what-is-cwe.html

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{% extends "base.html" %}
{% block head %}
<style>
/* Custom scrollbar styling for dark theme */
.cwe-list-scroll {
    max-height: 550px;
    overflow-y: auto;
   list-style: none;
    padding: 0;
    margin: 0;
}
/* Webkit browsers (Chrome, Safari, Edge) */
.cwe-list-scroll::-webkit-scrollbar {
    width: 8px;
}
.cwe-list-scroll::-webkit-scrollbar-track {
    background: #1a2236;
    border-radius: 4px;
}
.cwe-list-scroll::-webkit-scrollbar-thumb {
    background: #63a4ff;
    border-radius: 4px;
    border: 1px solid #263159;
}
.cwe-list-scroll::-webkit-scrollbar-thumb:hover {
    background: #5292e6;
}
.cwe-list-scroll::-webkit-scrollbar-thumb:active {
    background: #4a80cc;
}
/* Firefox */
.cwe-list-scroll {
    scrollbar-width: thin;
    scrollbar-color: #63a4ff #1a2236;
}
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/* CWE list item styling */
.cwe-list-item {
    padding: 8px 24px;
    cursor: pointer;
   font-weight: 500;
    color: #e3e7f2;
    user-select: none;
    border-left: 4px solid transparent;
   transition: background 0.13s, border-left 0.13s, color 0.13s;
}
.cwe-list-item:hover {
    background: #212d46;
    color: #ffffff;
}
.cwe-list-item.selected {
    background: #212d46;
    border-left: 4px solid #63a4ff;
    color: #63a4ff;
}
.cwe-code {
    color: #94a3b8;
   font-size: 0.9em;
}
/* Enhanced button styling */
.toggle-button {
    margin: 16px 0 0 24px;
    background: #263159;
    color: #63a4ff;
    padding: 8px 18px;
    border-radius: 8px;
    border: none;
    cursor: pointer;
    font-weight: 600;
    font-size: 0.97em;
   transition: background 0.2s, transform 0.1s;
}
.toggle-button:hover {
    background: #2d3d6b;
    transform: translateY(-1px);
}
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.toggle-button:active {
   transform: translateY(0);
}
</style>
{% endblock %}
{% block content %}
<div style="max-width:1400px;margin:0 auto 32px auto;padding-top:20px;">
   <h1 style="color:#63a4ff;">What is a CWE?</h1>
   <strong>CWE</strong> stands for <em><span style="color:#63a4ff">Common
Weakness Enumeration</span></em>.<br/>br> In technology and computer science, we
learn by identifying patterns-not just memorizing a list of past mistakes. The
<br/><b>CWE catalog</b> is a map of the <span style="color:#fca311;">most common
error patterns</span> that lead to
vulnerabilities in software.<br>>
<br/>
<b>If you spot the pattern, you can prevent the problem:</b>
Just like a math book teaches "types of mistakes" (e.g., sign error,
division by zero), CWE teaches you <span style="color:#42d392;">recurring
security problems</span>.
<b>CWE entries</b> are like chapters in a textbook-each describes a
different kind of software weakness.
You'll see real-world examples (<b>CVEs</b>), but you'll learn the general
idea with CWE.
<h2 style="color:#cdd7ff;">CWE Structure: How Weakness Types Are
Organized</h2>
<b>ID format:</b> <code>CWE-&lt;Number&qt; - &lt;Name&qt;</code> (e.g.,
<code>CWE-79 - Cross-Site Scripting</code>)
<b>Name:</b> A concise label for the type of mistake (e.g., "Buffer")
Overflow")
<b>Description:</b> Explains what usually goes wrong—and why
<b>Example:</b> Shows a typical code or configuration that triggers this
weakness
<b>Mitigations:</b> Teaches you practical ways to avoid making this
mistake when writing software
<b>Hierarchy:</b> Shows if a weakness is broad ("Injection") or a sub-type
("SQL Injection")
<h2 style="color:#cdd7ff;margin-top:26px;">CWEs by Severity</h2>
<div style="background:#1a2236;border-radius:12px;padding:28px 18px 25px 18px;</pre>
margin-bottom:18px;">
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<div style="color:#94a3b8; font-size:0.98em; margin-bottom:9px;">
<span>Showing data from <b>{% if key_cwes|length > 0 %}recent cache/fallback{%
else %}demo fallback{% endif %}</b>. Click any CWE below for live MITRE data.
</span>
</div>
<div style="display:flex;align-items:center; justify-content:space-between;</pre>
margin-bottom:18px;">
<label style="color:#e2e8f0;font-size:1.07em; font-weight:600;">
Show:
<select id="cweSeverityFilter"</pre>
style="background:#232b45;color:#63a4ff;padding:7px 14px;border-
radius:6px;border:none;margin-left:7px;">
<option value="10" selected>Top 10 CWEs</option>
<option value="5">Top 5 CWEs</option>
</select>
</label>
</div>
<div style="max-width:1400PX;width:100%;overflow-x:auto;">
{% if cwe_severity.labels|length > 0 %}
<canvas id="cwesBySeverityChart" width="700" height="235"></canvas>
{% else %}
<div style="color:#f47174;text-align:center;padding:30px 0;">
No CWE data available in the catalog. (Check that CWE_Catalog.xml exists, or
fallback data is used.)
</div>
{% endif %}
</div>
</div>
<script>
document.addEventListener('DOMContentLoaded', function(){
function goToVulnsForCWE(idx) {
const cwe_key = window.cweSeverityData.indices[idx];
if (cwe_key) {
window.location.href = "/vulnerabilities?q=" +
encodeURIComponent(cwe_key);
}
}
function renderChart(topN) {
const data = window.cweSeverityData.data | | {};
const labels = window.cweSeverityData.labels.slice(0, topN);
const chartData = {
labels: labels,
datasets: [
{label: 'Critical', data: data.CRITICAL.slice(0, topN),
backgroundColor:'#f55855'},
{label: 'High', data: data.HIGH.slice(0, topN),
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backgroundColor:'#f8a541'},
{label: 'Medium', data: data.MEDIUM.slice(0, topN),
backgroundColor:'#3b8ded'},
{label: 'Low', data: data.LOW.slice(0, topN),
backgroundColor:'#42d392'}
1
};
if (window.cwesSeverityChart) {
window.cwesSeverityChart.destroy();
}
window.cwesSeverityChart = new
Chart(document.getElementById('cwesBySeverityChart').getContext('2d'), {
type: 'bar',
data: chartData,
options:{
responsive:true,
maintainAspectRatio:false,
plugins:{
legend:{display:true, position:"bottom"},
title:{display:true, text:`CWEs by Severity - Top ${topN}`}
},
scales:{
x:{stacked:true, ticks:{color:'#cdd7ff', font:{size:11}}},
y:{stacked:true, beginAtZero:true, ticks:{color:'#cdd7ff'}}
},
onClick: (evt, activeEls) => {
if (activeEls && activeEls.length > 0) {
goToVulnsForCWE(activeEls[0].index);
}
}
}
});
document.getElementById('cwesBySeverityChart').onclick = function(evt) {
const points =
window.cwesSeverityChart.getElementsAtEventForMode(evt, 'nearest',
{intersect:true},true);
if(points && points.length){
goToVulnsForCWE(points[0].index);
}
};
window.cweSeverityData = {{ cwe_severity | tojson }};
renderChart(10); // Default to Top 10
document.getElementById('cweSeverityFilter').addEventListener('change',
function(){
renderChart(parseInt(this.value,10));
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});
});
</script>
<h2 style="color:#cdd7ff;margin-top:34px;">CWE List & amp; Explorer</h2>
<div style="color:#94a3b8; font-size:0.95em; margin-bottom:12px;">
<strong>How it works:</strong> Click any CWE below to fetch live, detailed
information from the official MITRE database. The first click may take a few
seconds to load.
</div>
<div style="display:grid; grid-template-columns: 300px 1fr; gap:36px;">
<aside style="background:#1a2236; border-radius:14px; padding:18px 0 18px 0;</pre>
height: fit-content;">
<div style="padding-left:24px;font-weight:700;color:#63a4ff;margin-</pre>
bottom:10px;">
CWE List <span id="cweListModeTip" style="color:#94a3b8;font-size:0.93em;font-
weight:400;">
(Your Key Set)</span>
</div>
{% for cwe in key_cwes %}
{{ key_cwe_titles[cwe] }} <span class="cwe-code">({{ cwe }})</span>
{% endfor %}
{% for code, entry in cwe_dict.items() %}
{{ entry.name }} <span class="cwe-code">({{ code }})</span>
{% endfor %}
<button id="toggleShowAllCwe" class="toggle-button">
Show All CWEs
</button>
</aside>
<section style="background:#1a2236; border-radius:14px; padding:28px 26px;min-</pre>
height:390px;">
<div id="cweDetailPanel">
{% if cwe_dict|length == 0 %}
No CWE data found in catalog or fallback.
{% else %}
<div style="text-align: center; padding: 40px; color: #a9adc1;">
<div style="font-size: 2.5rem; margin-bottom: 16px;"> Q </div>
<div style="font-size: 1.1rem; margin-bottom: 8px;">Select a CWE to
explore</div>
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<div style="margin-top: 12px; font-size: 0.9em;">Click any CWE from the list
to see detailed information, mitigations, examples, and relationships.</div>
</div>
{% endif %}
</div>
</section>
</div>
<script>
window.learnCweDict = {{ cwe_dict|tojson }};
window.key_cwes = {{ key_cwes | tojson }};
window.key_cwe_titles = {{ key_cwe_titles | tojson }};
</script>
<script src="{{ url_for('static', filename='js/learn.js') }}"></script>
</div>
<div style="text-align:center; margin:2.5em 0 1em 0;">
  <a href="{{ url_for('index') }}" style="color:#63a4ff; padding:0.8em 2em;</pre>
border-radius:6px; font-weight:600; text-decoration:none;">
    ← Back to Dashboard
  </a>
</div>
{% endblock %}
```