Technology Leadership Development Program

Training Program: Pre-work Resources

Below you will find several self-study training resources to help prepare you for the exercises that you will participate in this summer.

These resources have been selected by the subject matter experts who will guide you through your training project. They are designed to give you an introduction to many of the core technologies used here at BNY Mellon.

Please take some time during the next couple months to review the links provided and become familiar with each of these technologies. Make note of any questions you have and our experts will be on hand early in the training program to ensure you get the answers you need.

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SQL Developer

What it is:	Database IDE
Where to Find it:	http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html
Training	**Interactive Online SQL Course:** http://www.sqlcourse.com/ • FORMAT: READING with interactive practice sessions – 1.5 hours • This *introductory* SQL tutorial provides easy-to-understand SQL instructions, and allows you to practice what you learn using an on-line SQL interpreter utility embedded within the course pages. You will receive immediate feedback-results after submitting their SQL commands. • Steps 1-8 on the left-hand side navigation panel teach the basics of SQL. • Inside step 9, you can find Advanced SQL Queries to get a deeper understanding of SQL. **SQL for Beginners:** https://www.youtube.com/watch?v=7Vtl2WggqOg • FORMAT: VIDEO - 1 hour • Another SQL for Beginners in video format to learn the basics of SQL • No practice unless you have access to a database with a SQL editor/execution environment. **Two FREE Udemy videos (requires free registration into Udemy):** • **Beginners:** https://www.udemy.com/introduction-to-databases-and-sql-querying/ • **Advanced:** https://www.udemy.com/advanced-tsql-querying-using-sql-2014/ • Recommended to do beginners first, then advanced. • It uses and show how to download and use MS SQL Server 2014 to do the practices and exercises; if you have access to Oracle SQL Developer and a database to connect to in the backend, you should be able to do these exercises in Oracle too.

Spring Framework

What it is:	Application Framework (include as Maven dependency)
Where to Find it:	Spring
Training	**Introduction to Spring Core** (4 hours)
	Building RESTful Web Services with Spring MVC - A 3 Part video series

	Part 1- https://www.youtube.com/watch?v=xLWm8PJjdBk
	    Part 2- https://www.youtube.com/watch?v=qfYEhvIQfGM
	    Part 3- https://www.youtube.com/watch?v=eMzhNLJ-vOc

	Spring JDBC Framework
	Spring MVC Framework
	RESTful API Architecture Style and Design Guidelines
	Intro to API Design Framework @ BNY Mellon (1 hour)
	Spring IDE | Eclipse Plugins, Bundles and Products - Eclipse Marketplace | Used to view Spring Perspective in Eclipse
	Maven Configuration for Spring Integration | Dependencies to include in pom.xml files
	Spring Integration with Eclipse Using Maven | Programmatic Ponderings |

Application Security

What it is:	Standards for secure web application development
Where to Find it:	https://www.owasp.org/index.php/Main_Page
Training	• **OWASP - Top 10** • **OWASP - Top 10: Injection** • **OWASP - Top 10: Broken Authentication and Session Management** • **OWASP - Top 10: Cross Site Scripting (XSS)** • **OWASP - Top 10: Insecure Direct Object References** • **OWASP - Top 10: Security Misconfiguration** • **OWASP - Top 10: Sensitive Data Exposure** • **OWASP - Top 10: Missing Function Level Access Control** • **OWASP - Top 10: Cross-Site Request Forgery (CSRF)** • **OWASP - Top 10: Using Components with Known Vulnerabilities** • **OWASP - Top 10: Unvalidated Redirects and Forwards** • **OWASP - Input Validation Cheat Sheet**

APIs

What it is:	APIs (application programming interface) are a set of routines, protocols, and tools for building software and applications
Where to Find it:	N/A
Training	**API Development in Java** http://www.petrikainulainen.net/programming/spring-framework/creating-a-rest-api-with-spring-boot-and-mongodb/. **Hello World API** https://github.com/pkainulainen/java-advent-2014

Apache Maven

What it is:	Build Automation Tool (primarily used for Java projects)
Where to Find it:	Maven – Welcome to Apache Maven
Training	**Maven – Maven in 5 Minutes** **Maven Quick Guide** **Getting Started · Building Java Projects with Maven**

Apache Tomcat

What it is:	Open-source Web Server
Where to Find it:	Apache Tomcat - Welcome! Apache Tomcat implements the following Java EE specifications: • Java Servlet • JavaServer Pages • Java Expression Language (EL) • Java WebSocket • Provides a pure Java HTTP web server
Training	N/A

Eclipse

What it is:	Software IDE	Java EE Developers
Where to Find it:	Eclipse Mars Eclipse Luna Eclipse Kepler
Training	**IntelliJ IDEA the Java IDE by JetBrains: Development Tools for Professionals and Teams.**

Putty

What it is:	Open-source Terminal Emulator, serial console and network file transfer application
Where to Find it:	PuTTY Download Page Multi-Tabbed Putty (MTPuTTY)	A tabbed view of all your current SSH sessions

Training	If you are **not** familiar with PuTTY, use the following guide:
	   Connecting to Linux from Windows by using PuTTY
	
	PuTTY supports several network protocols including:
	   • *SSH (secure shell)*
	   • SCP (secure copy)
	   • Telnet
	   • more…

Sonatype Nexus

What it is:	Build Repository
Where to Find it:	TheNEXUS	A Community Project	External Community Sonatype Nexus	BNY Mellon internal repository
Training	The following is good for getting a better understanding of how Nexus is used in conjunction with Jenkins when you deploy your first Java project: **Using Jenkins with Nexus Repository Manager [4 Videos]	TheNEXUS**