OWASP ZAP
Intro & Latest Features

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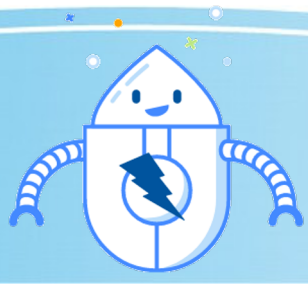
2021 April 15 - OWASP Belgium



This Talk

- ZAP Introduction
- Automation Framework
- Reporting Add-on

What is ZAP?

- A tool for finding vulnerabilities in web applications
- An OWASP Flagship Project
- Free and Open Source
- Cross platform
- Well maintained
- And ...

The worlds most widely used web scanner

- ~500K start pings every month
- 6M Docker pulls in Feb 2021
- Used by large enterprises and individuals globally
- Foundation for multiple commercial tools

Who is ZAP For?

- Developers and functional testers (QA)
- Students
- Security Professionals

How can you run ZAP?

- Desktop GUI (requires Java)
- Heads Up Display
- Automation

How often is ZAP released?

- Full releases – averaging 2 a year
- Add-ons – released as and when required
- Weekly releases (zip and docker image)
- Live docker image

Any Questions so far?

ZAP Automation

- Command line scan
- Packaged Scans
- GitHub actions
- Daemon + API
- Automation Framework

New Automation Framework

- Runs entirely in ZAP
- No requirement for any containers
- Easily extensible
- Simple configuration – one YAML file
- Currently no GUI
- Expected to be most common way to automate ZAP

Command Line Options

-autorun <filename>	Run the automation jobs specified in the file
-autogenmin <filename>	Generate template automation file with the key parameters
-autogenmax <filename>	Generate template automation file with all parameters
-autogenconf <filename>	Generate template automation file using the current configs

Minimal YAML File

```
env:
  contexts:
    - name: example
      url: https://www.example.com/
jobs:
  - type: spider
  - type: passiveScan-wait
  - type: report
```

Automation Framework Demos

- Minimal Generated Configuration
- Maximum Generated Configuration
- Baseline Scan
- Full (restricted) Scan

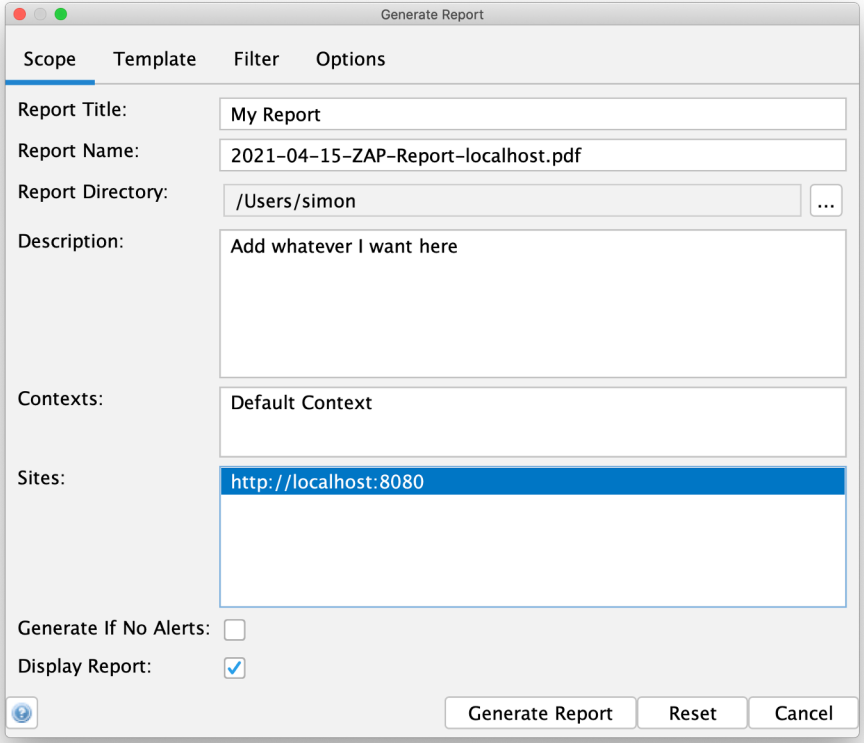
Reporting

- Core functionality not changed since Paros
- 3 reporting add-ons, none actively maintained
- Now a forth add-on
- This will be actively maintained
- And will replace the core functionality

New Reporting Add-on

- Already much more flexible
- Supports
  - HTML, MD, JSON, XML, PDF
  - External resources like images and JS
- Uses Thymeleaf open source templating language
- Internationalized
- Can access much more data from ZAP

Reporting Demo



Example HTML Report Fragment

```
<table class="summary">
  <tr>
    <th th:text="#{report.alerts.summary.risklevel}" width="45%" height="24">Risk Level</th>
    <th th:text="#{report.alerts.summary.numalerts}" width="55%" align="center">Number of Alerts</th>
  </tr>
  <tr th:each="i : ${#numbers.sequence(3, 0, -1)}">
    <td th:class="${'risk-' + i}">
      <div th:text="${helper.getRiskString(i)}">Risk</div>
    </td>
    <td align="center">
      <div th:text="${alertCounts.get(i)} ?: '0'">Count</div>
    </td>
  </tr>
</table>
```

ZAP Reporting Competition

- $100 for each HTML/PDF template we include with ZAP
- Aiming to accept around 10
- Looking for different styles, but must be practical
- Detail on the ZAP Blog: https://www.zaproxy.org/blog/2021-03-12-report-competition/
- Accepting submissions now!

Find Out More

- www.zaproxy.org
- Twitter: @zaproxy