



Getting Started

Version 2022.2.0



This edition of the *Getting Started* refers to version 2022.2.0 of Black Duck.

This document was created or updated on Tuesday, February 22, 2022.

Please send your comments and suggestions to:

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Black Duck documentation

The documentation for Black Duck consists of online help and these documents:

Title	File	Description
Release Notes	release_notes.pdf	Contains information about the new and improved features, resolved issues, and known issues in the current and previous releases.
Installing Black Duck using Docker Swarm	install_swarm.pdf	Contains information about installing and upgrading Black Duck using Docker Swarm.
Getting Started	getting_started.pdf	Provides first-time users with information on using Black Duck.
Scanning Best Practices	scanning_best_practices.pdf	Provides best practices for scanning.
Getting Started with the SDK	getting_started_sdk.pdf	Contains overview information and a sample use case.
Report Database	report_db.pdf	Contains information on using the report database.
User Guide	user_guide.pdf	Contains information on using Black Duck's UI.

The installation methods for installing Black Duck software in a Kubernetes or OpenShift environment are Synopsysctl and Helm. Click the following links to view the documentation.

- [Helm](#) is a package manager for Kubernetes that you can use to install Black Duck.
- [Synopsysctl](#) is a cloud-native administration command-line tool for deploying Black Duck software in Kubernetes and Red Hat [OpenShift](#).

Black Duck integration documentation is available on [Confluence](#).

Customer support

If you have any problems with the software or the documentation, please contact Synopsys Customer Support.

You can contact Synopsys Support in several ways:

- Online: <https://www.synopsys.com/software-integrity/support.html>
- Phone: See the Contact Us section at the bottom of our [support page](#) to find your local phone number.

To open a support case, please log in to the Synopsys Software Integrity Community site at <https://community.synopsys.com/s/contactsupport>.

Another convenient resource available at all times is the [online customer portal](#).

Synopsys Software Integrity Community

The Synopsys Software Integrity Community is our primary online resource for customer support, solutions, and information. The Community allows users to quickly and easily open support cases and monitor progress, learn important product information, search a knowledgebase, and gain insights from other Software Integrity Group (SIG) customers. The many features included in the Community center around the following collaborative actions:

- Connect - Open support cases and monitor their progress, as well as, monitor issues that require Engineering or Product Management assistance
- Learn - Insights and best practices from other SIG product users to allow you to learn valuable lessons from a diverse group of industry leading companies. In addition, the Customer Hub puts all the latest product news and updates from Synopsys at your fingertips, helping you to better utilize our products and services to maximize the value of open source within your organization.
- Solve - Quickly and easily get the answers you're seeking with the access to rich content and product knowledge from SIG experts and our Knowledgebase.
- Share - Collaborate and connect with Software Integrity Group staff and other customers to crowdsource solutions and share your thoughts on product direction.

[Access the Customer Success Community](#). If you do not have an account or have trouble accessing the system, click [here](#) to get started, or send an email to community.manager@synopsys.com.

Training

Synopsys Software Integrity, Customer Education (SIG Edu) is a one-stop resource for all your Black Duck education needs. It provides you with 24x7 access to online training courses and how-to videos.

New videos and courses are added monthly.

At Synopsys Software Integrity, Customer Education (SIG Edu), you can:

- Learn at your own pace.
- Review courses as often as you wish.

- Take assessments to test your skills.
- Print certificates of completion to showcase your accomplishments.

Learn more at <https://community.synopsys.com/s/education> or for help with Black Duck, select **Black Duck**

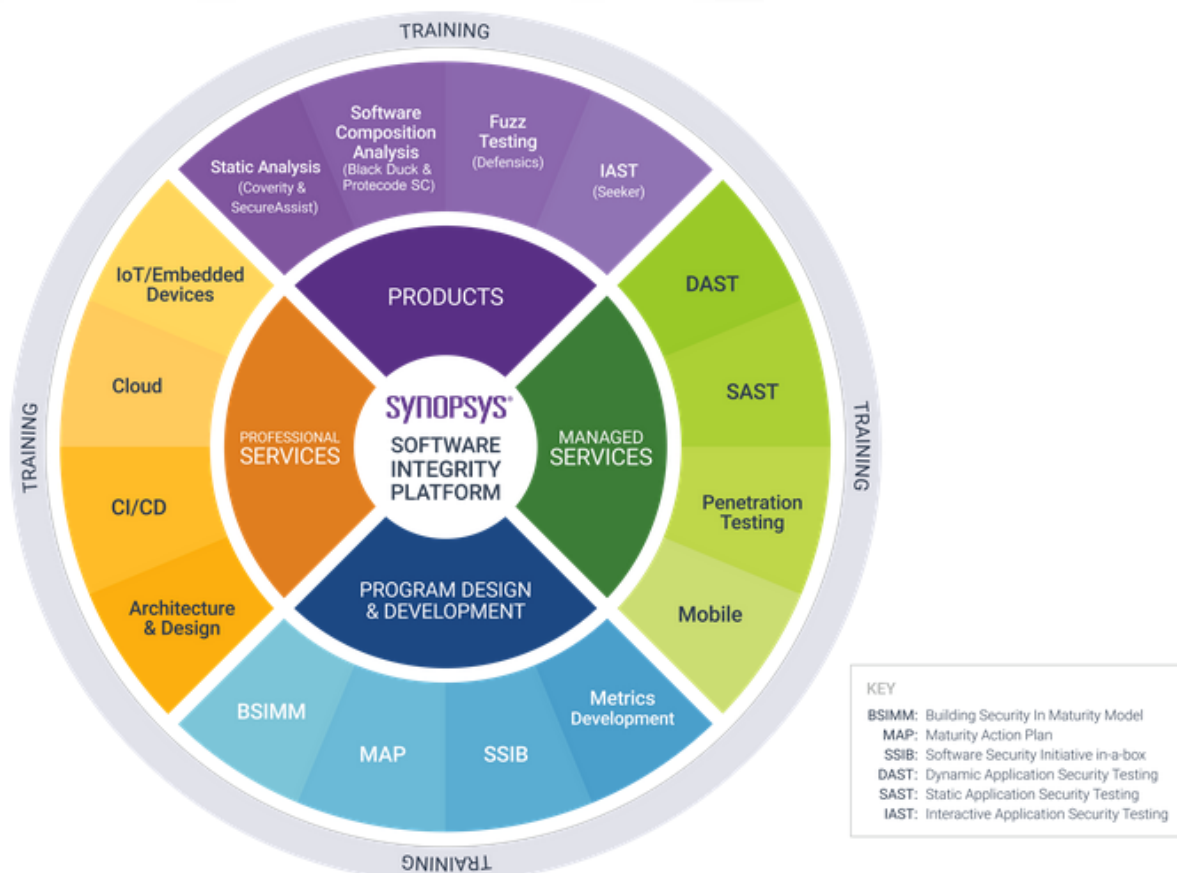
Tutorials from the Help menu () in the Black Duck UI.

Synopsys Statement on Inclusivity and Diversity

Synopsys is committed to creating an inclusive environment where every employee, customer, and partner feels welcomed. We are reviewing and removing exclusionary language from our products and supporting customer-facing collateral. Our effort also includes internal initiatives to remove biased language from our engineering and working environment, including terms that are embedded in our software and IPs. At the same time, we are working to ensure that our web content and software applications are usable to people of varying abilities. You may still find examples of non-inclusive language in our software or documentation as our IPs implement industry-standard specifications that are currently under review to remove exclusionary language.

Chapter 1: About Black Duck

The Synopsys Software Integrity Group (SIG) offers a comprehensive suite of services and tools that support customers on their security journey. From customers just starting with security, to customers strengthening an established program, SIG has the expertise, skills, and products necessary for success.



Black Duck, a Software Composition Analysis (SCA) tool, helps with managing the supply chain of software, understanding the third-party components in use and minimizing risks from known vulnerabilities and licensing. Black Duck is a comprehensive solution for supply chain management, based primarily on source analysis.

Using Black Duck, you can:

- Scan your code and identify open source software that exists in your code base.
- View the generated Bill of Materials (BOM) for your software projects.
- View vulnerabilities that have been identified in open source components.
- Assess your security, license, and operational risk.

Chapter 2: Logging in to Black Duck

Logging in to Black Duck lets you search projects that may be restricted to team members or company employees.

Note: You must have a username and password to access Black Duck. Contact your system administrator if you do not have a username. If Black Duck is configured to use LDAP, you may be able to log in to Black Duck using those credentials.

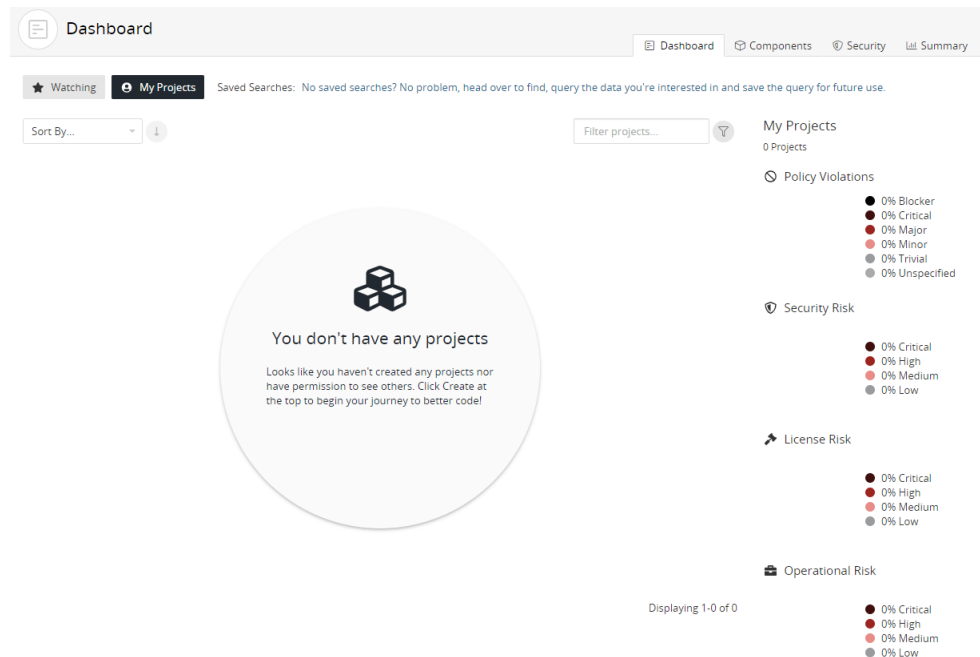
To log in to Black Duck:

1. Using a browser, navigate to the Black Duck URL supplied by your system administrator. Typically the URL is in the format `https://<server hostname>`.
2. Enter the username and password provided by your Black Duck administrator. Your password is case sensitive.

Note: If your administrator has enabled password requirements and your password does not meet the requirements, a dialog box appears notifying you that you must change your password. When updating your password, make sure that it meets the requirements, as listed in the dialog box. You will not be able to log in to Black Duck unless the password meets *all* requirements.

3. Click **Login**.

When you first log in after installing Black Duck, an empty Dashboard page appears. For information to appear in Black Duck, you need to scan your code and map your code to a project, as described in the next chapter.



By default the Dashboard page only shows the **Watching** and **My Projects** dashboards. You can also create custom dashboards so that you can quickly view the project versions or component versions that are important to you: search for projects and/or components and then save the searches. Your saved searches appear on the Dashboard page.

Black Duck component scanning is scanning functionality that provides an automated way to determine the set of open source software (OSS) components that make up a software project. Component scanning helps organizations manage their use of open source binaries by identifying and cataloging OSS components in order to provide additional metadata such as license, vulnerability, and OSS project health for those components.

Black Duck provides these scanning tools:

- Synopsys Detect. [Synopsys Detect](#) is the recommended scanning tool for Black Duck.
- Black Duck's Rapid Scanning provides a way for developers to quickly determine if the versions of open source components included in a project violate corporate policies surrounding the use of open source. Using Synopsys Detect, Rapid Scanning quickly returns results as it only employs package manager scanning and does not interact with the Black Duck server database. Refer to the Black Duck online help or User Guide for more information about Rapid Scanning.
- Synopsys Detect (Desktop), as described below.
- Command line (CLI) version of the Signature Scanner. Refer to the Black Duck online help or User Guide for more information.

Using Synopsys Detect (Desktop)

Synopsys Detect (Desktop) provides a new interface to make it easier to scan code.

With Synopsys Detect (Desktop), you can:

- [Scan](#) source directories, binaries and executables, and docker images and distributions.
- [Create a scan file](#) to be uploaded at a later time.
- [Manage scan files](#).
- [Upload scan files](#) directly to Black Duck.
- [View uploaded scans](#).

To use Synopsys Detect (Desktop):

1. Download and install Synopsys Detect (Desktop).
2. Configure Synopsys Detect (Desktop) with your Black Duck server settings and complete the installation process.
3. Use Synopsys Detect (Desktop) to scan and/or upload your files.

Note: An error message appears if you exceed the scan size limit, which is 5 GB (6 GB for Black Duck - Binary Analysis). Contact Customer Support if you receive this message.

Be sure that your system meets the system requirements of Synopsys Detect.

- Click [here](#) for the system requirements for the latest version of Synopsys Detect.
- Click [here](#) for the documentation for previous versions of Synopsys Detect. Use this page to find the Synopsys Detect version and view the system requirements.

Downloading and installing Synopsys Detect (Desktop)

1. Log in to Black Duck.
2. Navigate to the drop-down menu under your username and select **Tools**.
3. Select the operating system you wish to use in the **Downloads Synopsys Detect (Desktop)** section to download the executable from Google Cloud Storage.
4. Run the executable to install Synopsys Detect (Desktop).

If you are upgrading from a previous version of Synopsys Detect (Desktop), an option appears to migrate data from the previous version.

Note: As the application installs into a directory related to its name, Synopsys Detect (Desktop) will not uninstall previous versions of Black Duck Detect Desktop. It also will not uninstall versions of Synopsys Detect (Desktop) that were installed in a non-default directory. You must manually uninstall all previous versions of Black Duck Detect Desktop, versions of Synopsys Detect (Desktop) installed in the non-default directory, and fix or delete any shortcuts.

If the Synopsys Detect (Desktop) does not open after installation and the following error message appears:

```
The SUID sandbox helper binary was found, but is not configured correctly.
Rather than run without sandboxing I'm aborting now. You need to make sure
that /opt/Synopsys Detect/chrome-sandbox is owned by root and has mode
4755.
```

your operating system does not support the Sandbox at the kernel layer. To run Synopsys Detect (Desktop) with the Sandbox disabled, enter the following at the command line:

```
synopsys-detect --no-sandbox
```

Command line options for Windows

- Unattended (silent) install for Synopsys Detect

```
./synopsys-detect-latest.exe /S
```

- Installing to a specific directory

```
./synopsys-detect-latest.exe /D=C:\directory
```

Installing the Linux version of Synopsys Detect (Desktop)

1. Download the executable from your Black Duck server, as described in the previous section.
2. Install Synopsys Detect (Desktop):

```
cd Downloads
```

To install on CentOS/RedHat:

```
sudo yum localinstall synopsys-detect-latest.rpm
```

To install on Ubuntu/Debian:

```
sudo apt install ./synopsys-detect-latest.deb
```

3. Change the permission of chrome-sandbox:

```
cd "/opt/Synopsys Detect"  
sudo chmod 4755 chrome-sandbox
```

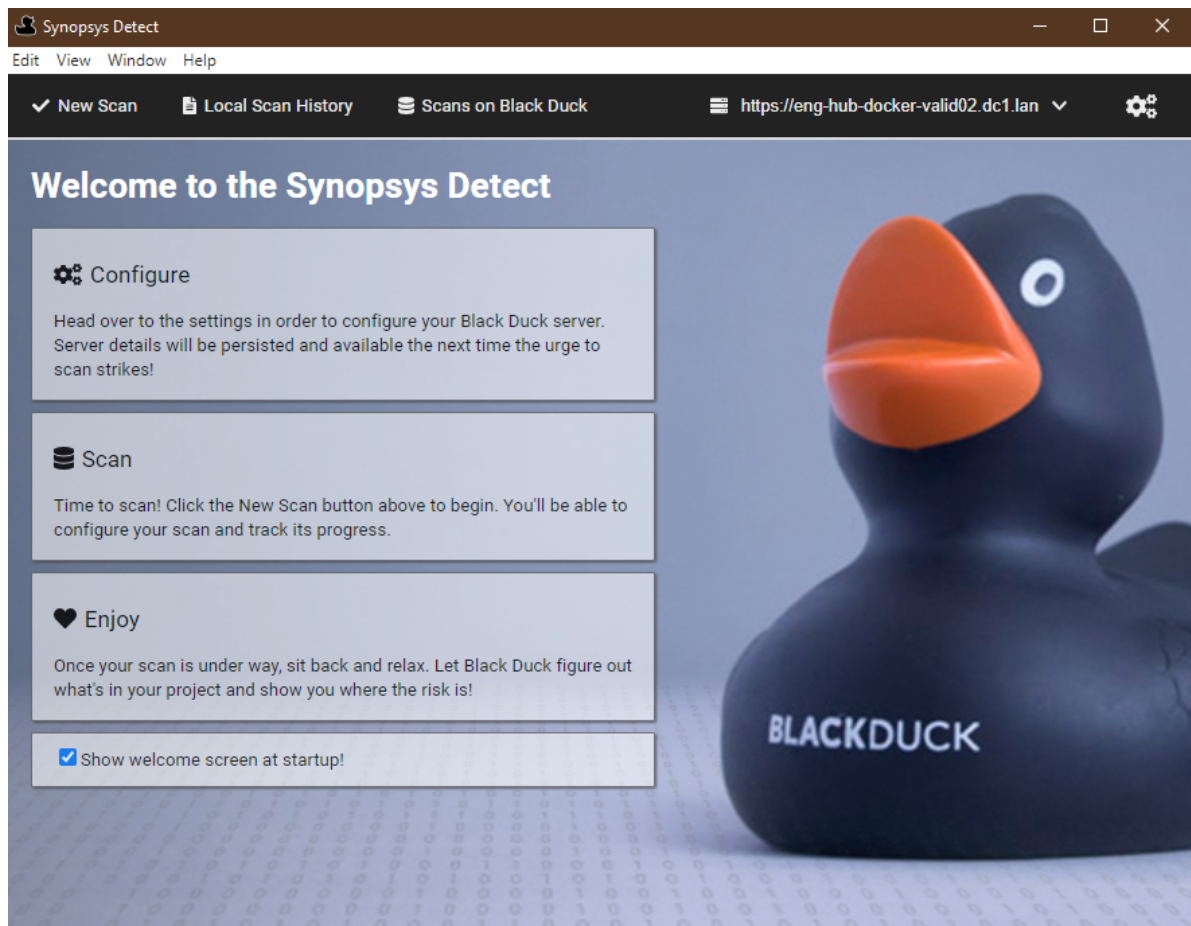
4. Run Synopsys Detect (Desktop):

```
./synopsys-detect --no-sandbox
```

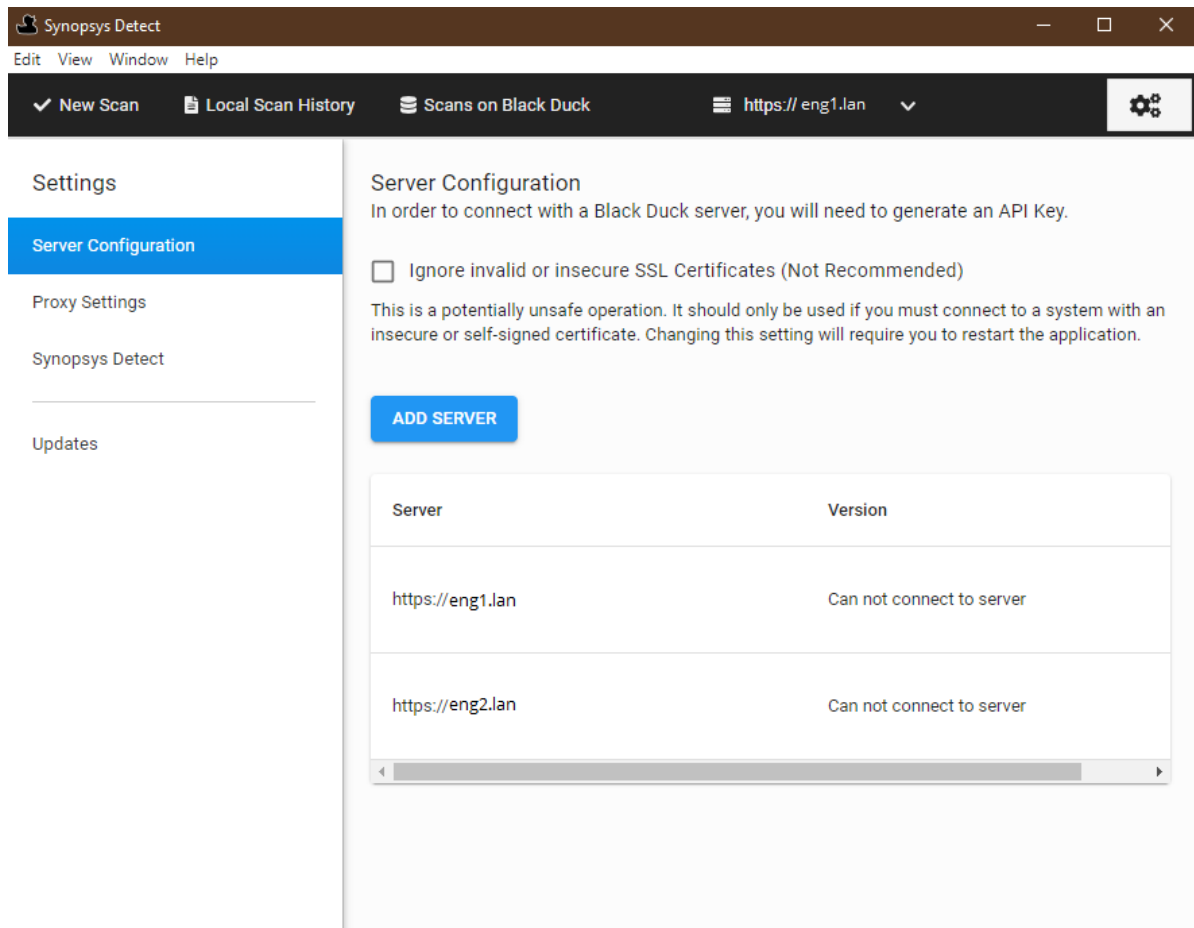
Configuring Synopsys Detect (Desktop)

After installing Synopsys Detect (Desktop), continue the installation process by configuring your Black Duck settings.

1. After installing or upgrading to Synopsys Detect (Desktop), the Welcome page appears.



2. Click , located in the upper right corner display the Settings page.



3. As described below, select one of the following tabs and complete the installation and configuration process:
 - Server Configuration
 - Proxy Settings
 - Synopsys Detect
 - Updates

Black Duck server configuration

To add a server:

1. Select the **Server Configuration** tab and click **Add Server**.

The Add Server dialog box appears.

Add Server

Black Duck Server URL

Generate New API Key [Already have a key?](#)

To generate a new API key, enter your username and password for your Black Duck server. The API key name is used to identify the key and must be unique.

API Key Name

Username *

Password *

CANCEL CREATE


2. Specify the Black Duck Server URL. Enter the URL to the Black Duck server as you would type it in the browser, for example `https://servername:8443/`

If required, enter context information, for example, if the X-Forwarded-Prefix header is being specified in a proxy server/load balancer configuration.

3. Generate or enter an API key (user access token).
 - To generate a new API key:
 - a. Enter a key name, your username, and password.
 - b. Click **Create**.
 - To enter an API key:
 - a. Select **Already have a key?**
 - b. Enter the API key in the field.
 - c. Click **Create**.
4. Click **Save**. Synopsys Detect (Desktop) connects to the Black Duck server and displays the version of Black Duck you are connected to.

To remove an API key:


Removing the API key does not delete the key in Black Duck. It only removes it locally.

1. Select the **Server Configuration** tab.
2. Click  in the row of the server and select **Remove API Key**.

The Remove API Key dialog box appears.

3. Click **OK** to confirm.

To delete a configuration

1. Click  in the row of the server and select **Delete Configuration**.

The Delete Server Configuration dialog box appears.

2. Click **OK** to confirm.

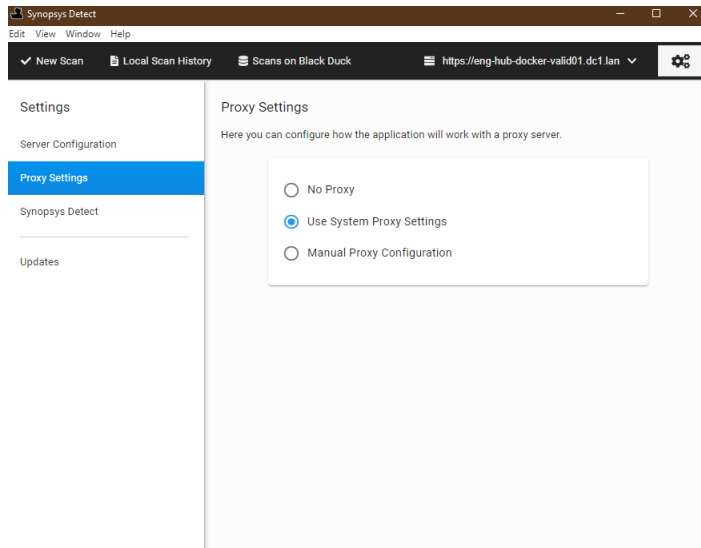
Proxy settings

Accessing Synopsys Detect (Desktop) through a proxy is supported. Synopsys Detect (Desktop) automatically uses your local system proxy setup.

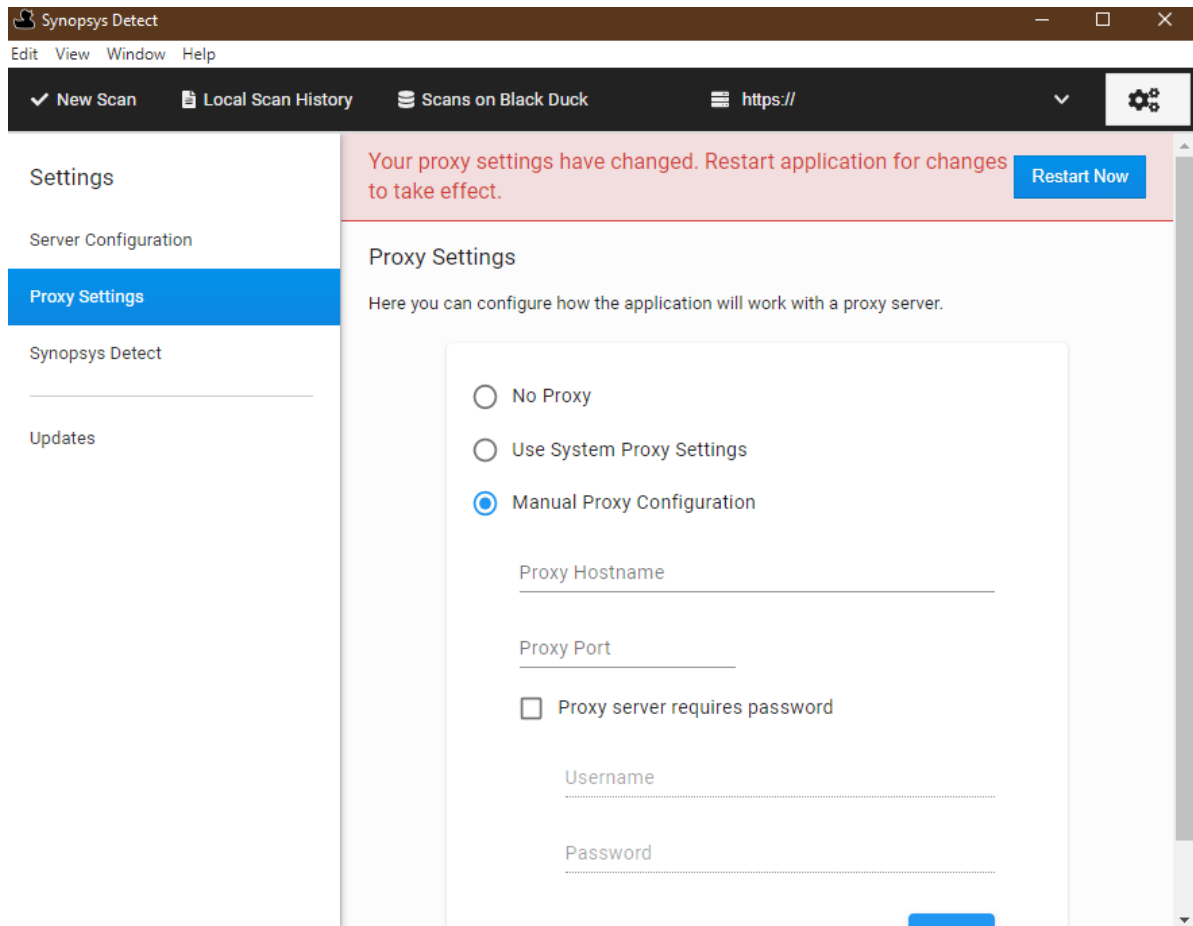
If you are required to manually enter your proxy settings or you do not require a proxy, you can modify these default settings.

To modify the default proxy settings:

1. Select the **Proxy Settings** tab.



2. Select either **No Proxy** or **Manual Proxy Configuration**.
3. If you select a manual proxy configuration:



a. Enter the following information:

- Your proxy host name.
- Port number.
- Whether authentication is required.
- Your username and password.

If a proxy is enabled and authentication is required, you may have to re-enter your username and password.

b. Click **Save**.

4. Restart the application.

Configuring Synopsys Detect settings

Optionally, select **Synopsys Detect** and if necessary, define any Synopsys Detect settings, clear any build tools you do not want to use, or manually configure the path to the build tools.


Checking for updates

You can check to see if there are updates to the Synopsys Detect (Desktop) by selecting the **Updates** tab. The page lists the last time you checked for updates. Click **Check for updates** to view if there are newer

versions available. This option is only available for Windows and MacOS systems.

Certificates

When connecting to Black Duck, you can ignore invalid or insecure SSL certificates.

1. Click , located in the upper right corner display the Settings page.
2. Select the **Server Configuration** tab and select **Ignore invalid or insecure SSL Certificates**.
3. Restart the application.

Caution: This is a potentially unsafe operation. It should only be used if you must connect to a system with an insecure or self-signed certificate.

Scanning options

The Synopsis Detect (Desktop) makes it easier to scan:

- Source directories
- Binaries or executables
- Docker images or distributions


By default, all scans are uploaded to the Black Duck server and mapped to a project version. However, you can create a scan file as described [here](#), to output the scan to a file which you can later upload to Black Duck.

To specify project and/or version names:

1. Click **ADD** located next to **Project Settings**.
2. Select **Project Name** and/or **Version Name**. The fields appear in the UI.
3. Specify the values for the field(s).

Scanning Source Directory

To scan a source directory:

1. Click **New Scan**.
2. From the **What type of scan?** list, select **Source Directory**,
3. Click  to select the directory you would like to scan.
4. Optionally, modify or configure any project or scan settings by clicking **ADD** and selecting the setting.

If you have purchased a snippet scanning license and want to enable snippet scanning, select **Snippet Matching** from the **Scan Settings** options and enable it.


5. Click **Scan**.

The status of the scan appears along with an option to cancel the scan.

6. When the scan is complete, select the **Local Scan History** tab to view information on the completed scan. From this tab, you can [manage your scan](#). You can also view the uploaded scan using the **Scans** tab.

Scanning binary/executable

To scan a single binary or executable:


1. Click **New Scan**.
2. From the **What type of scan?** list, select **Binary/Executable**,
3. Click  to select the binary or executable you would like to scan.
4. Optionally, modify or configure any project settings by clicking **ADD** and selecting the setting.
5. Click **Scan**.

The status of the scan appears along with an option to cancel the scan.

6. When the scan is complete, select the **Local Scan History** tab to view information on the completed scan. From this tab, you can [manage your scan](#). You can also view the uploaded scan using the **Scans** tab.

Scanning a Docker image or distribution

To scan a Docker image or distribution (.tar file):

1. Click **New Scan**.
2. From the **What type of scan?** list, select **Docker**,
3. Do one of the following:
 - Enter the Docker image name.
 - Select **Choose Docker archive (.tar)** and click  to select the directory you would like to scan.
4. Optionally, modify or configure any project settings by clicking **ADD** and selecting the setting.
5. Click **Scan**.

The status of the scan appears along with an option to cancel the scan.

6. When the scan is complete, select the **Local Scan History** tab to view information on the completed scan. From this tab, you can [manage your scan](#). You can also view the uploaded scan using the **Scans** tab.

Creating a scan file

You can use Synopsys Detect (Desktop) to output the scan to a file which you can later upload to Black Duck by using Synopsys Detect (Desktop), as described below, the command line, or by using the Black Duck UI.

Note: Snippet scanning cannot be completed offline as it requires communication with the Black Duck server.

To create a scan file:

1. Click **New Scan**.
2. Select the type of scan (**Source Directory**, **Binary/Executable**, or **Docker**).
3. Optionally, modify or configure any project or, for source directory scanning, scan settings by clicking **ADD** and selecting the setting.
4. Select **Offline Mode**.
5. Click **Scan**.

The status of the scan appears along with an option to cancel the scan.

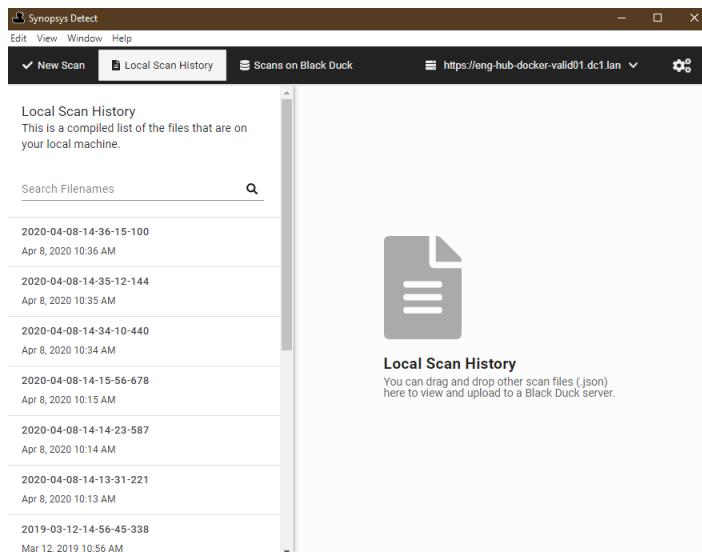
6. When the scan is complete, select the **Local Scan History** tab to view information on the completed scan.

Managing scans

Use the **Local Scan History** tab to manage your scans.

1. Click **Local Scan History**.

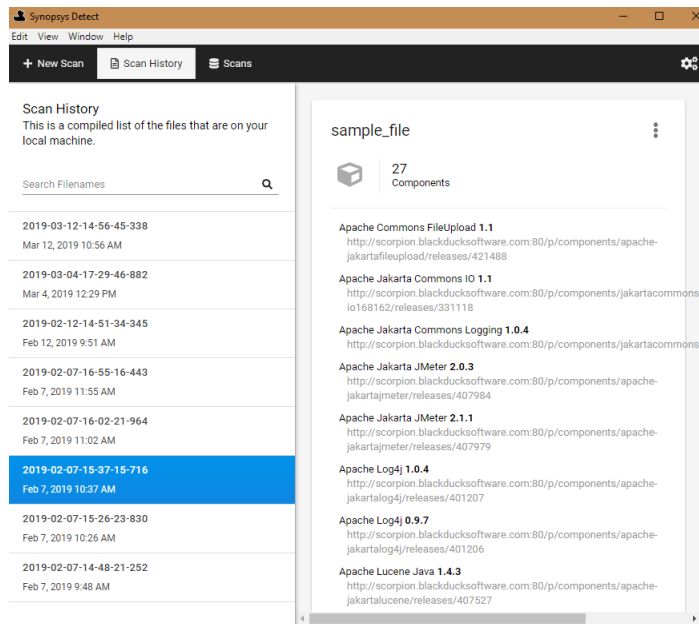
A list of scans on your local system appears in the left column of the tab.




Drag and drop scans from your local machine to this tab to manage them.

From this tab, select a scan and:

- View information on the contents of the scan:

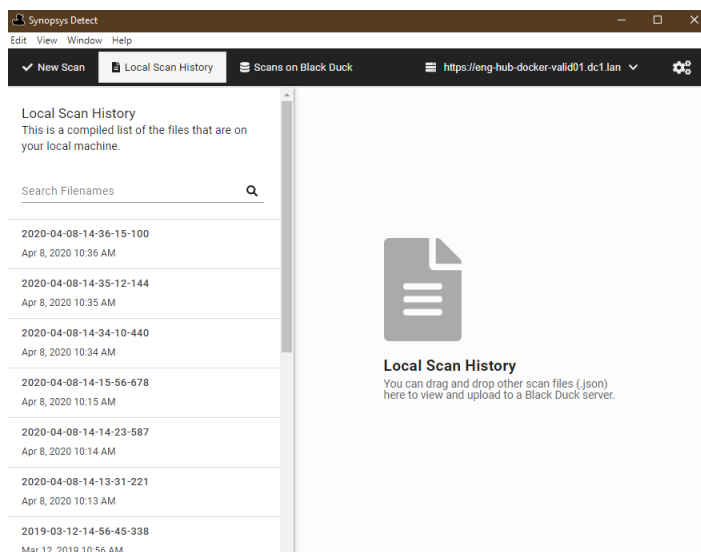


- View the location of the file on your system by clicking  and selecting **Show File**.
- Upload the file, as described in the next section.
- Delete the scan by hovering over the scan name in the left column and clicking **Delete**. Click **Yes** to confirm.

Uploading scan files to Black Duck


You can use Synopsys Detect (Desktop) to upload scan files to Black Duck.

1. Click **Local Scan History**.



2. If the file is on your local system, you can drag and drop the scan file from your local machine to the

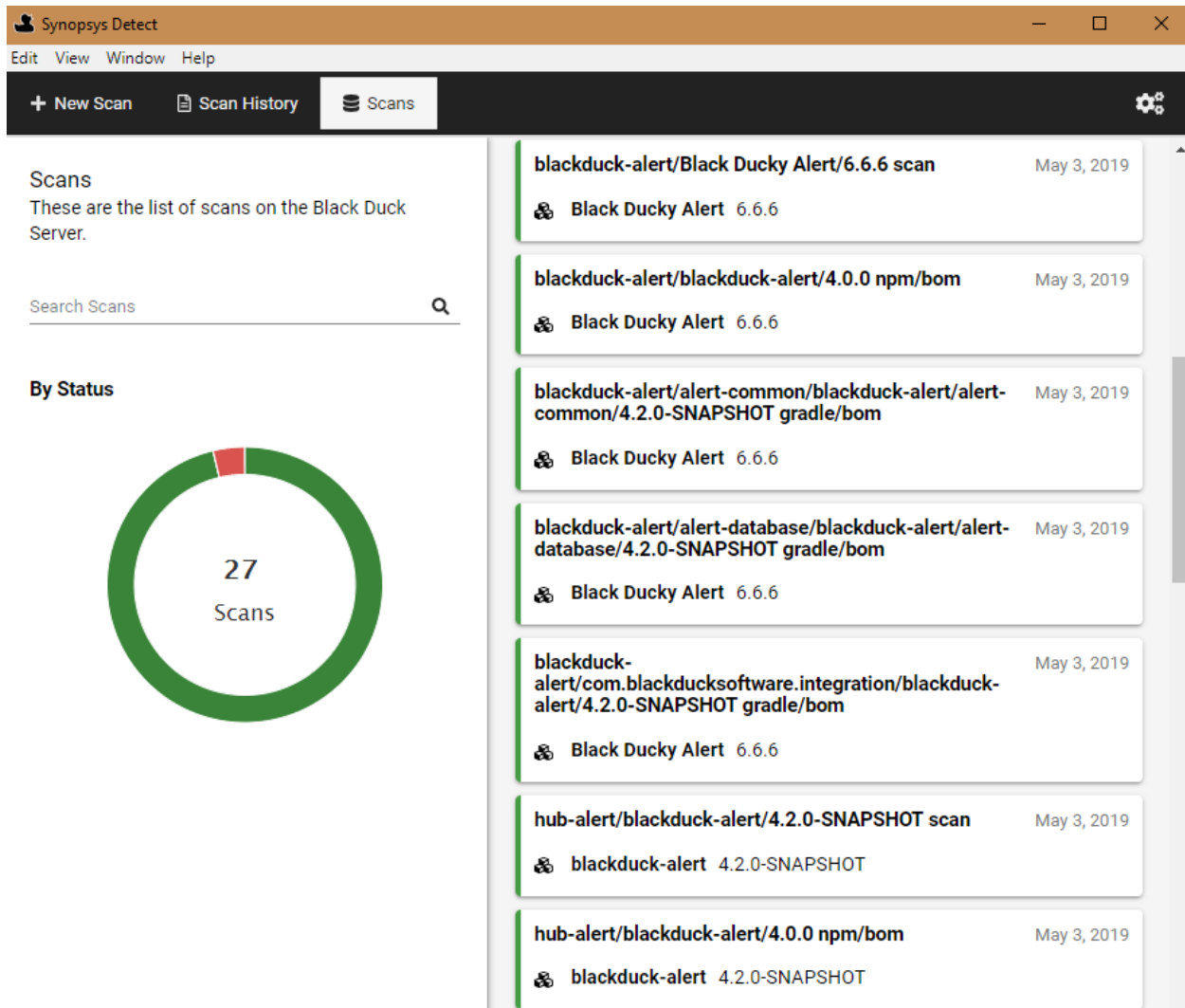
Scan History tab.

3. Select the file to upload and click  in the upper right corner to display the file options.
4. Click **Upload Scan File to Black Duck**. The Upload Progress window appears showing you the status of the upload. Close the window when the process is complete.

You can confirm that the scan has been uploaded by clicking **Scans** and viewing the uploaded file.

Viewing uploaded scans

You can view the scans that have been uploaded to Black Duck's UI by clicking **Scans on Black Duck**:



The screenshot shows the Synopsys Detect application interface. The top navigation bar includes 'Edit', 'View', 'Window', and 'Help'. Below this is a dark header with three tabs: '+ New Scan', 'Scan History', and 'Scans' (which is active). On the right of the header is a settings gear icon. The main content area is split into two columns. The left column, titled 'Scans', contains a description 'These are the list of scans on the Black Duck Server.', a search bar labeled 'Search Scans', and a 'By Status' section with a donut chart. The donut chart is mostly green with a small red segment, and it displays '27 Scans'. The right column displays a list of seven scan entries, each with a package path, a version number, and a date of 'May 3, 2019'. Each entry also includes a small icon and the text 'Black Ducky Alert 6.6.6'.

Package Path	Version	Date
blackduck-alert/Black Ducky Alert	6.6.6	May 3, 2019
blackduck-alert/blackduck-alert	4.0.0 npm/bom	May 3, 2019
blackduck-alert/alert-common/blackduck-alert/alert-common	4.2.0-SNAPSHOT gradle/bom	May 3, 2019
blackduck-alert/alert-database/blackduck-alert/alert-database	4.2.0-SNAPSHOT gradle/bom	May 3, 2019
blackduck-alert/com.blackducksoftware.integration/blackduck-alert	4.2.0-SNAPSHOT gradle/bom	May 3, 2019
hub-alert/blackduck-alert	4.2.0-SNAPSHOT scan	May 3, 2019
hub-alert/blackduck-alert	4.0.0 npm/bom	May 3, 2019

This tab displays the following information:

- The left side of the tab shows uploaded scans by status (in progress, completed, or error).

Use the search field to find a scan or limit the scans shown.

- The right side of the page lists the scans and shows the following information for each scan:
 - Name
 - Project and project version scan is mapped to or indicates that the scan is not mapped to a project.
 - Date the scan was uploaded to Black Duck.

Select a scan to open the *Scan Name* page in Black Duck for the selected scan.

Note: The number of scanned bytes displayed in Synopsys Detect (Desktop) may differ from the number of scanned bytes shown in Black Duck. This is because of how Black Duck calculates and counts the number of bytes used. This is normal and is expected to occur in some scans.

Creating a project

A project is the base unit in Black Duck. A project can be both a stand-alone development project and part of another project. For example, Apache Tomcat is a project in its own right but it may also be part of other, larger projects. You must create the projects that you want to make available for search by other developers in your organization.

Note that a project or application is limited to 10GB of Managed Code base.

To create a project:

1. Log in to Black Duck.
2. Click **+ Create Project** at the top of any page.

Create a New Project

Project Name *

> Add project details...

Version *

> Add version details...

Note: Archived project versions and manually added components are excluded.

☒ Always maintain component adjustments to all versions of this project.

Cancel Create

3. In the Create a New Project dialog box, enter a project name. This name must be unique among projects in Black Duck, although it can have the same name as a project in the Black Duck KB.

Tip: As a best practice, you should think about how other users will search for your projects when creating project names. For example, if your project is related to 3D graphics, naming it "3DGraphics" means that the user must type the entire project name in order to find your project. If you use a space or an underscore in the name, for example, "3D Graphics" or "3D_Graphics", the additional separator characters will allow users to locate the project using the search term "3D".

4. Optionally, select **Add project details** to enter additional information such as:

- Description.

Tip: As a best practice, you should think about how other users will search for your projects when creating project descriptions. The description should be specific about what the project does and how it is unique, so that it is easily distinguishable from other similar projects.

- Name of the project owner in the **Owner** field.

Note: If the user you add is not already a project member, Black Duck adds the user to the project team.

By default, the user creating the project is the project owner. The owner has the ability to assign their projects to users and groups.

- Select a tier.¹
- Select the attributes you wish to clone for new versions of this project.
- Select whether to enable custom scan signatures.

Note: To assign an application ID to a project, create the project, as described here, and then modify the project settings.

5. Type the version for this project in the **Version** field.
6. Optionally, select **Add version details** to enter additional information such as the planned release date, the project phase, and the method in which the project is being delivered.
7. By default, edits to a version of this project apply to all versions of this project, excluding archived versions and manually added components. Clear this option if you want edits to apply to specific versions only.
8. Click **Create**.

Black Duck displays the *Project Name* page.

Black Duck Projects
DP Sample Project

Project Versions: 1

Overview Settings

+ Create Version

Filter versions... Add Filter +

Version	Phase	Last Updated	License	Security Risk	License Risk	Operational Risk
2.0	In Planning	Oct 22, 2018	Unknown License			

Displaying 1-1 of 1

Description
No description.

Created
Sep 4, 2018 by sysadmin

Updated
Sep 4, 2018 by sysadmin

Tags
No Tags

Mapping a scan to a project

Mapping a scan adds the scan data to the BOM of a project version.

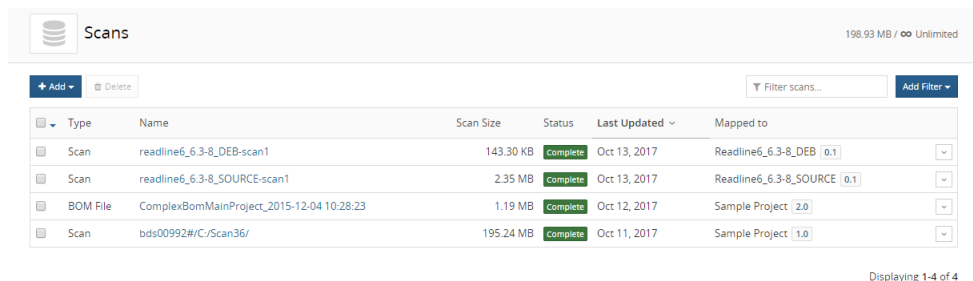
¹A tier lets you categorize projects in terms of importance to your company. Tier 0 projects are defined as those that are most critical to the company, where Tier 5 projects are defined as least critical.

Note: You can scan a Docker image or file directory location or archive more than once, but you only have to map it to a project version once. The host and path may be changed, but as long as code location name is the same, Black Duck automatically updates the BOM of the project with any new information discovered during subsequent scans.

To map a scan to a project:

1. Log in to Black Duck.


2. Click .

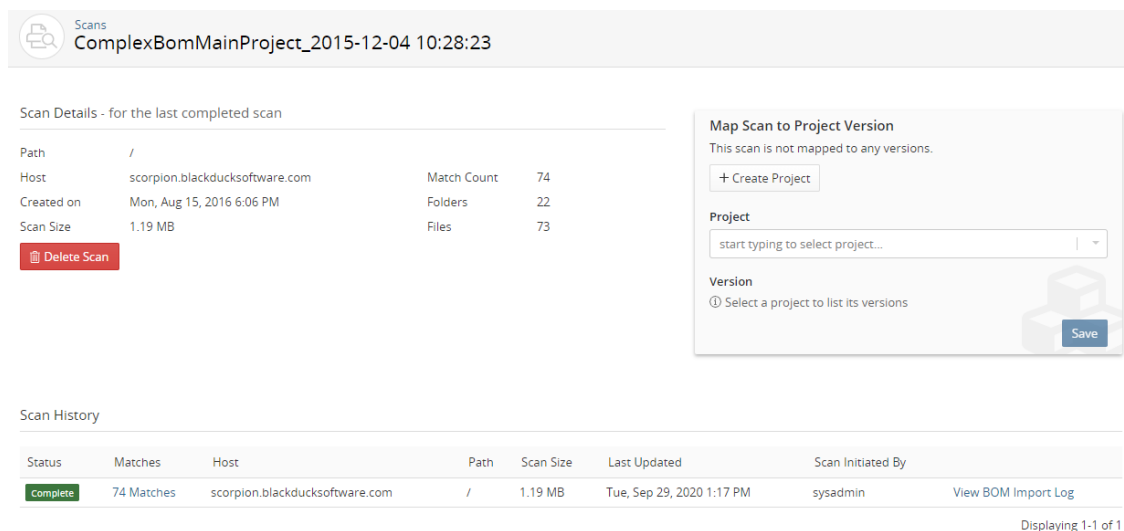


Type	Name	Scan Size	Status	Last Updated	Mapped to
Scan	readline6_6.3-8_DEB-scan1	143.30 KB	complete	Oct 13, 2017	Readline6_6.3-8_DEB 0.1
Scan	readline6_6.3-8_SOURCE-scan1	2.35 MB	complete	Oct 13, 2017	Readline6_6.3-8_SOURCE 0.1
BOM File	ComplexBomMainProject_2015-12-04 10:28:23	1.19 MB	complete	Oct 12, 2017	Sample Project 2.0
Scan	bds00992#/C:/Scan36/	195.24 MB	complete	Oct 11, 2017	Sample Project 1.0

Displaying 1-4 of 4

3. Do one of the following:

- Click  and select **Map to Project** in the row of the scan that you want to map.
- Select the path of the scan you want to map to open the *Scan Name* page.



Scan Details - for the last completed scan

Path	/	Match Count	74
Host	scorpion.blackducksoftware.com	Folders	22
Created on	Mon, Aug 15, 2016 6:06 PM	Files	73
Scan Size	1.19 MB		

[Delete Scan](#)

Map Scan to Project Version
This scan is not mapped to any versions.

[+ Create Project](#)

Project
start typing to select project...

Version
① Select a project to list its versions

[Save](#)

Scan History

Status	Matches	Host	Path	Scan Size	Last Updated	Scan Initiated By
Complete	74 Matches	scorpion.blackducksoftware.com	/	1.19 MB	Tue, Sep 29, 2020 1:17 PM	sysadmin

[View BOM Import Log](#)

Displaying 1-1 of 1

4. Start typing the name of a project to progressively display matches in the **Project** field.

If necessary, select **Create Project** to create a new project and version.

5. Select the project version to which you want to map the component scan.

If necessary, select **Create Version** to create a new version for a project.

6. Click **Save**.

Black Duck displays the name and version of the project to which you mapped the component scan. Select the link to open the BOM page.

Note: Black Duck displays an aggregate project version BOM. If a component version appears more than once in an archive, it is only displayed in the BOM once.

Chapter 4: Viewing risk in Black Duck

Black Duck helps you understand the type and severity of risks, at several levels of detail, across your projects. The data used to calculate risk is provided by the Black Duck KB.

Use the following pages to identify and manage risk in projects:

- Dashboard pages
- Project version page/**Components** tab
- Project version page/**Security** tab

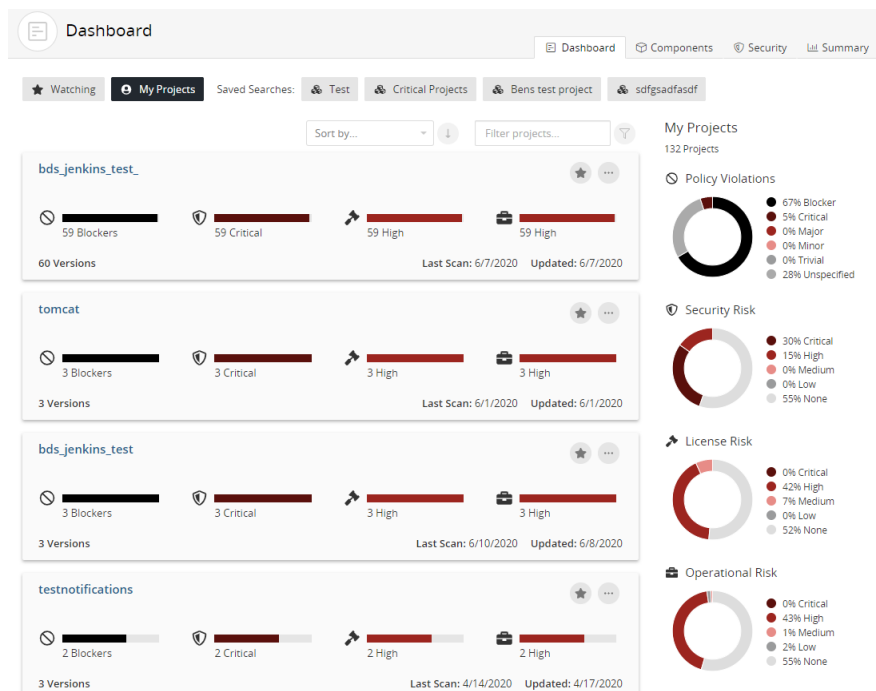
Note that the security risk values shown use CVSS v2 or CVSS v3.x scores, depending on which security risk calculation you selected; by default, CVSS v2 scores are shown. Note that the security risk graph displays a Critical risk category with a value of 0, if you selected CVSS v2.

Dashboards

Dashboards provide a high-level overview of risk from different perspectives.

Note: Dashboards will not contain any project or component information until you create projects and then map scans to these projects or manually add components to BOMs. The risk information for the components in your project versions' BOMs will then appear on the Dashboard pages.

- You can view the projects that interest you by using the **Watching** or **My Projects** dashboard or create a custom dashboard by saving your project search results.



Create a saved component search to view the components that interest you that are used in one or more projects.

Dashboard

Dashboard Summary

Projects

Watching

My Projects

Vuln Affecting Projects

Proj - High Security Risk

Comps - High Security Risk

Comps - High Security Risk

Sort by...

Filter Components...

Apache Struts > 2.3.7

Used By: 4 Project Versions

No Policy Violations

No License Risk

High

0 3 25 11

Approval Status: Unreviewed

First Detected: 2/1/2021

Release Date: 11/6/2012

Newer Versions: 81

Last Vuln: 2/4/2021

Growl > 1.9.2

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 0 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 2/21/2016

Newer Versions: 7

Last Vuln: 2/4/2021

Handlebars.js > 4.0.5

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 4 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 11/20/2015

Newer Versions: 52

Last Vuln: 2/4/2021

Request - Simple HTTP Client > 2.9.203

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 0 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 6/28/2012

Newer Versions: 163

Last Vuln: 2/4/2021

lodash.merge > 4.5.1

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 0 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 2/22/2016

Newer Versions: 7

Last Vuln: 2/4/2021

lodash.template > 3.6.2

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 0 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 6/30/2015

Newer Versions: 14

Last Vuln: 2/4/2021

lodash.template > 4.3.0

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 0 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 2/8/2016

Newer Versions: 6

Last Vuln: 2/4/2021

node-ini > 1.3.4

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 0 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 6/6/2015

Newer Versions: 5

Last Vuln: 2/4/2021

sequelize > 3.23.6

Used By: 1 Project Version

No Policy Violations

No License Risk

High

0 1 2 0

Approval Status: Unreviewed

First Detected: 2/4/2021

Release Date: 7/19/2016

Newer Versions: 445

Last Vuln: 2/4/2021

Results Summary

9 Components

Results updated at Feb 5, 2021 7:56 AM

Policy Violations

0% Blocker

0% Critical

0% Major

0% Minor

0% Trivial

0% Unspecified

100% None

Security Risk

0% Critical

100% High

0% Medium

0% Low

0% None

License Risk

0% High

0% Medium

0% Low

100% None

Operational Risk

100% High

0% Medium

0% Low

0% None

Displaying 1-9 of 9

- Create a saved vulnerability search to view the components that interest you.

Dashboard

Dashboard Summary

Projects

Saved Searches

★ Watching

👤 My Projects

🔍 Vuln Affecting Projects

🛡️ Proj - High Security Risk

🛡️ Comps - High Security Risk

Vuln Affecting Projects

BDSA-2019-1853 (CVE-2019-11272)

Used By 4 Project Versions

Overall Risk 5.5 Medium

✓ Solution

No Workaround

No Exploit

First Detected: 2/1/2021 Published: 6/21/2019 Last Modified: 6/21/2019

CWE-287

BDSA-2013-0030 (CVE-2013-1965)

Used By 4 Project Versions

Overall Risk 5.9 Medium

✓ Solution

No Workaround

⚠️ Exploit

First Detected: 2/1/2021 Published: 10/10/2018 Last Modified: 4/3/2020

CWE-95, CWE-94

BDSA-2018-1901 (CVE-2018-11040)

Used By 4 Project Versions

Overall Risk 3.2 Low

✓ Solution

✓ Workaround

No Exploit

First Detected: 2/1/2021 Published: 6/20/2018 Last Modified: 6/20/2018

CWE-200

BDSA-2019-4008 (CVE-2019-17571)

Used By 4 Project Versions

Overall Risk 6.4 Medium

No Solution

✓ Workaround

⚠️ Exploit

First Detected: 2/1/2021 Published: 12/20/2019 Last Modified: 7/16/2020

CWE-502

BDSA-2019-1179 (CVE-2019-10246)

Used By 4 Project Versions

Overall Risk 3.9 Low

✓ Solution

No Workaround

⚠️ Exploit

First Detected: 2/1/2021 Published: 4/23/2019 Last Modified: 4/23/2019

CWE-200

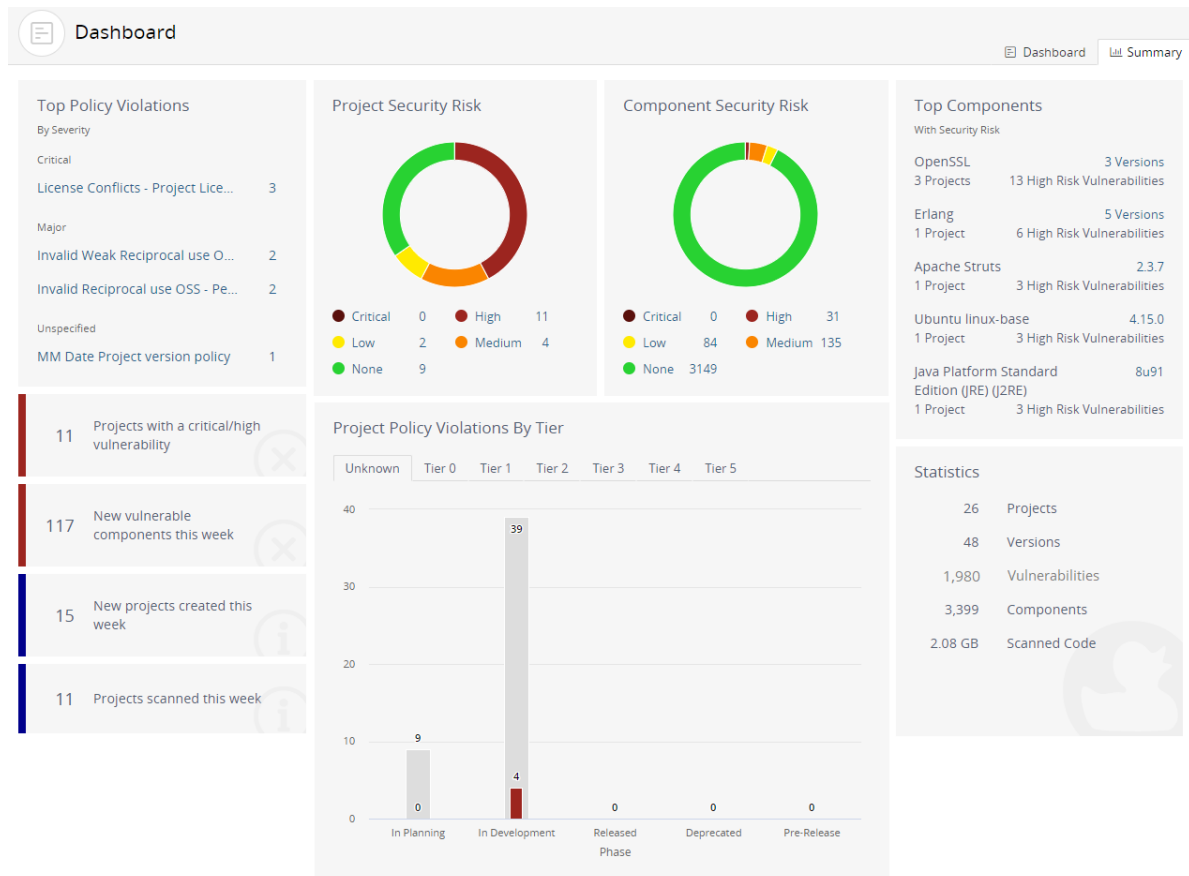
Results Summary


224 Vulnerabilities

Results updated at Feb 5, 2021 7:56 AM

[Saved Search Settings](#)

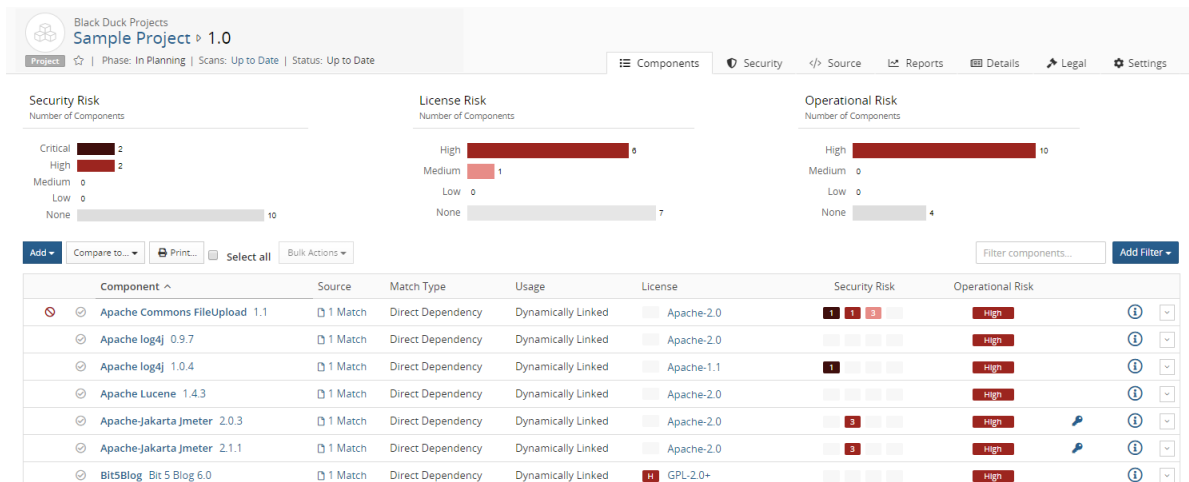
- Use the Summary Dashboard to view the overall health of the projects you have permission to view and identify areas of concern.

**Note:**

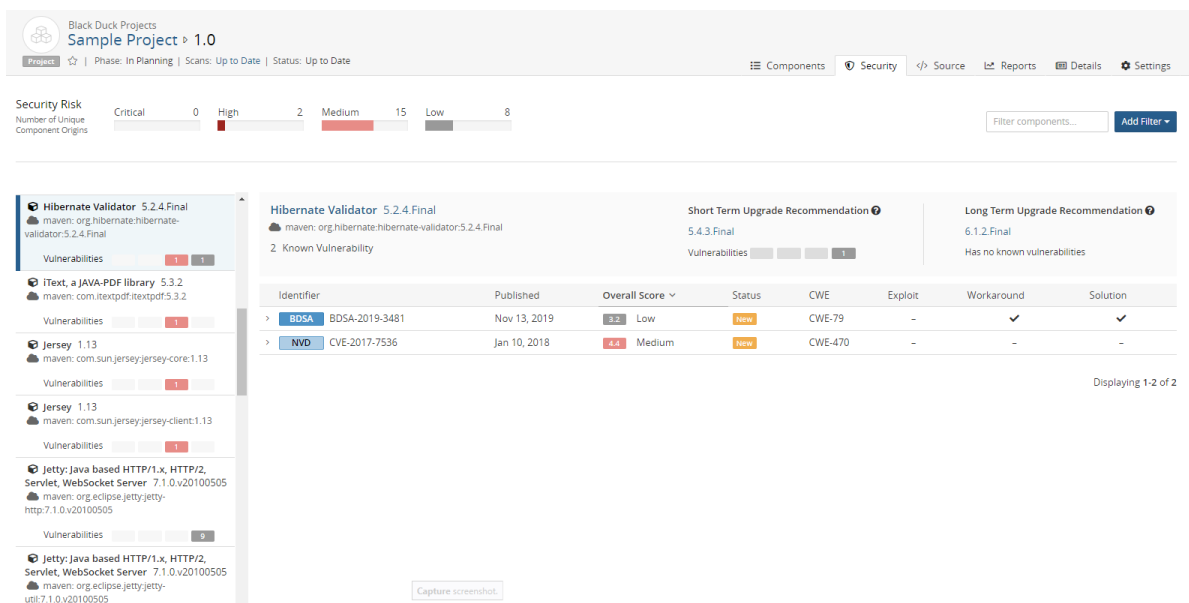
- The Dashboard page that appears when you log in depends on the last main dashboard (Dashboard or Summary) you viewed prior to previously logging out.
- Click  or the logo in the upper left corner of the navigation bar to view the last dashboard (Dashboard or Summary) you viewed.

Project version pages

- Use the project version page/**Components** tab, also known as the project version BOM, to view the components, specific to that project version, that have security, license, and operational risk.



- Use the project version page/ **Security** tab to view the security vulnerabilities of each severity associated with the components used in a project version.



Viewing your dashboards

Use dashboards to view the types and severity of risk and policy violations that are associated with the components that are in one or more versions of your projects. Dashboards provide an overall view across your projects, components, and vulnerabilities.

So that you can view the projects and project versions that are important to you, Black Duck's provides two default dashboards and the ability for you to create an unlimited number of custom dashboards.

Black Duck displays these two default dashboards:

- **Watching.** Your watched projects.
- **My Projects.** All of your projects, including projects that you are not watching.

These dashboards display information on the Dashboard page at the project level.

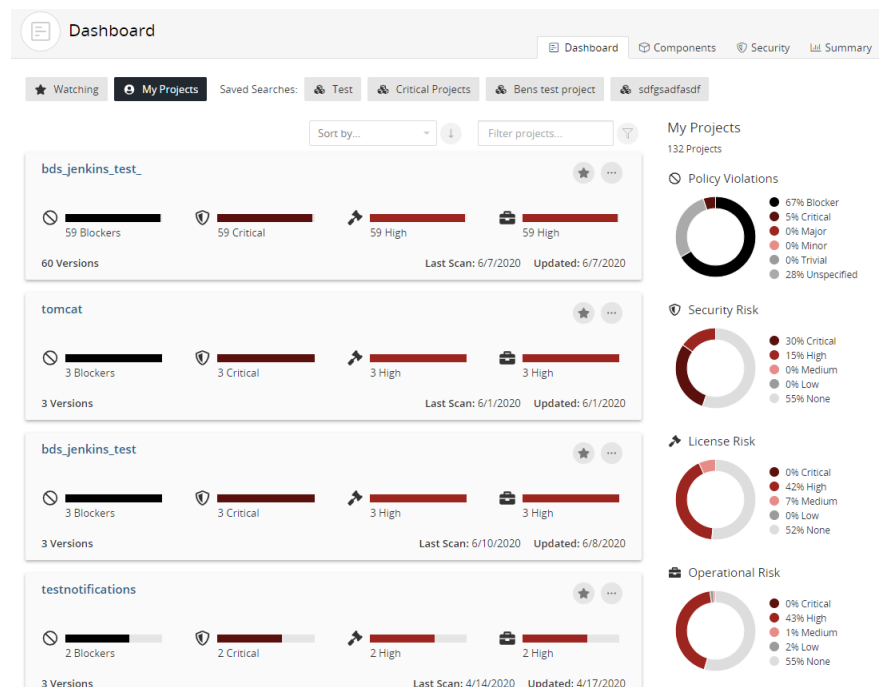
In addition, you can create custom dashboards so that you can quickly view the project versions, component versions, and vulnerabilities that are important to you: search for projects, components, and/or vulnerabilities and then save the searches; use the Dashboard page to view the information from those saved searches.

Viewing dashboards

To view the dashboards:

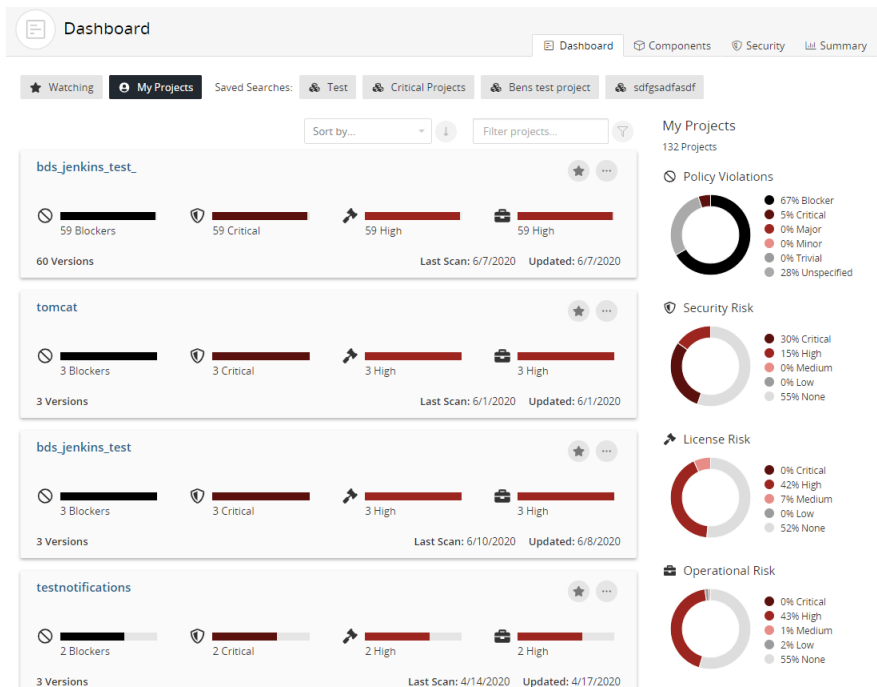
1. Click  to display the dashboards.

The dashboard page that appears depends on the last dashboard (a specific Dashboard page or [Summary](#) Dashboard) you viewed previously. If not displayed, select **Dashboard** to display your dashboards.

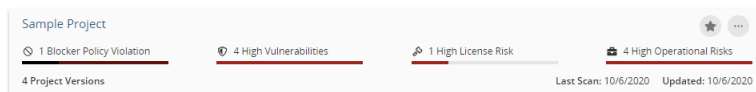


About the Watching and My Projects dashboards

Use the **Watching** or **My Projects** dashboards to view risk and policy violation information at the *project* level.



The following information is shown for each project:

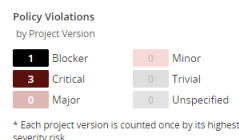


- To view policy violation information for a specific project:
 - Use the bar to view the number of project versions with the highest policy severity level.



Note: The text states the number of project versions with this highest policy severity level, not all policy severity levels affecting this project.

- Hover over the bar to see the number of project versions with their highest severity level of policy violations:



In the above example, there are four project versions which have policy violations; one version has a policy violation which has Blocker as the highest severity level, the other three versions have Critical as the highest severity level. Note that this does not indicate the number of policy violations in these versions, just the highest severity level for each version.

■ To view risk information:

- Use the risk bar to view the number of project versions with the highest risk level:

Security risk:

4 High Vulnerabilities

License risk:

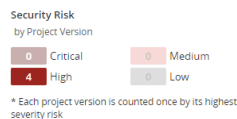
1 High License Risk

Operational risk:

4 High Operational Risks

Note: The text states the number of project versions with this highest risk level, not all risk levels affecting the versions.

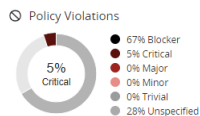
- Hover over a risk bar to see the number of versions of this project with their highest level of risk.



If a project version has risk, the version is only counted once and only its highest risk level is shown.

■ Use the graphs to see overview information for all projects in this dashboard.

- The risk graph shows the percentage of projects in this dashboard that have policy violations by severity level. You can also hover over an area in the graph to view this information:







- The risk graphs show the percentage of projects in this dashboard that have this level of security, license, or operational risk. You can also hover over an area in the graph to view this information:



- Hover over a value in the legend to highlight the value in the graph.

■ View additional information for each project, including:

- Number of versions.
- Last scan date.

- Date when this project was last updated, such as when a scan that was mapped to any project version was last run or when the BOM for any project version was last updated, either manually or by a new scan.
- Select a project name to view the *Project Name* page which lists all versions of this project.
- Manage how the projects are shown in these dashboards:
 - Use the **Sort by** field to select an attribute to sort by and click an arrow to select the sort order  (ascending) or  (descending).
 - Use the **Filter projects** field to filter the projects shown in either dashboard.
- Use the icons   to manage your watched projects or delete a project.

About saved searches dashboards


Use a saved search to view the project versions, component versions, and vulnerabilities that are important to you.

For each saved search, Black Duck lists the date and time this search was last updated.

Results Summary

9 Components

Results updated at Feb 8, 2021 10:03 AM

 [Saved Search Settings](#)

Select **Saved Search Settings** to view the filters for this saved search.

Saved Search Settings
 • Security Risk: High
[Edit Saved Search >](#)

Select **Edit Saved Search** to open the Find page displaying your saved search. Use the page to edit and save this revised saved search.

Project version saved searches

Dashboard Dashboard Summary

Projects **Saved Searches**

★ Watching My Projects Vuln Affecting Projects **Proj - High Security Risk** Comps - High Security Risk

Proj - High Security Risk Sort by... Filter projects...

bds_jenkins_test ▸ 2021_02_03--23_21_31

No Policy Violations 1 High Security Risk 2 High License Risks 53 High Operational Risks

62 Components Last Scan: 2/4/2021 Updated: Never License: Unknown License Phase: In Development Distribution: External

bds_jenkins_test ▸ 2021_02_01--08_51_58

No Policy Violations 1 High Security Risk 2 High License Risks 53 High Operational Risks

62 Components Last Scan: 2/1/2021 Updated: Never License: Unknown License Phase: In Development Distribution: External

bds_jenkins_test ▸ 2021_02_01--23_18_05

No Policy Violations 1 High Security Risk 2 High License Risks 53 High Operational Risks

62 Components Last Scan: 2/2/2021 Updated: Never License: Unknown License Phase: In Development Distribution: External

bds_jenkins_test ▸ 2021_02_02--23_18_51

No Policy Violations 1 High Security Risk 2 High License Risks 53 High Operational Risks

62 Components Last Scan: 2/3/2021 Updated: Never License: Unknown License Phase: In Development Distribution: External

hjoenpmjs-top-1 ▸ 1.0

No Policy Violations 8 High Security Risks 2 High License Risks 847 High Operational Risks

1,007 Components Last Scan: 2/4/2021 Updated: Never License: Unknown License Phase: In Development Distribution: External

Results Summary

5 Project Versions

Results updated at Feb 5, 2021 7:56 AM

[Saved Search Settings](#)

Policy Violations

- 0% Blocker
- 0% Critical
- 0% Major
- 0% Minor
- 0% Trivial
- 0% Unspecified
- 100% None

Security Risk

- 0% Critical
- 100% High
- 0% Medium
- 0% Low
- 0% None

License Risk

- 100% High
- 0% Medium
- 0% Low
- 0% None

Operational Risk

- 100% High
- 0% Medium
- 0% Low
- 0% None

Displaying 1-5 of 5

The following information is shown for each project version:

Sample Project ▸ 4.0

5 Blocker Policy Violations 1 High Vulnerability 5 High License Risks 11 High Operational Risks

14 Components Last Scan: 10/6/2020 Updated: 10/12/2020 License: Unknown License Phase: In Planning Distribution: External

- located in front of the saved search name indicates that this is a project saved search.
- To view policy violation information for a specific project version:
 - Use the bar to see the number of components with the highest policy severity level for this project version.

For example, the following shows that while there are components with lower severity levels, the highest policy severity level for this project version is Blocker and there are five components that have Blocker as their highest policy severity level.

5 Blocker Policy Violations

Note: The text states the number of components with the highest policy severity level for this project version, not all policy severity levels affecting this project version.

- Hover over the bar to see the number of components with policy violations by the highest policy severity level:

Policy Violations

by Component

5	Blocker	1	Minor
1	Critical	0	Trivial
0	Major	0	Unspecified

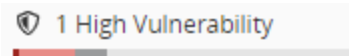
* Each component is counted once by its highest severity risk

If a component has a policy violation, the component is only counted once and only its highest policy severity level is shown.

- To view risk information:

- Use the risk bars to quickly view the number of components with the highest level of security, license, or operational risk.

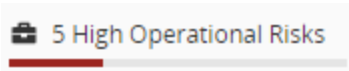
Security risk:



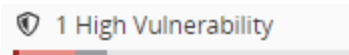
License risk:



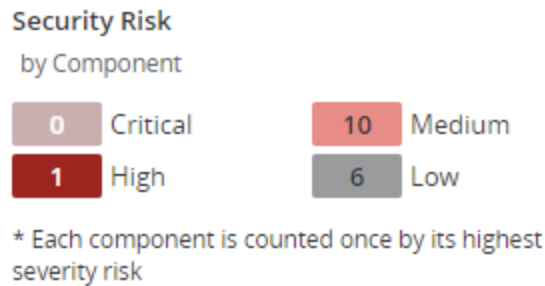
Operational risk:



For example, the following shows that while there are components with lower risk, the highest security risk for this project version is High and that one component in this project version has a high level of security risk as their highest risk level:



- Hover over the bar to see the number of components for each risk category.

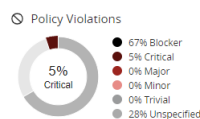


In this example, there is one component that has a high risk level as its highest risk, 10 components that have medium risk as their highest risk level, and six components that have low risk as their highest risk level.

Note: Each component is only counted once and is shown with its highest risk level.

- Use the graphs to view overview information for all project versions in this dashboard categorized by policy severity and risk levels. The graphs lists the percentages for each level. You can also:


- Hover over the graph to view the percentage of project versions with policy violations for each policy severity level.



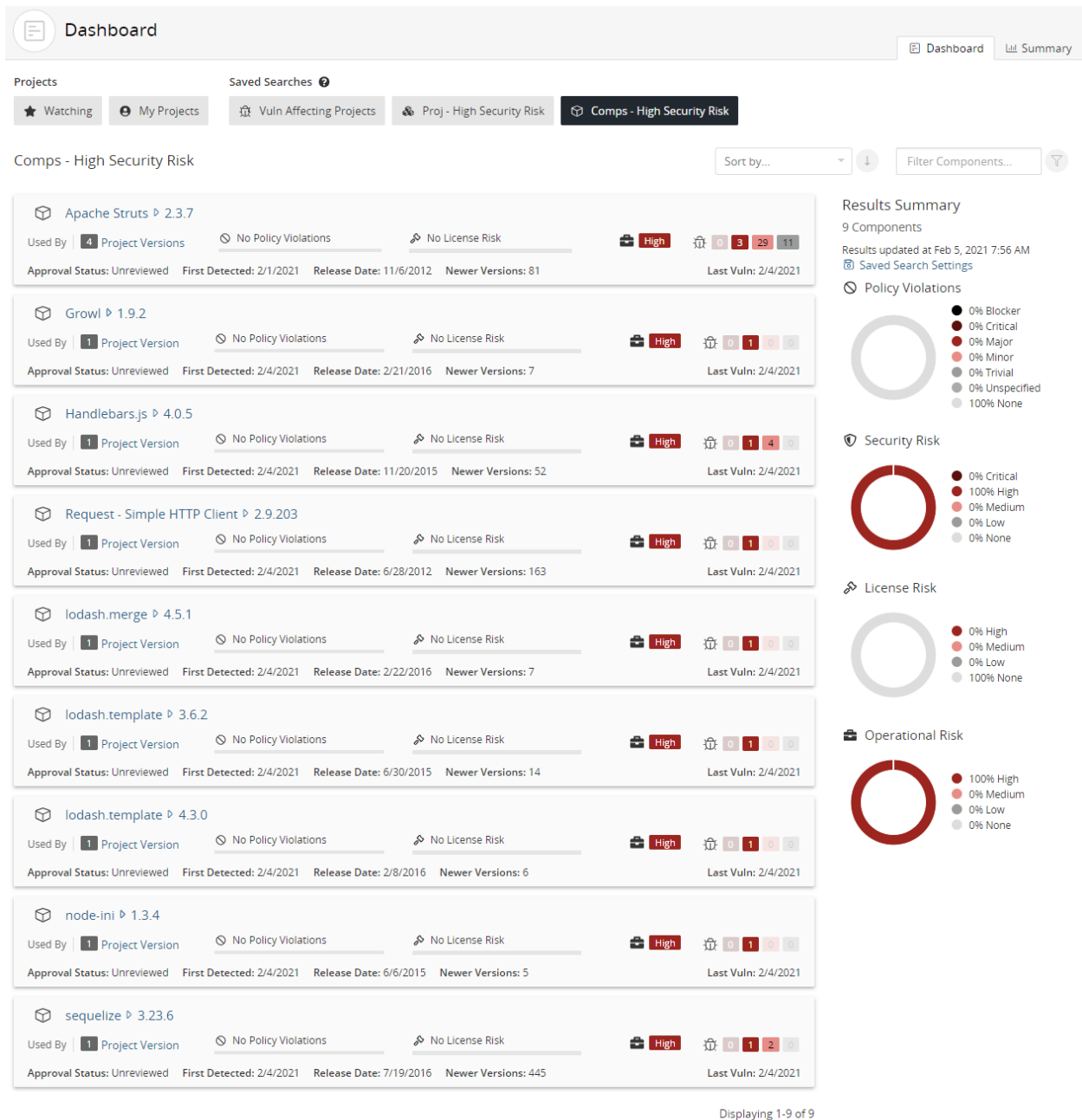
- Hover over the graph to view the percentage of project versions in this dashboard for each risk level.



- Hover over a value in the legend to highlight the value in the graph.
- For each project version, the dashboard also shows:
 - Number of components in this project version.
 - Last scan date.
 - Date when this project version was last updated, such as when a scan that was mapped to this project version was last run or when the BOM for this project version was last updated, either manually or by a new scan.
 - License of this project version.
 - Phase for this project version.
 - Distribution of this project version.
- Select the project or version name to view the BOM.
- Manage how the projects are shown in these dashboards:

- Use the **Sort by** field to select an attribute to sort by and click an arrow to select the sort order (ascending) or  (descending).
- Use the **Filter projects** field to filter the projects shown in the dashboard.



Component saved searches



Dashboard

Projects: **Watching** **My Projects** **Vuln Affecting Projects** **Proj - High Security Risk** **Comps - High Security Risk**

Comps - High Security Risk

Sort by...  Filter Components... 

Component	Used By	Policy Violations	License Risk	Risk Level	Vuln Count	Last Vuln
Apache Struts > 2.3.7	4 Project Versions	No Policy Violations	No License Risk	High	0 3 29 11	2/4/2021
Growl > 1.9.2	1 Project Version	No Policy Violations	No License Risk	High	0 1 0 0	2/4/2021
Handlebars.js > 4.0.5	1 Project Version	No Policy Violations	No License Risk	High	0 1 4 0	2/4/2021
Request - Simple HTTP Client > 2.9.203	1 Project Version	No Policy Violations	No License Risk	High	0 1 0 0	2/4/2021
lodash.merge > 4.5.1	1 Project Version	No Policy Violations	No License Risk	High	0 1 0 0	2/4/2021
lodash.template > 3.6.2	1 Project Version	No Policy Violations	No License Risk	High	0 1 0 0	2/4/2021
lodash.template > 4.3.0	1 Project Version	No Policy Violations	No License Risk	High	0 1 0 0	2/4/2021
node-ini > 1.3.4	1 Project Version	No Policy Violations	No License Risk	High	0 1 0 0	2/4/2021
sequelize > 3.23.6	1 Project Version	No Policy Violations	No License Risk	High	0 1 2 0	2/4/2021

Displaying 1-9 of 9

Results Summary
9 Components
Results updated at Feb 5, 2021 7:56 AM
[Saved Search Settings](#)

Policy Violations

- 0% Blocker
- 0% Critical
- 0% Major
- 0% Minor
- 0% Trivial
- 0% Unspecified
- 100% None

Security Risk

- 0% Critical
- 100% High
- 0% Medium
- 0% Low
- 0% None

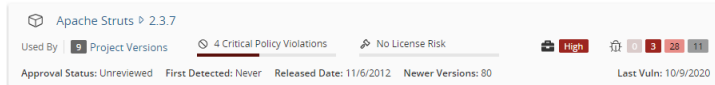
License Risk


- 0% High
- 0% Medium
- 0% Low
- 100% None

Operational Risk

- 100% High
- 0% Medium
- 0% Low
- 0% None

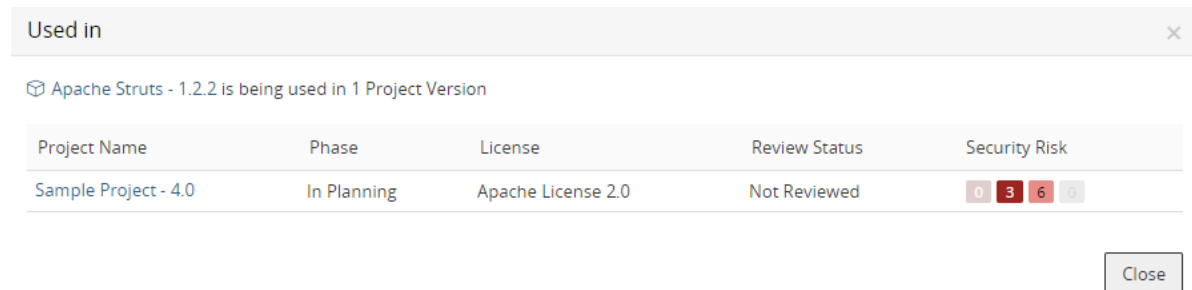
The following information is shown for each component.



-  located in front of the saved search name indicates that this is a component saved search.
- Select the component name/version to display the *Component Name Version* page.
- View the number of project versions that use this component version as shown by the value next to **Used By**.

Used By  Project Versions

Select **Project Versions** to open the Where Used dialog box.



This dialog box shows the project versions that use this version of the component.

Column	Description
Project Name	Name of project and version that uses this component version. Select the project name to display the project version's Components tab.
Phase	Project Phase.
License	License for this component version.
Review Status	Whether this component has been reviewed in this project version.
Security Risk	<p>Lists the vulnerabilities for each severity level, from left to right: Critical, High, Medium, and Low.</p> <div>0 3 28 11</div> <p>Select a value to display the Security tab of the the Black Duck KB<i>Component Name Version</i> page, which lists the vulnerabilities associated with this version of this component.</p>

- Use the bar to quickly see the number of components with the highest policy severity level.

1 Critical Policy Violation

Select the bar to see the number of components with policy violations by severity level:

Policy Violations

by Component

0	Blocker	0	Minor
1	Critical	0	Trivial
0	Major	0	Unspecified

* Each component is counted once by its highest severity risk

Note: A component is only counted once with the highest policy severity level, not all policy severity levels affecting this component.

- Use the bar to quickly view the number of components with the highest level of license risk.

1 High License Risk

Select the bar to view the number of components in each risk category.

License Risk

by Component

1	High
0	Medium
0	Low

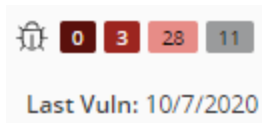
* Each component is counted once by its highest severity risk

- View the operational risk for this component version:

High

- View the number of vulnerabilities by severity associated with this component version for each severity level, from left to right: Critical, High, Medium, and Low.

The **Last Vuln** date is the date when a vulnerability for this component was last updated in Black Duck (by the Black Duck KnowledgeBase or a user).



Select a value to display the **Security** tab of the the Black Duck KB *Component Name Version* page, which lists the vulnerabilities associated with this version of this component.

Identifier	Published	Overall Score
> BDSA BDSA-2015-0001 RCE	Apr 3, 2017	8.3 High
> BDSA BDSA-2015-0753 (CVE-2015-6420) RCE	May 3, 2019	8.3 High
> BDSA BDSA-2017-2285 (CVE-2017-15708) RCE	Dec 14, 2017	5.5 Medium
> BDSA BDSA-2015-0766 RCE	Aug 6, 2019	5.5 Medium

Displaying 1-4 of 4

- For each component version, the search results also show:
 - Approval status. Status indicates whether this component version has been reviewed.
 - First detected date.
 - Date this component version was released.
 - Number of newer versions.
 - Date when a vulnerability for the component was last updated in Black Duck (by updates from the Black Duck KnowledgeBase or a user manually changing the associated vulnerability and so on).
- Manage how the components are shown in these dashboards:
 - Use the **Sort by** field to select an attribute to sort by and click an arrow to select the sort order [↑] (ascending) or [↓] (descending).
 - Use the filter field to filter the components shown in the dashboard.

Vulnerability saved searches

Dashboard

Dashboard Summary

Projects

Saved Searches

★ Watching

📁 My Projects

🔍 Vuln Affecting Projects

🔒 Proj - High Security Risk

🔒 Comps - High Security Risk

Vuln Affecting Projects

BDSA

BDSA-2019-1853 (CVE-2019-11272)

Used By 4 Project Versions

Overall Risk 5.5 Medium

✓ Solution

No Workaround

No Exploit

First Detected: 2/1/2021 Published: 6/21/2019 Last Modified: 6/21/2019

CWE-287

BDSA

BDSA-2013-0030 (CVE-2013-1965)

Used By 4 Project Versions

Overall Risk 5.9 Medium

✓ Solution

No Workaround

⚠ Exploit

First Detected: 2/1/2021 Published: 10/10/2018 Last Modified: 4/3/2020

CWE-95, CWE-94

BDSA

BDSA-2018-1901 (CVE-2018-11040)

Used By 4 Project Versions

Overall Risk 3.2 Low

✓ Solution

✓ Workaround

No Exploit

First Detected: 2/1/2021 Published: 6/20/2018 Last Modified: 6/20/2018

CWE-200

BDSA

BDSA-2019-4008 (CVE-2019-17571)

Used By 4 Project Versions

Overall Risk 6.4 Medium

No Solution

✓ Workaround

⚠ Exploit

First Detected: 2/1/2021 Published: 12/20/2019 Last Modified: 7/16/2020

CWE-502

BDSA

BDSA-2019-1179 (CVE-2019-10246)

Used By 4 Project Versions

Overall Risk 3.9 Low

✓ Solution

No Workaround

⚠ Exploit

First Detected: 2/1/2021 Published: 4/23/2019 Last Modified: 4/23/2019

CWE-200

Results Summary

224 Vulnerabilities

Results updated at Feb 5, 2021 7:56 AM

[Saved Search Settings](#)

The following information is shown for each vulnerability:

BDSA

BDSA-2020-1234 (CVE-2020-13430)

Used By 0 Project Versions

Overall Risk 8.1 High

✓ Solution

✓ Workaround

No Exploit

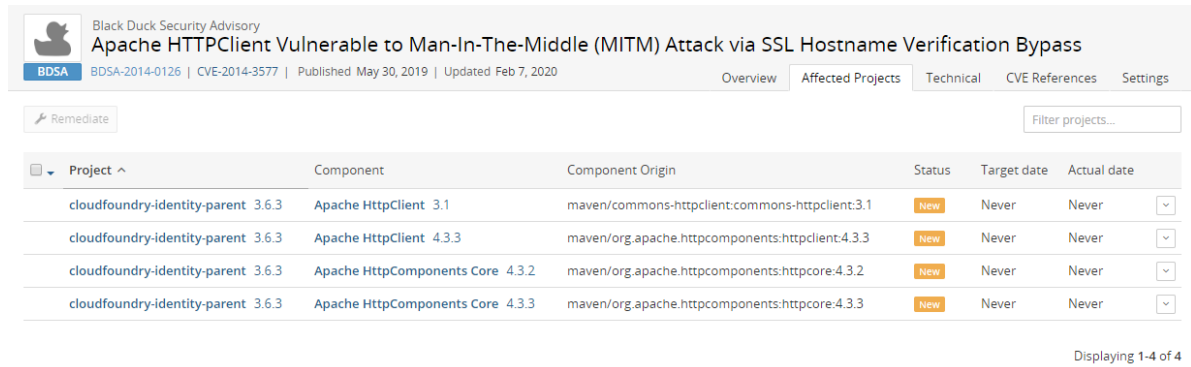
First Detected: Never Published: 5/27/2020 Last Modified: 7/27/2020

CWE-79

- Select the vulnerability ID to view more information about the vulnerability, such as additional score values. You can view National Vulnerability Database (NVD) information by selecting the CVE number or view Black Duck Security Advisory (BDSA) information by selecting the BDSA number.
- View the number of project versions that affected by this vulnerability next to **Used By**.

Used By 2 Project Versions

Select **Project Versions** to open the **Affected Projects** tab for the vulnerability which lists the project versions affected by this vulnerability.



Black Duck Security Advisory
Apache HttpClient Vulnerable to Man-In-The-Middle (MITM) Attack via SSL Hostname Verification Bypass
 BDSA-2014-0126 | CVE-2014-3577 | Published May 30, 2019 | Updated Feb 7, 2020

Overview Affected Projects Technical CVE References Settings

Remediate Filter projects...

Project ^	Component	Component Origin	Status	Target date	Actual date
cloudfoundry-identity-parent 3.6.3	Apache HttpClient 3.1	maven/commons-httpclient:commons-httpclient:3.1	new	Never	Never
cloudfoundry-identity-parent 3.6.3	Apache HttpClient 4.3.3	maven/org.apache.httpcomponents:httpclient:4.3.3	new	Never	Never
cloudfoundry-identity-parent 3.6.3	Apache HttpComponents Core 4.3.2	maven/org.apache.httpcomponents:httpcore:4.3.2	new	Never	Never
cloudfoundry-identity-parent 3.6.3	Apache HttpComponents Core 4.3.3	maven/org.apache.httpcomponents:httpcore:4.3.3	new	Never	Never

Displaying 1-4 of 4

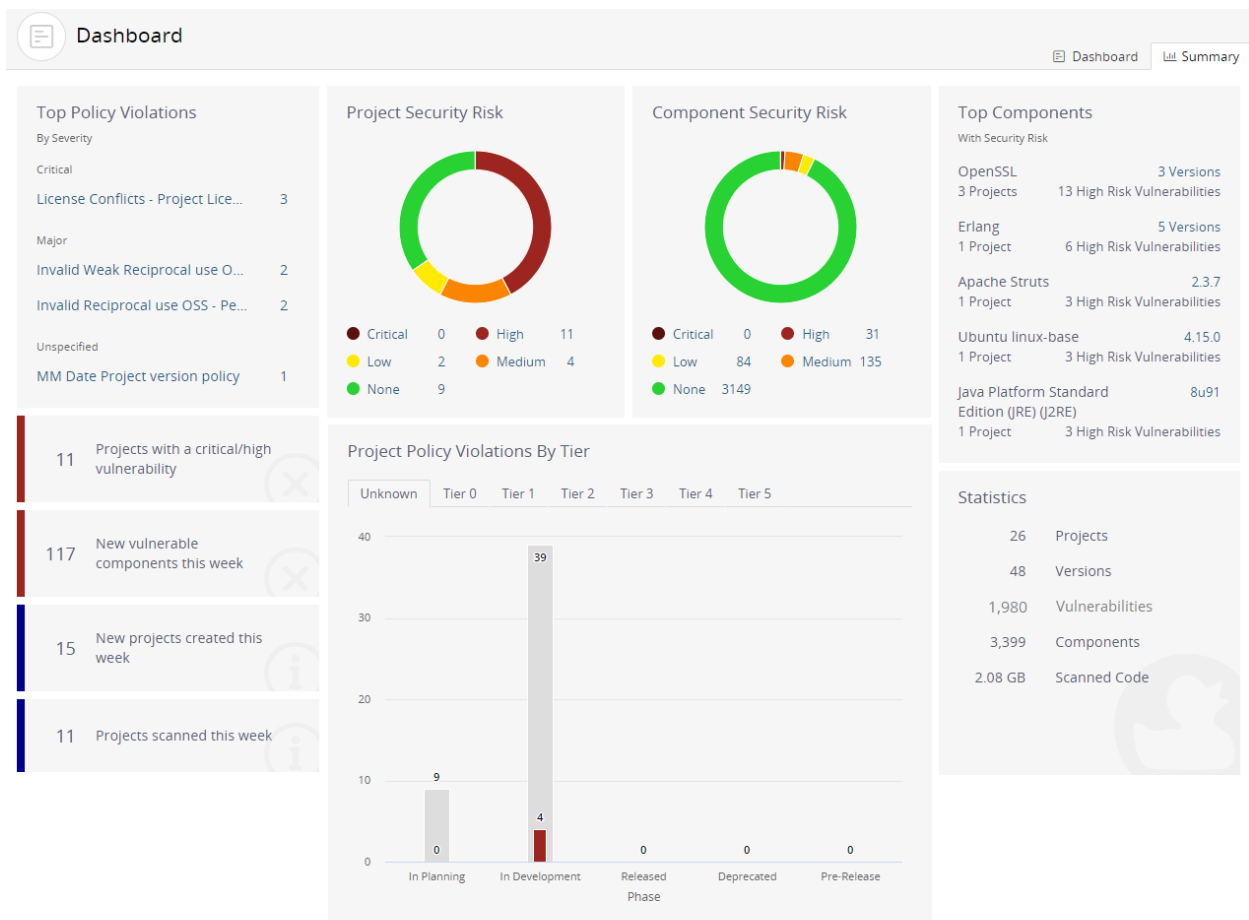
- View the overall risk score. The search results show the Temporal Score for BDSA vulnerabilities, or the Base Score for NVD vulnerabilities and the associated risk level. Note that the score shown and risk level depends on the selected security rankings.

Select the score to view individual scores: temporal, base, exploitability, and impact for BDSA; base, exploitability, and impact for NVD.

- View whether a solution, workaround, or exploit is available:
 - ✓ indicates that there is a solution or workaround available for this vulnerability.
 - ⚠ indicates there is an exploit for this vulnerability.
- For each vulnerability, the search results also show:
 - First Detected.
 - Published date.
 - Last modified date.
 - Common Weakness Enumeration (CWE) number for this security vulnerability.

Viewing the health of your projects

Use the **Summary** tab to view the overall health of your projects and identify areas of concern. The page consists of widgets that provide business critical information which you can use to quickly assess areas where you need to focus your attention.



Note: The **Summary** tab only displays information for the projects you have permission to view.

The following table describes each widget shown on the **Summary** tab and, where available, how to view additional information. Note that the security risk values shown use CVSS v2 or CVSS v3.x scores, depending on which security risk calculation you selected; by default CVSS v2 scores are shown. Note that the graphs display a Critical risk category with a value of 0, if you selected CVSS 2.0.

Description	More Information
<p>The Top Policy Violations widget displays up to the top five policy violations across all projects that you have permission to view.</p> <p>Policy rules are listed by severity level and then by the number of policy violations, in descending order. If policy rules do not have severity levels assigned to them, the widget displays the top five policy violations, in descending order by the number of violations.</p> <ul style="list-style-type: none"> • If you do not have the Policy Management module, this widget will not appear on the page. • A message appears if you have the Policy Management module but do not have any policy rules configured or have any policy violations. 	<p>Select a policy rule to view the My Projects tab filtered to display the projects with a version that violates that policy rule.</p>
<p>The Project Security Risk widget displays the number of projects you have permission to view for each level of security risk.</p> <p>Note that this widget counts the highest security risk level for a project, not all security levels affecting a project. For example, if a project has medium and low security risks, it is counted as a project with medium security risk; it is not included as a project with low security risks.</p>	<p>Hover over the graph to view the number of projects with that level of security risk.</p>
<p>The Component Security Risk widget displays the number of components in projects you have permission to view for each security risk level.</p> <p>Note that the widget counts only the highest security risk for a component. For example, if a component has medium and low security risks, it is counted as one component with a medium security risk.</p>	<p>Hover over the graph to view the number of components with that level of security risk.</p>
<p>The Top Components with Security Risk widget displays up to the top five components used in the projects you have permission to view. The information shown for each component is:</p> <ul style="list-style-type: none"> • Component name and number of versions used in your projects. If only one version is used, the specific version is listed here. • Number of your projects that have this component. • Number of security risks in this component, with the highest security risk listed here. <p>Components are organized by security risk, with those components with the highest risk listed first.</p>	<p>Select the specific version or number of versions to view the Component Version Details page.</p>
<p>The Projects have a critical/high vulnerability widget displays the number of projects with versions that contain components with a critical and/or high security risk.</p>	N/A.
<p>The New vulnerable components this week widget displays the number of components the Black Duck KB mapped a vulnerability to in the past seven days, including today.</p>	N/A.
<p>The New projects created this week widget displays the number of projects that you have permission to view that have been created in the past seven days, including today.</p>	N/A.

Description	More Information
The Projects scanned this week widget displays the number of projects with scans from the past seven days, including today.	N/A.
<p>The Project Policy Violations by Tier widget displays the total number of projects by phase that have a policy violation, grouped by tiers.</p> <ul style="list-style-type: none"> If you do not use tiers for your projects, projects are grouped in a single category called Unknown. If you do not have the Policy Management module, this widget displays Projects by Tier. 	For each tier, hover over a bar to see the number of projects in this phase and the number of projects in this phase with a policy violation.
<p>The Statistics widget displays the following information:</p> <ul style="list-style-type: none"> Projects lists the number of your projects. Versions lists the number of project versions for your projects. Vulnerabilities lists the number of vulnerabilities in your projects. Components lists the number of components used in your projects, <i>including</i> ignored components. Scanned Code lists the number of GBs scanned for all scans. 	N/A.

About security risk

Black Duck helps security and development teams identify security risks across their applications.

By mapping vulnerabilities to your open source software, Black Duck can provide you with high-level overview information on security risk of your projects, along with detailed information on security vulnerabilities which you can use to investigate and remediate your security vulnerabilities.

Vulnerabilities are linked to the open source components by the Common Vulnerabilities and Exposures numbers (CVEs), as reported in the National Vulnerabilities Database (NVD) maintained by the National Institutes of Standards and Technology (NIST) and/or by (BDSA) numbers If you have licensed Black Duck Security Advisories. Note that Black Duck displays the numbers together in reports and in the UI because they represent the same vulnerability from different sources.

Security risk levels

NVD and BDSA use the Common Vulnerability Scoring System (CVSS) which provides a numerical score reflecting the severity of a vulnerability. The numerical score is then translated into a risk level to help you assess and prioritize security vulnerabilities.

Black Duck provides you with the option of viewing CVSS v2 or CVSS v3.x scores. By default, Black Duck displays CVSS v2 scores.

- CVSS v2 scores has the following values:
 - Low risk: 0.0 - 3.9
 - Medium risk: 4.0 - 6.9
 - High risk: 7.0-10.0

Note that Black Duck shows vulnerabilities with a 0.0 score as no risk.

Although CVSS v2 does not have a Critical risk category, the security graphs in the Black Duck UI display a Critical risk category. This category will display a value of 0 for CVSS v2.

■ CVSS v3.x scores has the following values:

- None: 0.0
- Low risk: 0.1 - 3.9
- Medium risk: 4.0 - 6.9
- High risk: 7.0 - 8.9
- Critical risk: 9.0 - 10.0

Note that the scores shown for CVSS v3.x can be v3.0 or v3.1 scores.

This estimated risk statistic is formulated by looking at all the versions of a component sorted by security vulnerability severity category and calculating the maximum vulnerability count for each severity category for each component version. The maximum vulnerability count for each severity category is shown in the "Estimated Security Risk by Severity Category" on the Bill of Material for Security risk. The highest severity category counts may reference different component versions. For example:

- Version 1.1 has 2 Critical, 3 High, 15 Medium, 4 Low
- Version 1.2 has 2 Critical, 4 High, 12 Medium, 1 Low
- Estimated Security Risk by severity category for components with unknown versions would return as 2 Critical, 4 High, 15 Medium, 4 Low on the BoM.

Users should choose the exact version used in the application to view the accurate risk instead of the estimated risk. This estimated risk information is provided to help prioritize what components to review first. Users are encouraged to use estimated risk information in conjunction with BD Policy Management to further prioritize what components to triage first based on their company's security policies.

Note: The information presented is only a statistical data estimation. As a result, the estimated security risks will not have CVE data.

Suggested work flow

To manage security risk using Black Duck:

1. With the assistance of your security team, determine your security risk policies.
2. If necessary, users with the system administrator role can define the default security ranking.

Note that the security ranking also defines how vulnerabilities appear in reports. Depending on the data available, the vulnerability will be presented as either: BDSA (NVD) or NVD (BDSA). For example, if the security ranking is NVD2, BDSA2, BDSA3, NVD3 then:

- Vulnerability A has data just for NVD3. The vulnerability is listed as NVD-1234-5678 in the report.
- Vulnerability B has data for NVD3 and BDSA3. The report lists it as BDSA (NVD).

- Vulnerability C has data for everything. The report lists it as NVD (BDSA).
3. Create policies that trigger violations when components do not comply with your security policies.
 4. Depending on your interests:
 - Use the Summary Dashboard to view the overall health of your projects and identify areas of concern. Use this page to quickly assess areas where you need to focus your attention.
 - Use these pages for a high-level overview information of security risk:
 - Use the Watched or My Projects Dashboard to view the security risk across all your projects.
 - Create saved searches to customize the information shown on the Dashboard page to view the projects, components, and vulnerabilities that interests you.
 - Use these pages for project version-level information:
 - project version page/**Components** tab, also known as the project version BOM, to view the components specific to that project version, that have security risk.
 - project version page/ **Security** tab to view the security vulnerabilities of each severity associated with the components used in a project version.
 5. Investigate vulnerabilities and policy violations. For detailed information on security vulnerabilities, view the:
 - CVE page
 - BDSA page if you have licensed Black Duck Security Advisories (BDSA)
 6. After reviewing the severity of the vulnerability, users with the appropriate role can change the remediation status of the security vulnerability.
 7. Monitor notifications for any new security vulnerabilities.

You will receive notification alerts if security vulnerabilities are published or updated against components that are included in one or more of your projects.

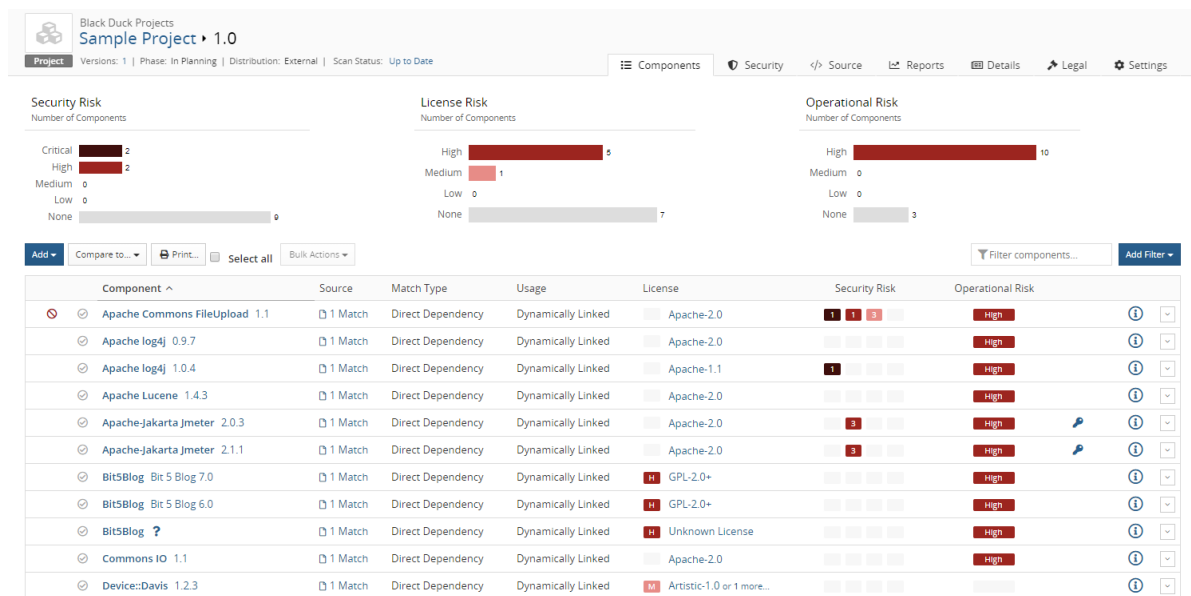
Chapter 5: Viewing your BOM

Once you have mapped a component scan to a project version, the results automatically create the project version's BOM.

To view a project version's BOM:

1. Log in to Black Duck.
2. Select the project name using the **Watching** or **My Projects** dashboard. The *Project Name* page appears.
3. Select the version name of the project that you want to view.

The **Components** tab shows you the BOM.



By default, the BOM displays a "flat" view of components where all components found are listed at the same level. If the hierarchical BOM has been enabled, options to view the list view (as shown here) or the hierarchical BOM appear. Select **Tree** to view a hierarchical view which is based on file system relationships.

Adjusting the component and/or component version in a BOM

Once you have mapped a component scan to a project version, the scan results automatically create the


project version's BOM. Although component scanning automatically discovers the open source component and component version from most archive files by comparing them to components in the Black Duck KB, you may be using a version of the component that is not available in the Black Duck KB, or you may be using a modified version of a component. You can adjust the component and version for a component in a BOM.

- If the component/version is available in the Black Duck KB, users with the appropriate role can adjust the component or component version, as described below.
- If the component version of a component is not available in the Black Duck KB, users with the Component Manager role can create a custom version and add it to the BOM.

To select an alternate component and/or version match for a component in a BOM:

1. Log in to Black Duck.
2. Select the project name using the **Watching** or **My Projects** dashboard. The *Project Name* page appears.
3. Select the version name to open the **Components** tab and view the BOM.

Component	Source	Match Type	Usage	License	Security Risk	Operational Risk
Apache Commons FileUpload 1.1	1 Match	Direct Dependency	Dynamically Linked	Apache-2.0	High	High
Apache log4j 0.9.7	1 Match	Direct Dependency	Dynamically Linked	Apache-2.0	High	High
Apache log4j 1.0.4	1 Match	Direct Dependency	Dynamically Linked	Apache-1.1	High	High
Apache Lucene 1.4.3	1 Match	Direct Dependency	Dynamically Linked	Apache-2.0	High	High
Apache-Jakarta Jmeter 2.0.3	1 Match	Direct Dependency	Dynamically Linked	Apache-2.0	High	High
Apache-Jakarta Jmeter 2.1.1	1 Match	Direct Dependency	Dynamically Linked	Apache-2.0	High	High
Bit5Blog Bit 5 Blog 7.0	1 Match	Direct Dependency	Dynamically Linked	GPL-2.0+	High	High
Bit5Blog Bit 5 Blog 6.0	1 Match	Direct Dependency	Dynamically Linked	GPL-2.0+	High	High
Bit5Blog ?	1 Match	Direct Dependency	Dynamically Linked	Unknown License	High	High
Commons IO 1.1	1 Match	Direct Dependency	Dynamically Linked	Apache-2.0	High	High
Device: Davis 1.2.3	1 Match	Direct Dependency	Dynamically Linked	Artistic-1.0 or 1 more...		

4. In the component list view of the BOM, click  and select **Edit** to open the Edit component dialog box.
5. Type the name of the OSS component in the **Component** field and select the alternate match.
6. Select the version of the component from the **Version** list. The list contains all versions of the component that are available in the Black Duck KB.
7. Optionally, enter a purpose for this adjustment and/or select the **Modification** checkbox and optionally, enter information regarding this modification in the field.
8. Click **Save**.

The component and version for the BOM entry are updated. The Information indicator (i) appears in the table row to indicate that the component and/or version were changed from the one automatically discovered in the component scan:

<div><div></div><div></div></div>		<div>Add</div>	<div>Bulk Actions</div>	<div>Compare to...</div>	<div>Print...</div>	<div>Match Status</div> <div>Confirmed</div> <div>x</div>		<div>Ignore</div> <div>Not ignored</div> <div>x</div>	<div>Filter components...</div>	<div>Add Filter</div>	
<div><div></div></div>	<div>Component ^</div>	Source	Match Type	Usage	License	Security Risk		Operational Risk			
<div><div></div></div>	<div>AOP Alliance (java/J2EE AOP standard) 1.0</div>	<div><div></div>1 Match</div>	<div>Exact Directory</div>	<div>Dynamically Linked</div>	<div>Public Domain</div>	<div><div></div><div></div><div></div></div>		<div>High</div>			<div><div></div></div>