Activity

The activities below will help prepare you for the end-of-path assessment. Complete the questions below for each milestone as you make your way along your learning journey.

MILESTONE 1

Why is it important to automate the application development process? Begin to learn more at the first block on the path, by reading about build automation and why you shouldn't be hesitant towards this.

1. (resource 1.a) Why is Continuous Delivery excellent for heavily regulated environments?

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2. (resource 1.a) Jez's take-home point for any organization is that results aren't achieved when you adopt practices but don't implement the culture. Explain what this means and how your team could benefit from the practice of Continuous Integration.

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3. (resource 1.b) Reflection. Reflect on each of the four key software development metrics. How does your dev team's performance and efficiency measure up with each? Lead Time? Deployment Frequency? Mean Time To Recovery? Change Failure Rate?

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4. (resource 1.c) According to the article, why is the Policy Evaluation step an important gate in the pipeline at Sonatype? What does it allow the development team and Sonatype to do?

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5. Reflection. Milestone 1: Why is build automation an important part of the software development lifecycle?

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Outcome: Now you understand why build automation is an important part of the software development lifecycle.

MILESTONE 2

How do you and your team continuously integrate? Continue on the learning path below.

1. (resource 2.a) In the eLearning course, you'll learn the following:
   ● Identify risks and vulnerabilities in using open source software and ways to mitigate those risks
   ● Articulate the benefits of using Nexus IQ
   ● Describe where the developer fits into the Nexus IQ policy process
   ● Define what is a policy
   ● Recognize when remediation is required

2. (resource 2.b) Reflection. Of the CI plugins for Nexus IQ listed, which do you use most often? Are you experienced with others?

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(resource 2.b) Reflection. Of the IDE tools for Nexus IQ listed, which do you use?

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(resource 2.c) Reflection. Consider the benefits of integrating Nexus IQ Server in your IDE. Explain how this integration will improve job performance on your team.

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3. (resource 2.d) In the eLearning course, you'll learn the following:
   - Differentiate between four main types of policies in Nexus IQ.
   - Define various matches that result from the "other" policy type.
   - Interpret each element of a policy.
   - Describe the sections of the Application Composition Report.
   - Define the sections of the Summary tab.
   - Describe the data in the Policy Violations tab.

4. (resource 2.e) In the eLearning course, you'll learn the following:
   - Describe the impact of making better component choices **earlier** in the SDLC
   - Describe how Nexus IQ IDE Integration **fits into** the Sonatype Platform
   - Articulate the **differences between an IDE Integration** analysis and a Continuous Integration scan
   - Select the best integration option for your particular project

- Determine the right place and time to introduce developer tooling into your DevSecOps process to make better component choices earlier in the SDLC
- Make **informed decisions** about which **component versions** to target for an **upgrade**
- Use the IDE plugin to **review policy violations**
- Locate the **Policy Violations**, **License Analysis** and **Security Issues** section in the Component Info tab
- **Identify OSS policy threats** (security, legal, and architectural), current version used, and whether better versions of your components are available
- Differentiate between **direct** and **transitive dependencies**
- Upgrade components using the **migrate functionality** within the IDE plug-ins

5. (resource 2.f) Reflection. Looking at the Workflow Example, write out your Ideal Workflow for reporting security governance violations to your development team.

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6. (resource 2.f) Learn more about the Nexus IQ for JIRA plugin by reviewing the guide. Then, connect the plugin to your JIRA workflow*.

*If you do not have administrator rights to JIRA at your organization, skip to part C.

- Read the Guide: Nexus IQ for Jira
- For further details, review the Nexus IQ for Jira documentation
- Connect your JIRA environment with the Nexus IQ application:
    i. Install the plugin from the Atlassian Marketplace (IQ Jira Plugin).
    ii. After installation, connect your JIRA instance.
    iii. Once Jira knows how to talk to the IQ Server, configure the plugin to tell it which of your Jira Projects are associated with your IQ Server applications.

      iv.   IQ Server tells Jira when policy violations occur through webhooks. In the IQ Server, you need to create a new webhook and then configure your policies to send violations through that webhook.

- Explain how you'll get your development team on board with using the Nexus IQ for JIRA plugin and what advantages you may experience in your software development lifecycle.

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7. Reflection. Milestone 2: How will you and your development team improve the application build process using Nexus IQ in your CI build?

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Outcome: You've learned how to integrate Nexus IQ Server into your development pipeline.

MILESTONE 3

In this final trail of your learning path, identify how using IDEs and other tools will help communicate security governance violations to your development team. Reflect on where you're at with Build Automation and using Nexus IQ Server integrations to help.

1. (resource 3.a) Select all that apply. Currently, Nexus IQ for SCM has the following features:
   a. Automated commit feedback
   b. Automated pull requests
   c. Pull request commenting
   d. None of the above

2. (resource 3.a) Practical application. Using the guide, set up the **Example Use Case: Automated Pull Requests for npm.**
   a. First, you'll want to go through the setup steps:
      i. Prerequisites
      ii. Configure Nexus IQ Server
      iii. Configure a Jenkins CI pipeline
      iv. Kick off the npm application build
   b. How will you measure success and communicate this to your team? What is Mean Time to Resolution (MTTR?) Explain how Success Metrics play a part in this while using Nexus IQ Server.

3. (resource 3.a, 3.c, 3.d) Consider all of the benefits you've learned about build automation. How will you communicate with your team about the advantages of using Automated Pull Requests?

4. (resource 3.b) Reflection. Review the video on Javascript Dependency Management. Do you or your team create applications using Javascript? If so, what free Sonatype tools would you use to monitor your javascript dependencies?

5. Reflection. As you wrap up Milestone 3, describe how using Nexus IQ in your CI Build can help your team to improve build automation.

6. ([resource 3.e](#)) Check out all of the free offerings available to support you at
   my.sonatype.com.
   - Collaborate with a community of users, and Sonatype experts.
   - Sign up to receive alerts each time Sonatype's Customer Education team
     publishes new content.

Outcome: You know where you are, and how to communicate security violation
information in your software development lifecycle.