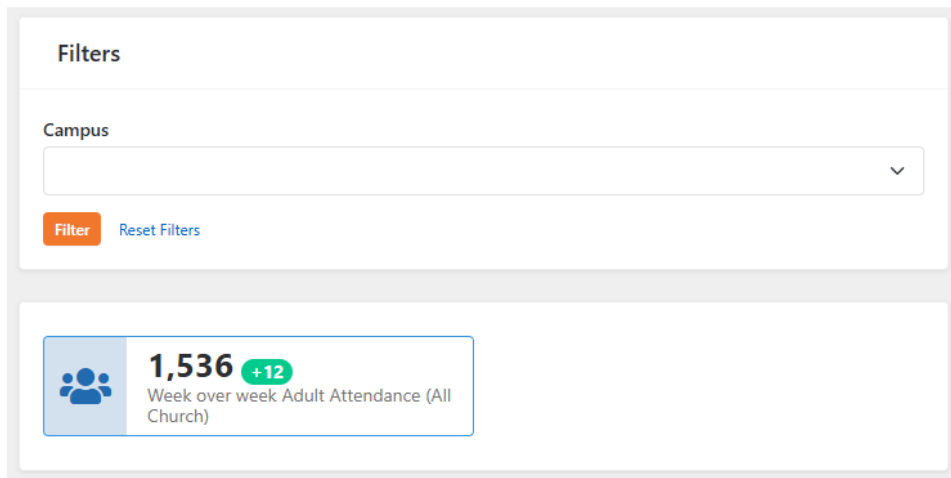
Many of these templates assume that there may be at least a Campus identified in the page's URL. You can see in the sample screenshots that we use a Page Parameter Filter block to set that easily. But if you use a normal Campus control, it returns a GUID which would require additional work to use in these templates.

To get a Campus picker that uses an Id instead, we used a single-select field, with the following template:

```
{% assign campusList = Campuses | Where:'IsActive','true' %}  
{% for c in campusList %}{{ c.Id }}^{{ c.Name }}{% if forloop.last == false %},{% endif  
%}{% endfor %}
```

If there are other filters you want to apply to the list of possible campuses, hopefully the presentation itself has provided some information on how to chain multiple `Where` filters.

KPI Visualization



```
{% lava
  assign metricId = '2'
  //- -----
  assign thisWeek = 'Now' | SundayDate | DateAdd:-7,'d'
  assign lastWeek = thisWeek | DateAdd:-7,'d'
  assign measure = '0'
  assign campusId = 'Global' | PageParameter:'Campus' | Default:'0'
  assign campusName = campusId | FromCache:'Campus' | Property:'Name' | Default:'All
Church'
%}

{% metricvaluepartition
  expression: '
    MetricPartition.EntityType.Name == "Rock.Model.Campus"
    && MetricValue.MetricValueType == {{ measure }}
    && MetricValue.MetricId == {{ metricId }}
    && (
      MetricValue.MetricValueSourceDate.SundayDate == "{{ thisWeek }}"
      || MetricValue.MetricValueSourceDate.SundayDate == "{{ lastWeek }}"
    )
  '
  ,
  select: '
    new (
      EntityId AS CampusId
      , MetricValue.YValue AS Value
      , MetricValue.MetricValueDateTime AS Date
      , MetricValue.MetricValueSourceDate.SundayDate AS SundayDate
      , MetricValue.Metric.Title AS Title
    )
  '
  ,
  iterator: 'values'
  securityenabled: 'false'
%}

{% if campusId > 0 %}
  {% assign values = values | Where:'CampusId',campusId %}
{% endif %}
```

```

    //- Get just the totals for this week and the previous week
    {% assign thisWeekValue = values | Where:'SundayDate',thisWeek | Select:'Value' | Sum
    | AsInteger %}
    {% assign lastWeekValue = values | Where:'SundayDate',lastWeek | Select:'Value' | Sum
    | AsInteger %}

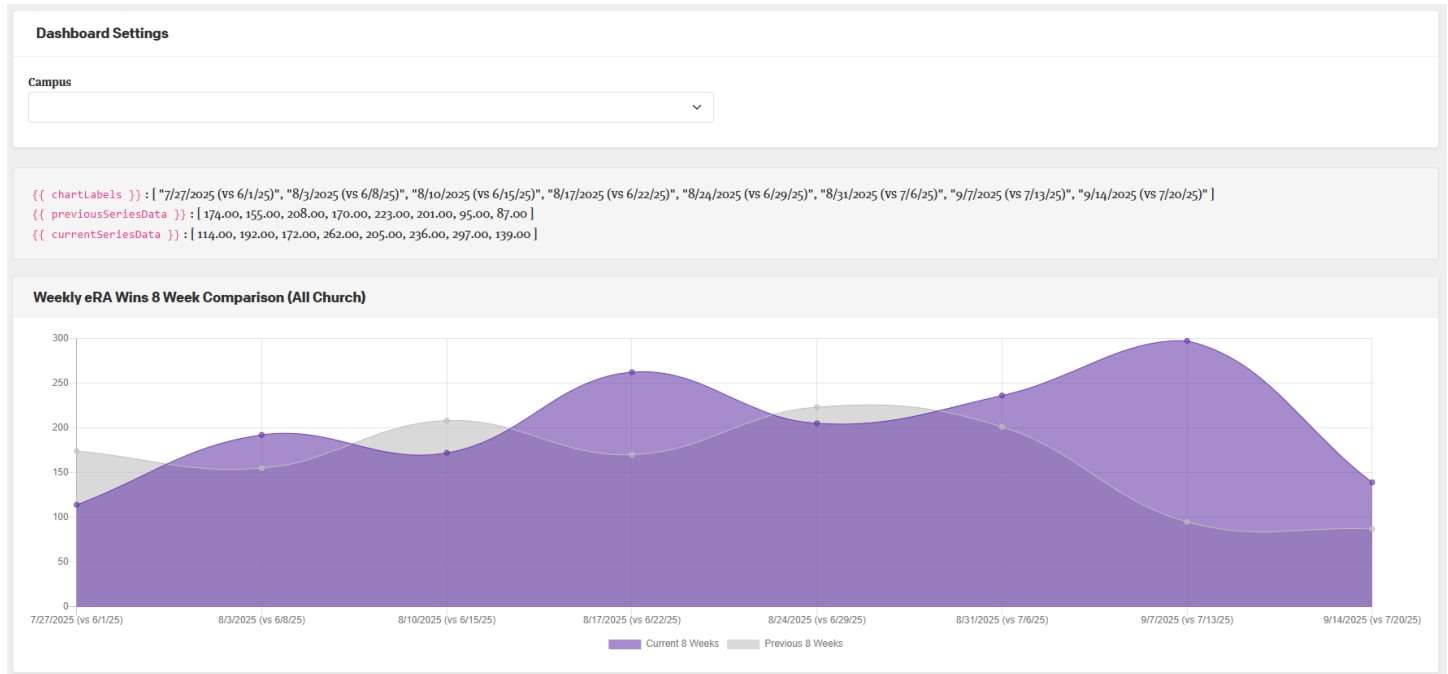
    //- Check to see if it's a bigger number or a smaller one
    {% assign change = thisWeekValue | Minus:lastWeekValue %}
    {% if change < 0 %}
        {% assign changeClass = 'danger' %}
    {% else %}
        {% assign changeClass = 'success' %}
        {% assign change = '+' | Append:change %}
    {% endif %}

    {[ panel ]}
        {[ kpis ]}
            {[ kpi
                icon:'fa-users'
                value:'{{ thisWeekValue | Format:'D0' }}'
                label:'Week over week {{ values[0].Title }} ({{ campusName }})'
                subvalue:'<span class="badge badge-{{ changeClass }}">{{ change
            ]}}</span>'
                color:'blue-700'
            ]][[ endkpi ]}
        {[ endkpis ]}
    {[ endpanel ]}

{% endmetricvaluepartition %}

```

Span-over-Span Chart



```
{% lava
  assign metricId = '3'
  assign weekCount = 8
  assign currentSeriesColor = 'rgba(107,172,67,0.6)'
  assign previousSeriesColor = 'rgba(192,192,192,0.6)'
  //- -----
  assign subtractWeeks = weekCount | Times:-1
  assign currentSeriesStartSunday = 'Now' | SundayDate | DateAdd:subtractWeeks,'w'
  assign previousSeriesStartSunday = currentSeriesStartSunday |
DateAdd:subtractWeeks,'w'
  assign measure = '0'
  assign campusId = 'Global' | PageParameter:'Campus' | Default:'0'
  assign campusName = campusId | FromCache:'Campus' | Property:'Name' | Default:'All
Church'
%}
{% metricvaluepartition
  expression: '
    MetricPartition.EntityType.Name == "Rock.Model.Campus"
    && MetricValue.MetricValueType == {{ measure }}
    && MetricValue.MetricId == {{ metricId }}
    && MetricValue.MetricValueSourceDate.SundayDate >= "{{ previousSeriesStartDate
}}"'
  select: '
    new (
      EntityId AS CampusId
      , MetricValue.YValue AS Value
      , MetricValue.MetricValueDateTime AS Date
      , MetricValue.MetricValueSourceDate.SundayDate AS SundayDate
      , MetricValue.Metric.Title AS Title
    )
  )
```

```

'
  iterator:'values'
  securityenabled:'false'
%}

//- Filter for just the values for the designated campus, if any.
{% if campusId > 0 %}
  {% assign values = values | Where:'CampusId',campusId %}
{% endif %}

//- Iterate through the dates to be shown and get the values and labels
{% assign lastWeekOffset = weekCount | Minus:1 %} //- (8 weeks of data have offsets
from 0 to 7, for example)
{% assign chartLabels = '' %}
{% assign currentSeriesData = '' %}
{% assign previousSeriesData = '' %}

{% for i in (0..lastWeekOffset) %}

  //- Add this date's data to the previousSeriesData array
  {% assign previousIteratedSundayDate = previousSeriesStartSunday | DateAdd:i,'w'
| Date:'yyyy-MM-ddTHH:mm:ss' %}
  {% assign weekData = values | Where:'SundayDate',previousIteratedSundayDate |
Select:'Value' | Sum %}
  {% assign previousSeriesData = previousSeriesData | AddToArray:weekData %}

  //- Add this date's data to the currentSeriesData array
  {% assign currentIteratedSundayDate = currentSeriesStartSunday | DateAdd:i,'w' |
Date:'yyyy-MM-ddTHH:mm:ss' %}
  {% assign weekData = values | Where:'SundayDate',currentIteratedSundayDate |
Select:'Value' | Sum %}
  {% assign currentSeriesData = currentSeriesData | AddToArray:weekData %}

  //- Add the dates to the series labels too
  {% assign comparisonDateFormatted = previousIteratedSundayDate | Date:'M/d/yy' %}
  {% assign dateLabel = currentIteratedSundayDate | Date:'M/d/yyyy' | Append:' (vs
' | Append:comparisonDateFormatted | Append:')' %}
  {% assign chartLabels = chartLabels | AddToArray:dateLabel %}

{% endfor %}

//- This section is for demonstration only- it shows the values/format provided to
the chart
<div class="well">
  {% raw %}<code>{{ chartLabels }}</code>{% endraw %}: {{ chartLabels | ToJSON
}}<br>
  {% raw %}<code>{{ previousSeriesData }}</code>{% endraw %}: {{ previousSeriesData
| ToJSON }}<br>
  {% raw %}<code>{{ currentSeriesData }}</code>{% endraw %}: {{ currentSeriesData |
ToJSON }}
</div>

```

```

//- Start line chart
{[ panel title:'{{ metricName }} {{ weekCount }} Week Comparison ({{ campusName }})'
]}

{[ chart type:'line' legendshow:'true' labels:'{{ chartLabels | Join:', ' }}'
filllinearea:'true' yaxismin:'0' ]}
  [[ dataset
    label:'Current {{ 'Weeks' | ToQuantity:weekCount }}'
    data:'{{ currentSeriesData | Join:', ' }}'
    fillcolor:'{{ currentSeriesColor }}'
    bordercolor:'{{ currentSeriesColor | FadeIn:'40%' }}'
    pointcolor:'{{ currentSeriesColor }}'
    pointbordercolor:'{{ currentSeriesColor | FadeIn:'40%' }}'
  ]] [[ enddataset ]]

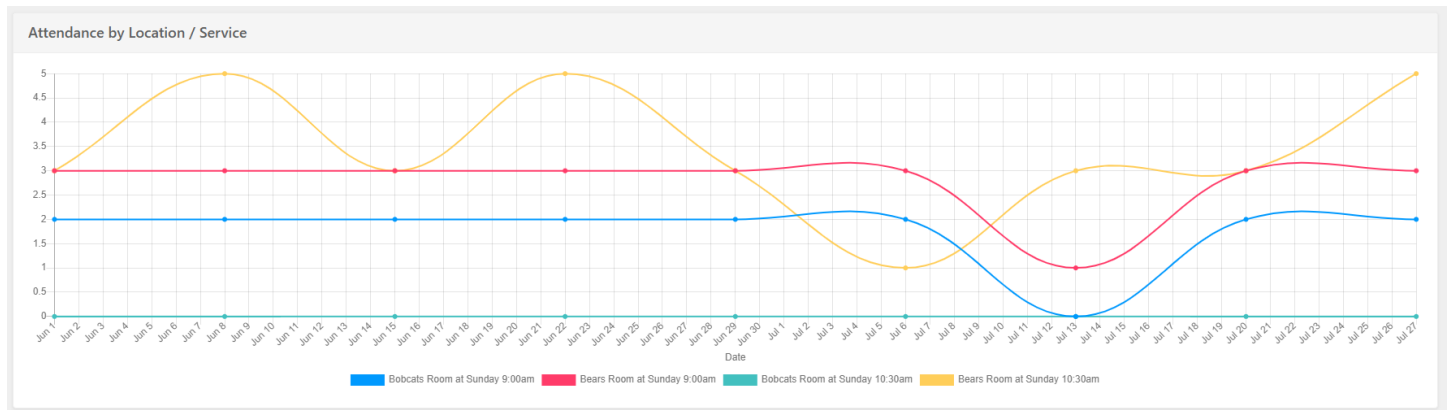
  [[ dataset
    label:'Previous {{ 'Weeks' | ToQuantity:weekCount }}'
    data:'{{ previousSeriesData | Join:', ' }}'
    fillcolor:'{{ previousSeriesColor }}'
    bordercolor:'{{ previousSeriesColor | FadeIn:'40%' }}'
    pointcolor:'{{ previousSeriesColor }}'
    pointbordercolor:'{{ previousSeriesColor | FadeIn:'40%' }}'
  ]] [[ enddataset ]]
{[ endchart ]}

{[ endpanel ]}

{% endmetricvaluepartition %}

```

Multiple Partitions



```
{% attendance
  where:'DidAttend == "true"'
  expression:'
    (
      Occurrence.Group.GroupTypeId == 19
      || Occurrence.Group.GroupTypeId == 20
    )
    && Occurrence.SundayDate <= "{{ thisWeek }}"
    && Occurrence.SundayDate >= "{{ eightWeeks }}"
  ,
  groupby:'new (
    Occurrence.SundayDate          AS SundayDate
    , Occurrence.LocationId         AS LocationId
    , Occurrence.Location.Name      AS Location
    , Occurrence.ScheduleId         AS ScheduleId
    , Occurrence.Schedule.Name      AS Schedule
    , Occurrence.Group.GroupType.GroupTypeId AS Color
  )'
  select:'new (
    key.SundayDate      AS SundayDate
    , key.LocationId    AS LocationId
    , key.Location      AS Location
    , key.ScheduleId    AS ScheduleId
    , key.Schedule      AS Schedule
    , key.Color         AS Color
    , it.Count()        AS Count
  )'
%}

{% assign dates          = attendanceItems | OrderBy:'SundayDate' | Map:'SundayDate' | Distinct %}
{% assign locationNames = attendanceItems | OrderBy:'SundayDate' | Map:'Location' | Distinct %}
{% assign scheduleNames = attendanceItems | OrderBy:'SundayDate' | Map:'Schedule' | Distinct %}

[[ chart type:'line' labels:'{{ dates | Join:', ' }}' xaxistype:'time' legendshow:'true'
]]
{% for schedule in scheduleNames %}
```

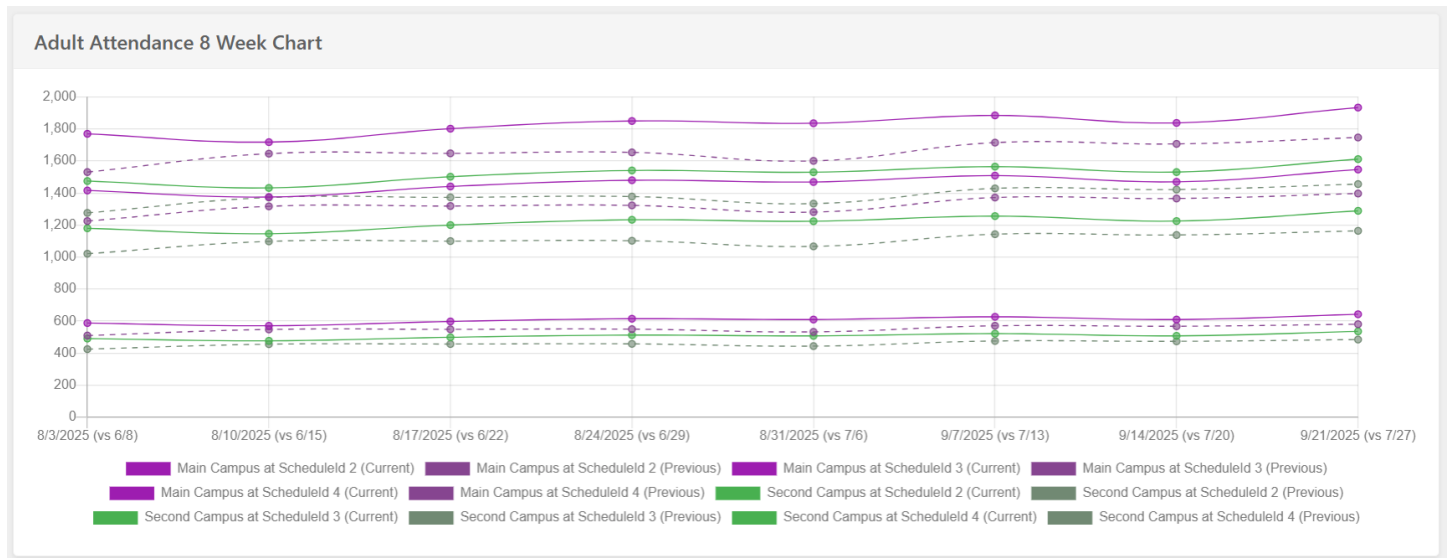
```

    {% for location in locationNames %}
    {% assign values = attendanceItems | Where:'Schedule',schedule |
Where:'Location',location %}
    [[ dataset
    label:'{{ location }} at {{ schedule }}'
    data:
        {% for date in dates %}
            {{ values | Where:'SundayDate',date | Map:'Count' | Sum }}
            {% if forloop.last == false %},{% endif %}
        {% endfor %}
    ,
    bordercolor:'{{ values[0].Color }}'
    pointcolor:'{{ values[0].Color }}'
    ]]
    [[ enddataset ]]
    {% endfor %}
    {% endfor %}
    {[ endchart ]}

{% endattendance %}

```

Bonus: Metric Values with Multiple Partitions



```
{% lava
  assign metricId = '2'
  assign weekCount = 8
  //- -----
  assign subtractWeeks = weekCount | Times:-1
  assign currentSeriesStartSunday = 'Now' | SundayDate | DateAdd:subtractWeeks,'w'
  assign previousSeriesStartSunday = currentSeriesStartSunday |
DateAdd:subtractWeeks,'w'
  assign measure = '0'
%}

{% metricvalue
  where:'MetricId == "{{{ metricId }}}"'
  expression:'MetricValueSourceDate.SundayDate >= "{{{ previousSeriesStartSunday }}}"'
  select:'
    new (
      MetricValueDateTime AS Date
      , MetricValueSourceDate.SundayDate AS SundayDate

      , MetricValuePartitions.Where(
        MetricPartition.EntityType.FriendlyName == "Campus")
        .Select(EntityId)
        .FirstOrDefault() AS CampusId

      , MetricValuePartitions
        .Where(MetricPartition.EntityType.FriendlyName == "Schedule")
        .Select(EntityId)
        .FirstOrDefault() AS ScheduleId

      , Yvalue AS Value
      , Metric.Title AS MetricTitle
    )
  ,
%}
```

```

{% assign campusList = metricvalueItems | Map:'CampusId' | Distinct %}
{% assign scheduleList = metricvalueItems | Map:'ScheduleId' | Distinct %}

//- Iterate through the dates to be shown and get the values and labels
{% assign lastWeekOffset = weekCount | Minus:1 %} //- (8 weeks of data have offsets
from 0 to 7, for example)
{% assign chartLabels = '' %}

{% for i in (0..lastWeekOffset) %}
  //- Assemble the dates as the series labels
  {% assign currentIteratedSundayDate = currentSeriesStartSunday | DateAdd:i,'w' |
Date:'M/d/yyyy' %}
  {% assign previousIteratedSundayDate = previousSeriesStartSunday | DateAdd:i,'w' |
Date:'M/d' %}
  {% assign dateLabel = currentIteratedSundayDate | Append:' (vs ' |
Append:previousIteratedSundayDate | Append:')' %}
  {% assign chartLabels = chartLabels | AddToArray:dateLabel %}
{% endfor %}

[[ panel title:'{{ metricvalueItems[0].MetricTitle }} {{ weekCount }} Week Chart' ]]
  [[ chart type:'line' legendshow:'true' labels:'{{ chartLabels | Join:', ' }}'
yaxismin:'0' ]]

  {% for campusId in campusList %}

    {% assign campus = campusId | FromCache:'Campus' %}
    {% assign campusColor = campus | Attribute:'core_CampusColor' |
Default:'rgb(0,0,255)' %}
    {% assign campusValues = metricvalueItems | Where:'CampusId',campusId %}

    {% for scheduleId in scheduleList %}
      {% assign currentSeriesData = '' %}
      {% assign previousSeriesData = '' %}
      {% assign values = campusValues | Where:'ScheduleId',scheduleId %}

      {% for i in (0..lastWeekOffset) %}

        //- Add this date's data to the previousSeriesData array
        {% assign previousIteratedSundayDate = previousSeriesStartSunday |
DateAdd:i,'w' | Date:'yyyy-MM-ddTHH:mm:ss' %}
        {% assign weekData = values | Where:'SundayDate',previousIteratedSundayDate
| Map:'Value' | Sum %}
        {% assign previousSeriesData = previousSeriesData | AddToArray:weekData %}

        //- Add this date's data to the currentSeriesData array
        {% assign currentIteratedSundayDate = currentSeriesStartSunday |
DateAdd:i,'w' | Date:'yyyy-MM-ddTHH:mm:ss' %}
        {% assign weekData = values | Where:'SundayDate',currentIteratedSundayDate
| Map:'Value' | Sum %}
        {% assign currentSeriesData = currentSeriesData | AddToArray:weekData %}

      {% endfor %}
    [[ dataset

```

```

        label:'{{ campus }} at ScheduleId {{ scheduleId }} (Current)'
        data:'{{ currentSeriesData | Join:', ' }}'
        bordercolor:'{{ campusColor }}'
        pointcolor:'{{ campusColor | FadeOut:'40%' }}'
        pointbordercolor:'{{ campusColor }}'
    ]] [[ enddataset ]]

    [[ dataset
        label:'{{ campus }} at ScheduleId {{ scheduleId }} (Previous)'
        data:'{{ previousSeriesData | Join:', ' }}'
        bordercolor:'{{ campusColor | Desaturate:'30%' }}'
        pointcolor:'{{ campusColor | Desaturate:'30%' | FadeOut:'40%' }}'
        pointbordercolor:'{{ campusColor | Desaturate:'30%' }}'
        borderdash:'[5,5]'
    ]] [[ enddataset ]]
    {% endfor %}
    {% endfor %}
    {[ endchart ]}
    {[ endpanel ]}

{% endmetricvalue %}

```