

Pie Charts from SQL Data

In the previous tutorial, the chart data was entered manually.

In this tutorial, the chart data will come directly from a MySQL database.

The example below uses the `cyber_security_events` table.

Step 1 - Create the SQL Query

The following query counts how many events belong to each risk level.

```
SELECT

    risk_level,

    COUNT(*) AS total

FROM cyber_security_events

GROUP BY risk_level;
```

Example result:

risk_level	total
Low	15
Medium	8
High	3

Step 2 - Retrieve the Data with PHP

```
<?php

$sql = "

SELECT

    risk_level,

    COUNT(*) AS total

FROM cyber_security_events

GROUP BY risk_level

";

$result = $pdo->query($sql);

$data = [];

while($row = $result->fetch())
{

    $data[] = [

        $row['risk_level'],

        (int)$row['total']

    ];

}

?>
```

Step 3 - Convert the PHP Array to JSON

Google Charts uses JavaScript arrays.

PHP can convert data into JavaScript using:

```
<?php

echo json_encode($data);

?>
```

Step 4 - Create the Chart

```
<script>

google.charts.load(
    'current',
    {'packages':['corechart']}
);

google.charts.setOnLoadCallback(drawChart);

function drawChart()
{

    var data = google.visualization.arrayToDataTable([

        ['Risk Level','Count'],

        ...<?php echo json_encode($data); ?>

    ]);
```

```
var options = {  
  
    title:  
    'Security Events by Risk Level'  
  
};  
  
var chart =  
  
    new google.visualization.PieChart(  
  
        document.getElementById('chart_div')  
  
    );  
  
chart.draw(data, options);  
  
}  
  
</script>
```

Step 5 - Add the Chart Container

```
<div id="chart_div"  
    style="width:800px; height:500px;">  
</div>
```

Complete Example

```
<?php
```

```
$sql = "

SELECT

    risk_level,

    COUNT(*) AS total

FROM cyber_security_events

GROUP BY risk_level

";

$result = $pdo->query($sql);

$data = [];

while($row = $result->fetch())
{

    $data[] = [

        $row['risk_level'],

        (int)$row['total']

    ];

}

?>

<!DOCTYPE html>

<html>

<head>

<script src="https://www.gstatic.com/charts/loader.js"></script>
```

```
</head>
```

```
<body>
```

```
<div id="chart_div"
      style="width:800px; height:500px;">
</div>
```

```
<script>
```

```
google.charts.load(
  'current',
  {'packages':['corechart']}
);
```

```
google.charts.setOnLoadCallback(drawChart);
```

```
function drawChart()
{
  var data =

    google.visualization.arrayToDataTable([

      ['Risk Level','Count'],

      ...<?php echo json_encode($data); ?>

    ]);

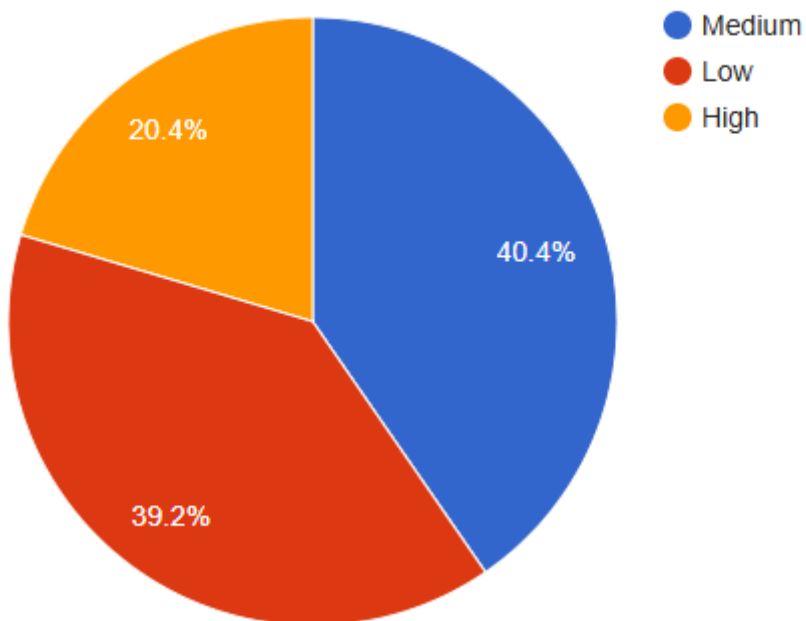
  var options = {

    title:
      'Security Events by Risk Level'

  };
};
```

```
var chart =  
  
    new google.visualization.PieChart(  
  
        document.getElementById('chart_div')  
  
    );  
  
    chart.draw(data, options);  
  
}  
  
</script>  
  
</body>  
  
</html>
```

Security Events by Risk Level



Next Tutorial

Bar Charts from SQL Data

Learn how to display the same SQL data as a bar chart.

Revision #2

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