

CoLAB TalentReady IT Pathways
Software Development KSAs for Curriculum Alignment

8. Software Tools and Environment

	KSA Description	Knowledge, Skill, or Ability?	Bloom's Taxonomy Level?	Cross-cutting KSAs	Notes
a	Describe the issues that are important in selecting a set of tools for the development of a particular software system, including tools for requirements tracking, design modeling, implementation, build automation, and version control.	Knowledge	2		
b	Construct, execute and debug programs using a modern IDE and associated tools such as unit testing tools and visual debuggers.	Skill	4		
c	Describe how version control can be used to help manage software release management.	Knowledge	3		
d	Ability to use Github or similar version control systems.	Ability	2		
e	Ability to use Jira or other similar issue tracking tools.	Ability	2		
f	Ability to use npm, maven or similar package management tool.	Ability	2		
g	Ability to use a source code control tool to manage configuration items in a small team-based project.	Ability	3		
h	Explain the use of CircleCI, Jenkins or similar software integration tool.	Knowledge	2		
i	Describe the benefits of integrating static and dynamic test tools (SonarQube, Fortify, etc.) into the software development environment.	Knowledge	2		
j	Demonstrate the capability to use software tools in support of the development of a software product of small size.	Ability	3		
k	Explain the benefits of and appropriate uses cases for the usage of containers.	Knowledge	2		