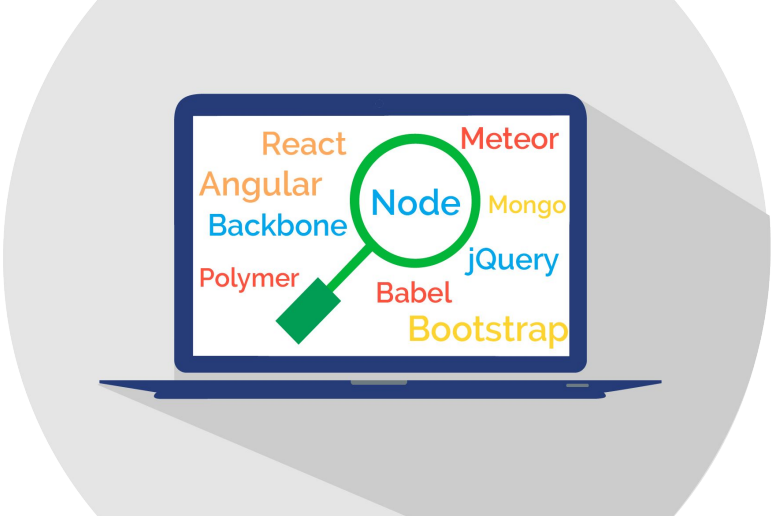
ScanCode Overview

Fall 2019



Topics

- Why ScanCode
- ScanCode Community
- What is ScanCode?
- ScanCode Roadmap

Why ScanCode Toolkit

- Easy and simple to install and run, self contained
- Best in class license & copyright scan accuracy
  - Based on natural language processing
- Runs on Linux, Mac OSX and Windows
- Find structured package manifest and dependencies
- Modern codebase, easy to grok and evolve

Easy to install and run

- ScanCode is **easy to install and run**. It runs on Windows, macOS and Linux. It runs on your laptop.
  - It can be used by your development teams
  - It can be used **by your supply chain partners, big and small**

- So easy my mother can install and run it!

Best in class license detection

- ScanCode has the most accurate license detection engine
  - **Less review needed**
- Also collects the full matched notice texts
  - Can be used to **automate attribution notice** creation
- Other scanning tools miss detecting or misdetect.
  - Used by Linux kernel maintainers to clean kernel licensing
  - Selected by Here.com for ORT as best in class
  - Selected by the Eclipse Foundation for ip due diligence
  - Used in ClearlyDefined to scan 6 Million+ FOSS packages

Easy to integrate in your process

- Command line tool, minimal dependencies
  - Easy to add to your CI/CD process pipeline
- Multiple OS support: Windows, macOS and Linux.
- SPDX, JSON, CSV outputs

ScanCode community

- 750+ stars on GitHub , 200+ forks, 70+ contributors
- Reactive bug fixing
- Heavily tested with 10,000+ unit and integration tests
- Apache-licensed
- ScanCode is part of the OpenChain compliance automation tooling group
- ScanCode is the referenced scanner in ClearlyDefined, ORT and Quartermaster.

Who uses ScanCode

- Used at top FOSS orgs and projects
  - ClearlyDefined, Debian, Eclipse, FSF, Linux kernel, Object Web, OpenEmbedded.org, Openshift analytics, ORT, Quartermaster, CHAOSS and others.

- Used at major companies
  - Amazon, Comcast, Facebook, Google, Here.com, Microsoft, Red Hat, VMware and others

What is ScanCode?

Open source tools for open source compliance

- Toolkit - Identify software origin and license from the code

  https://github.com/nexB/scancode-toolkit
- Workbench - Review scans and conclude licensing

  https://github.com/nexB/scancode-workbench
- Licenses
  - Software - Apache 2.0 (SPDX id:Apache-2.0)
  - License Data - Creative Commons Public Domain (SPDX id: CC0-1.0)

Other companions tools and projects

- DeltaCode - compare two scans
- AboutCode toolkit - generate attribution notices
- TraceCode - trace your build: what code is used and how
- VulnerableCode - The free correlated vulnerabilities DB
- conan - Analyze Docker images packages

Next steps

- New version 3.x about to be released
- We are starting monthly community requirement planning online meeting to plan for 4.x

ScanCode Roadmap

- Deduction and inference for scan conclusions
  - Traceable Machine Learning
- Open source scancode.io - server for scanning
- License detection in other languages, beyond English
- VulnerableCode - the free vulnerabilities DB is now funded by the EU and NLnet
- SPDX Lite support?

ScanCode Toolkit

Detect provenance (origin and license) data from files, packages or package manifests

- Copyright detection based on natural language processing
- License detection based on automatons, inverted indexes and multi-diffs
  - Public repository of license rules and samples
  - Add/correct detections by adding/correcting rule or samples - not code
- JSON, CSV, SPDX and other output formats

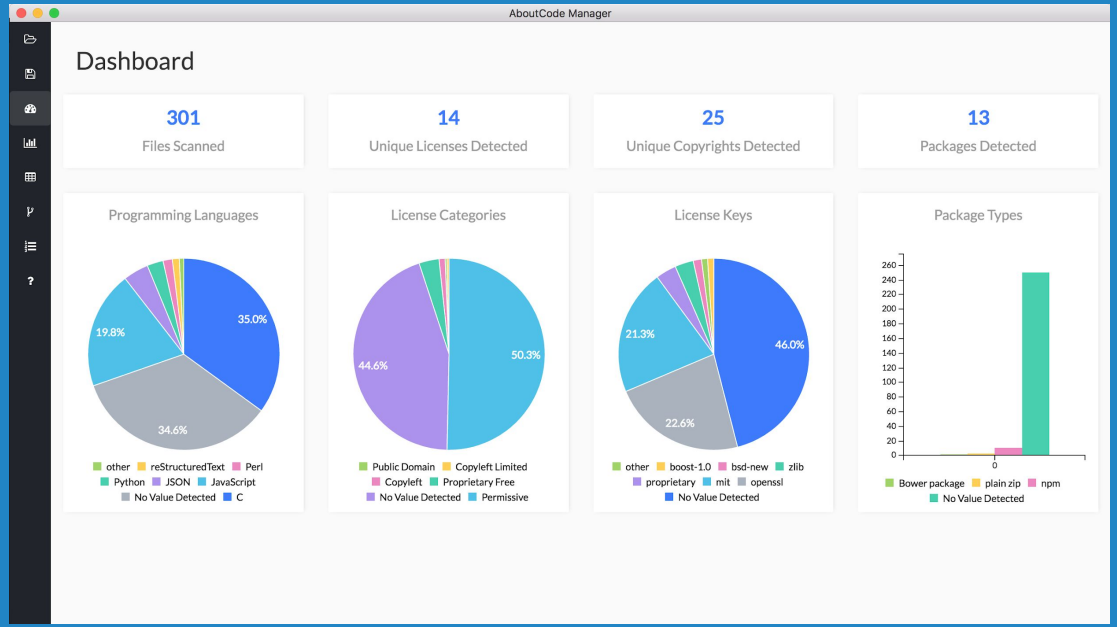
ScanCode Toolkit [2]

Other features

- Detect authors, URLs and email addresses
- Report copyright holders to summarize copyright notices
- Plugin architecture for “pre” or “post” extensions - good for filters, summarization or other…….
- DeltaCode to compare Scans
- "Universal" archive extractor

ScanCode Workbench

- Visualize Scan data
- Document license conclusions
- Electron-based desktop application
- Linux, Mac OSX and Windows



ScanCode Workbench

- Tree View - see and navigate codebase hierarchy
- Dashboard View - visualizations showing the number of Files Scanned and Licenses, Copyrights and Programming Languages detected
- BarChart View - bar charts showing summary data for Copyrights, Licenses and other file data
- Table View - DataTable for all Scan data
  - Configure columns displayed by set or individually
  - Set filters on any column

ScanCode Workbench [2]

- Conclusions View
  - Option to record your concluded license and copyright holder or other fields - very useful for summarisation
  - Most fields are pre-filled from Scan data
  - Export as draft Inventory to other systems
- Other
  - WB converts JSON file to SQLite database for use within WB
  - Some users use a SQL-DB tool to query the data separately from WB

ScanCode Community

- 70+ contributors, 750+ stars, 200+ forks
- Used at major tech companies - Amazon, Facebook, Google, Red Hat and others
- Used at top FOSS orgs - ClearlyDefined, Debian, Eclipse, FSF, Linux kernel, ORT, Quartermaster, Bitergia/CHAOSS and others.
- Google Summer of Code organization: Three students completed projects in GSoC 2019

About nexB

- Our mission is to make it easier to reuse FOSS
  - Open source solutions for open source compliance
  - ScanCode, AboutCode, TraceCode and other projects
- Bootstrap company based in Silicon Valley
  - DejaCode enterprise compliance system (commercial)
  - Acquisition and product audit/analysis services
  - Working on FOSS compliance since 2007

Credits

Special thanks to all the people who made and released these awesome free resources:

- Presentation template by SlidesCarnival
- Photographs by Unsplash
- And all the software authors that made ScanCode possible