

Python - Web App - Playwright

Criteria /qualification	Test Developer	Junior Automation Engineer	Automation Engineer	Senior Automation Engineer	Automation Architect
Specialization	Python Playwright	Python Playwright	Python Playwright	Python Playwright	Python Playwright
Project activities and results					
Work experience*	—	6 months	17 months	28 months	40 months
English qualification	Writer-Maileror higher	Maileror higher	Mailer-Speaker or higher	Speaker or higher	Speaker-Presenter or higher
Code Quality Control	Code Quality Control with result Medium or higher	Code Quality Control with result Medium or higher	Code Quality Control with result High	Code Quality Control with result High	
Code-review activities	—		Code-review exam		
Testing terminology and processes	Testing terminology and process KP1		Testing terminology and process KP2		
Automation Expertise requirements					
Python	Python. KP1	Python. KP2		Python. KP3	
Playwright**	PlayWright. KP1	PlayWright. KP2	PlayWright. KP3		
Automation risks	—	Automation risks			
Selenium	—			Selenium. KP1	
Selenide	—			Selenide. KP1	
OpenCV	—		OpenCV. KP1	OpenCV. KP2	
Katalon	—			Katalon. KP1	
Software design patterns and principles	Software design patterns and principles. KP1	Software design patterns and principles. KP2	Software design patterns and principles. KP3		
Git	Git KP1	Git KP2	Git KP3		
Jenkins	Jenkins. KP1	Jenkins. KP2		Jenkins. KP3	
Azure DevOps / GitLab CI	—	Azure DevOps / GitLab CI. KP1		Azure DevOps / GitLab CI. KP2	
pytest	pytest. KP1		pytest. KP2		
Behave	Behave. KP1	Behave. KP2	Behave. KP3	Behave. KP4	
Allure	Allure. KP1		Allure. KP2		
Aquality Tracking	—			Aquality Tracking. KP1	
Technologies of application development	—			Technologies of application development. KP1	Technologies of application development. KP2
Technical Expertise requirements					
Web Testing	Web Testing. KP1	Web Testing. KP2		Web Testing. KP3	
Network	Network. KP1	Network. KP2			
Docker	Docker. KP1	Docker. KP2		Docker. KP3	
Security	Security. KP1		Security. KP2		

Test Execution Platform***	Test Execution Platform. KP1	Test Execution Platform. KP2	Test Execution Platform. KP3	Test Execution Platform. KP4
Regular Expressions	—	Regular Expressions. KP1	Regular Expressions. KP2	
Linux	—	Linux. KP1	Linux. KP2	
AI	—	AI. KP1		AI. KP2
Excel	—		Excel. KP1	

* - based on logged time only for commercial projects

** - Playwright exam is conducted on the latest stable version of Playwright on exam date

*** - How to get access to resources:[0. Usage of corporate accounts](#)

Git. KP1

Requirement	Details	Internal trainings	Internal links	External links
Advantages of VCS	Why do we need VCS	Git. KP1-3		About version control, What is Git
Commit	What commit consists of How to create a commit How to change a commit How to undo a commit	Git. KP1-3 Git tasks		Recording changes to repository, amend, restore reset
Branch	What is a branch How to create a branch How to switch to a branch	Git. KP1-3 [En] Level 2. GIT + IDE		Branch
merge/rebase	Why do we need merge/rebase Differences between merge & rebase	Git. KP1-3 [En] Level 2. GIT + IDE		Basic branching and merging Branch management, rebase
Gitignore	Why do we need a gitignore file Syntax of gitignore	Git. KP1-3 [En] Level 2. GIT + IDE		.gitignore
Cloning a repository	How to clone a repo	Git. KP1-3 Git tasks		git-clone
Credentials	How to set up credentials Differences between system/global/local levels	Git. KP1-3 Git tasks		Setup

Git. KP2

Requirement	Details	Internal trainings	Internal links	External links
Tags	What is a tag How to create a tag How to use tags and switch to one	Git. KP1-3		Tags
reset	What is reset Different of soft/mixed/hard reset	Git. KP1-3 Git tasks		Reset

squash	What is squash	Git. KP1-3		Stashing
	Purpose of squash	[En] Level 2. GIT + IDE		
	How to perform			
History	How to view history of changes in git	Git. KP1-3		Commit history
	How to look up changes in git history	Git tasks		
What VCS is made of	Links between commits and branches	Git. KP1-3		Pointer (HEAD)
	Pointers			

Git. KP3

Requirement	Details	Internal trainings	Internal links	External links
Hooks	How to set up git hooks	Git. KP1-3		Hooks
	client-side/server-side hooks			
alias	In what cases we can use alias	Git. KP1-3		Aliases
	How to set up alias in git			

Python. KP1

Requirement	Common details	Internal trainings	Internal links	External links
Building a project	How to add a library using pip and requirements.txt	-	-	https://www.jetbrains.com/help/pycharm/creating-and-running-your-first-python-project.html#creating-simple-project https://pip.pypa.io/en/stable/user_guide/ https://pip.pypa.io/en/stable/reference/requirements-file-format/
	How to install and configure python interpreter			
Lambda methods	How to use lambdas	-		https://www.w3schools.com/python/python_lambda.asp
Types casting	Implicit and Explicit type conversion	-		https://www.geeksforgeeks.org/type-casting-in-python/
Data types	Data types supported by a language	-		https://www.geeksforgeeks.org/python-data-types/
Operators	Simple arithmetical operators	-		https://www.geeksforgeeks.org/python-operators/
	Increment/decrement			
	logical operators			
OOP principles	Knowing OOP principles, as well as programming language constructs that help to implement them	-		https://www.geeksforgeeks.org/python-oops-concepts/
Control statements	Keywords if, else, elif	-		https://www.geeksforgeeks.org/python-if-else/
	Ternary operator			
Loops	for, while	-		https://www.learnpython.org/en/Loops

Classes	What is a class What is "self" What __dict__ attribute means How to declare a class How to inherit from a class Difference between class and an instance of it	-		https://realpython.com/python-classes/
Methods	Regular methods Static methods Class methods Using methods of parent class args and kwargs	-		https://realpython.com/python-classes/ https://www.geeksforgeeks.org/args-kwargs-python/
Exceptions	What are the exceptions How to catch an exception How to throw an exception	-		https://docs.python.org/3/tutorial/errors.html
Comments	What are the comments How to write a comment When do we need to write a comment	-		https://www.simplilearn.com/tutorials/python-tutorial/comments-in-python
Conventions and style-checkers	What are style check tools How to use style check tools	-		https://pypi.org/project/pep8/ https://flake8.pycqa.org/en/latest/
String formatting	Methods to work with string How to format a string	-		https://medium.com/@RohitPatil18/string-formatting-in-python-d287c0bcac9e
Data structures	What Data structures consist of What's the purpose of Data structures Differences between different structures: List, Dictionary, Set, FrozenSet, Tuple, String, Bytearray	-		https://www.geeksforgeeks.org/difference-between-list-and-dictionary-in-python/ https://www.geeksforgeeks.org/python-data-structures/
Working with files	Libraries and classes for reading/writing text files Serialization/Deserialization of xml/json	-		https://realpython.com/working-with-files-in-python/

Python. KP2

Requirement	Common details	Internal trainings	Internal links	External links
Python versions	How to switch between python interpreter versions			https://stackoverflow.com/questions/43354382/how-to-switch-python-versions-in-terminal
Classes	How to implement abstract class Multiple inheritance What property is How to implement interface What's decorator			https://realpython.com/python-classes/#creating-abstract-base-classes-abcs-and-interfaces https://www.reddit.com/r/learnpython/comments/18iwj53/when_to_use_a_property_rather_than_a_method_in_a/ https://www.programiz.com/python-programming/multiple-inheritance https://realpython.com/python-lambda/#decorators

Data types	What is mutable types? What is immutable types? What is the difference?			https://realpython.com/python-mutable-vs-immutable-types/
List comprehension	How to filter, sort, group elements How to check if element is in data structure and if it has duplicates How to merge data structures			https://www.geeksforgeeks.org/python-list-comprehension/
Logging	Why do we need logging Libraries used for logging Differences between libraries used for logging			https://realpython.com/python-logging/

Python. KP3

Requirement	Common details	Internal trainings	Internal links	External links
Python Interpreter	How does Python interpreter work? What's difference from Compilers? Does Python use C++?			https://builtin.com/software-engineering-perspectives/compiler-vs-interpreter#:~:text=Compiler%3A%20A%20compiler%20translates%20code,line%20as%20the%20code%20runs. https://stackoverflow.com/questions/6889747/is-python-interpreted-or-compiled-or-both
Multithreading	How to create a thread, perform actions using it and finish it How to stop the thread execution Ways to synchronize threads Ways to transfer data between threads What is GIL?			https://realpython.com/intro-to-python-threading/ https://stackoverflow.com/questions/44793371/is-multithreading-in-python-a-myth

Software design patterns and principles. KP1

Requirement	Details	Internal trainings	Internal links	External links
Page Object	How to implement [rules, requirements] In which case using Page Object is required	Coding practices: patterns and antipatterns		Page Object Model

Framework & Project structure	<p>Describe what is a classic framework structure (i.e., aquality framework)</p> <p>How to work with a framework (config files, test data, const values usage)</p> <p>How to work with secure and sensitive data</p> <p>How to implement an additional feature in a framework</p>	JS Automation. Quick start		Java: Aquality Selenium java, Project structure
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Software design patterns and principles. KP2

Requirement	Details	Internal trainings	Internal links	External links
Builder	How to use Builder (how to implement, in which cases we need to use it)	Software design patterns and principles. KP2		Builder
Delegation	<p>How to use Delegation instead of Inheritance</p> <p>How to implement</p>	Software design patterns and principles. KP2		Replace Inheritance with Delegation
Singleton and alternatives [object pool, synchronized singleton]	<p>In which cases we need to use Singleton or its' alternatives</p> <p>How to implement Singleton and its' alternatives</p>	Software design patterns and principles. KP2		Singleton
Chain of Responsibility	<p>What is Chain of Responsibility and in which cases we need to use it</p> <p>How to implement in code</p>	Software design patterns and principles. KP2		Chain of Responsibility
Lazy initialization	How to implement Lazy Initialization and in which cases it'll be useful	Software design patterns and principles. KP2		Lazy Initialization
Factory Method	How to implement Factory Method and in which cases it'll be useful	Software design patterns and principles. KP2		Factory Method

Software design patterns and principles. KP3

Requirement	Details	Internal trainings	Internal links	External links
S.O.L.I.D.	<p>To know and be able to explain using examples:</p> <ul style="list-style-type: none"> • Single responsibility principle • Open/close principle • Liskov substitution principle • Interface segregation principle • Dependency inversion principle 	Software design patterns and principles. KP3		S.O.L.I.D.
Observer	How to implement Observer and in which cases it'll be useful	Software design patterns and principles. KP3		Observer
Abstract Factory	How to implement Abstract Factory and in which cases it'll be useful	Software design patterns and principles. KP3		Abstract Factory
Proxy	How to implement Proxy and in which cases it'll be useful	Software design patterns and principles. KP3		Proxy
Dependency injection	How to use Dependency Injection and in which cases it'll be useful	Software design patterns and principles. KP3		Dependency injection
Prototype	How to implement Prototype and in which cases it'll be useful	Software design patterns and principles. KP3		Prototype

Decorator	How to implement Decorator and in which cases it'll be useful instead of creating new classes	Software design patterns and principles. KP3		Decorator
Facade	In which cases it is beneficial to use Facade How to implement Facade	Software design patterns and principles. KP3		Facade
Mediator	How to implement Mediator and in which cases it'll be useful	Software design patterns and principles. KP3		Mediator
Strategy	How to implement Strategy and in which cases it'll be useful	Software design patterns and principles. KP3		Strategy
Adapter	How to implement Adapter and in which cases it'll be useful	Software design patterns and principles. KP3		Adapter

pytest. KP1

Requirement	Common details	Internal trainings	Internal links	External links
Testing framework basics	How to implement a simple test (mark methods as test method, use assertions) How to ignore a test using pytest			https://docs.pytest.org/en/7.1.x/getting-started.html
Data Driven Testing	When to use DDT Syntax of DDT approach in pytest (parametrize)			https://docs.pytest.org/en/7.1.x/how-to/parametrize.html
Preconditions and postconditions	What to put in precondition and postcondition When do we need to use pre and postconditions Why do we need to use pre and postconditions Different contexts for different types of pre and postconditions How to use conftest file			https://docs.pytest.org/en/stable/explanation/fixtures.html https://www.geeksforgeeks.org/conftest-in-pytest/

pytest. KP2

Requirement	Common details	Internal trainings	Internal links	External links
Generated files	How to generate and use default pytest html report			https://pytest-with-eric.com/plugins/pytest-html/
Extend the functionality of testing frameworks	How to get test result How to add or change statuses for test results TestRail integration Jira integration			https://pytest-with-eric.com/hooks/pytest-hooks/
How do the test runners work	What's the actions' sequence when running tests Working algorithms of test runners' How to run tests in multiple threads Ways to group tests			https://qxf2.com/blog/xdist-run-tests-parallel-pytest/ https://docs.pytest.org/en/7.1.x/getting-started.html#group-multiple-tests-in-a-class

Behave. KP1

Requirement	Common details	Internal trainings	Internal links	External links
BDD tools	how to add required plugins/extensions/libraries for behave to your project, how to set up, how to use in tests implementation	BDD. KP1-2		https://github.com/behave/behave/blob/main/README.rst https://behave.readthedocs.io/en/latest/gherkin/#feature-testing-layout
Gherkin syntax	Key words (Given/When/Then/And), difference between them and when to use each	BDD. KP1-2		https://docs.behat.org/en/v2.5/guides/1.gherkin.html https://cucumber.io/docs/gherkin/reference/
Step Definitions	How to create a step definition How to change step definition to use only a specific parameter type	BDD. KP1-2		https://behave.readthedocs.io/en/latest/tutorial/#python-step-implementations

Behave. KP2

Requirement	Common details	Internal trainings	Internal links	External links
BDD/KDT approach	Knows the purpose of BDD/KDT	BDD. KP1-2		https://www.functionize.com/automated-testing/behavior-driven-development https://www.browserstack.com/guide/tdd-vs-bdd-vs-atdd https://www.lambdatest.com/learning-hub/keyword-driven-testing
Hooks and tags	How to write a hook When do we need hooks How to use tags, how to select tests by it	BDD. KP1-2		https://behave.readthedocs.io/en/latest/tutorial/#environmental-controls
Scenario Context and Stores	How to store data between steps using contexts and stores Different types of contexts	BDD. KP1-2		https://behave.readthedocs.io/en/latest/tutorial/#context
Gherkin syntax	Scenario outline, tables Background	BDD. KP1-2	Fundamental principles of writing test cases in Gherkin	https://behave.readthedocs.io/en/latest/tutorial/#scenario-outlines https://behave.readthedocs.io/en/latest/gherkin/#scenario-outlines https://behave.readthedocs.io/en/latest/gherkin/#table https://behave.readthedocs.io/en/latest/gherkin/#background
Tests execution	How to map feature files and classes Set up different test runners for tests execution	BDD. KP1-2		https://behave.readthedocs.io/en/latest/api/#step-parameters https://behave.readthedocs.io/en/latest/api/#behave.matchers.Matcher

Behave. KP3

Requirement	Common details	Internal trainings	Internal links	External links
BDD best practices	Guidelines Check style tools			https://www.browserstack.com/guide/cucumber-best-practices-for-testing
BDD step argument transformations	How do transformations work When to use transformation How to implement a transformation			-

Behave. KP4

Requirement	Common details	Internal trainings	Internal links	External links
Test data in BDD	How to use Test data in BDD (external files) How to test a localization using BDD How to use BDD in test with big amount of test data			Test data in BDD

Allure. KP1

Requirement	Details	Internal trainings	Internal links	External links
How to generate an Allure report	serve, generate, open (in what format do we need to provide a path to results; --clean) What's required for report generation			Allure pytest Allure behave
Allure' main features	How to use steps, test cases, test suites			Writing tests: Allure pytest Allure behave
Results analysis	How to work with statuses (what each of it means, what's the difference) How to find different parts of the report (steps, screenshot, attachments)			Test statuses

Allure. KP2

Requirement	Details	Internal trainings	Internal links	External links
Reporting tool integration	How to integrate reports generation into CI/CD How to set up automatic builds	Allure. KP2		Integration: Jenkins

Customizing a report	How to add attachments, bugs, environment	Allure. KP2		https://allurereport.org/docs/attachments/ Allure behave attachments Allure pytest attachments Allure behave environment Allure pytest environment reporting: https://reportng.uncommons.org/ [supported system properties] cucumber-html-reported: https://cucumber.io/docs/cucumber/reporting/#third-party-plugins
Guidelines	How to set up reporting tool according to company guidelines	Allure. KP2	Company guidelines	

Aquality Tracking. KP1

Requirement	Details	Internal trainings	Internal links	External links
Aquality Tracking	How to set up How to integrate with your framework How to customize the report How to use an AI module	Aquality Tracking 101		https://github.com/aquality-automation/aquality-tracking

Technologies of application development. KP1

Requirement	Common details	Internal trainings	Internal links	External links
MVC	What is Model, View, Controller How Model, View and Controller interact, how are they separated			What is MVC
Monolith/microservices	What is the difference between monolith and microservices architecture			Monolithic vs Microservices Architecture
Client-Server	Client-Server architecture Client-Server interaction Proc and cons of Client-Server architecture			Client-Server Model

Technologies of application development. KP2

Requirement	Common details	Internal trainings	Internal links	External links
Web-development frameworks	What framework is used in the programming language How to write a simple application using this framework			Java: Spring MVC

CSS	Basics of writing CSS styles How to create a CSS styles table CSS pseudoclasses CSS preprocessors <ul style="list-style-type: none"> • SASS • LESS • Stylus • PostCSS 			HTML CSS , HTML Tables , Pseudo-classes , Preprocessors
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Jenkins. KP1

Requirement	Details	Internal trainings	Internal links	External links
Jenkins: CI/CD system and agents set up	<ol style="list-style-type: none"> 1. CI server set up 2. Common settings (JDK, Maven, MSTest, Email settings, etc.) 3. Controlling plugins (if supported) 4. Connecting build agents 5. VCS set up 6. Tests execution command set up 7. Project's build command set up 	Level 2. CI [Jenkins]		Jenkins Quick Guide
Jenkins: Parameterized build	How to parameterize a build How to use environment variables	Level 2. CI [Jenkins]		Parameterized Builds
Jenkins: Build triggers	How to trigger a build using <ol style="list-style-type: none"> 1. Cron expression 2. Trigger from another build 3. Manual trigger 	Level 2. CI [Jenkins]		Build triggers
Jenkins: Restriction of number of stored results	When do we need to restrict number of stored results How can we restrict number of stored results	Level 2. CI [Jenkins]		Discard Old Build
Jenkins: Steps before and after the build	How to set up execution of steps before and after the build (using plugins/scripts)	Level 2. CI [Jenkins]		Post-Build Actions

Jenkins. KP2

Requirement	Details	Internal trainings	Internal links	External links
Pipelines in Jenkins	What is the purpose of a pipeline Pipeline syntax When do we need to use pipelines How to use logical constructs Multi-stage pipelines	Azure. KP1		What is Pipeline? Pipeline syntax overview and Detailed pipeline syntax.
Jenkins: Transferring artifacts between the builds	How to transfer artifacts between builds			Copy artifacts
Jenkins: Saving and publishing artifacts	How to organise an access to auto tests results using HTML Reporter			Save file , Sending your automated test results to TestRail

Jenkins: Build triggers	1. Git changes hooks 2. REST Api		Build triggers
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Jenkins. KP3

Requirement	Details	Internal trainings	Internal links	External links
CI/CD approach	What is CI/CD approach How is it used in QA			CI/CD
Jenkins: Email notifications set up	How to set up emails notifications How to create custom email notifications (jelly scripts, etc.)	Level 2. CI (Jenkins)		Email notification in Jenkins
Jenkins: System administration	How to configure permissions (grant and restrict)	-		Permissions
Jenkins: Credentials stores	How to use credentials store	-		https://www.jenkins.io/doc/book/pipeline/jenkinsfile/#handling-credentials

Azure DevOps / GitLab CI. KP1

Requirement	Details	Internal trainings	Internal links	External links
Pipelines Azure DevOps OR Gitlab CI	What is the purpose of a pipeline Pipeline syntax When do we need to use pipelines How to use logical constructs Multi-stage pipelines	CI/CD based on Azure DevOps		What is Pipeline? Pipeline syntax overview and Detailed pipeline syntax.
Build settings in Azure DevOps OR GitLab CI	Controlling steps of build using yaml	CI/CD based on Azure DevOps		Azure DevOps Guide, Get started with GitLab CI/CD

Azure DevOps / GitLab CI. KP2

Requirement	Details	Internal trainings	Internal links	External links
Build settings in Azure DevOps OR GitLab CI	How to control resources and used nodes using yaml How to restrict access to the build	-		resources for Azure Pipelines, Grant or restrict access using permissions, Config files GitLab, Control access and visibility
Azure DevOps OR Gitlab CI yaml optimization	How to make your yaml files more optimized for resources and time	-		YAML Templates

Selenium. KP1

Requirement	Details	Internal trainings	Internal links	External links	
Navigation	To know how to navigate by URL			Browser navigation	
	how to refresh the page				
	how to navigate forward/back				
Tabs/Window management	how to switch to iFrame, how to switch back from it			Frames	
	how to switch to alert, how to manage it			Alerts	
	how to switch to another tab			Windows and tabs	
Capabilities	how to change default directory for file download			Browser options, Change dir. Chrome	
Driver instance	how to initialize an instance of webdriver			Start the session	
	how to properly destroy an instance of webdriver			Close and quit	
	how to change a browser window size			Resize browser, Maximize	
DevTools	how to perform basic authorization			HTTP Authentication, Selenium Authentication	
Elements location	how to use findElement method			Find element	
	how to use findElements method			Find elements	
	how to use xpath to locate the element			XPath	
	how to use css to locate the element			CSS	
	how to implement a stable locator can detect a potentially unstable locator			Locators [Read the article only up to point 7]	
Elements interaction	how to use js click, when we need it			JS click	
	how to get element's attributes			getAttribute()	
	how to send text to the element, how to get text from the element			Send Keys, Get Text	
Waits	how to use implicit waits, when do we need them			Implicit waits	
	how to use explicit waits, when do we need them			Explicit waits	
	how to use fluent waits, how to customize them			Customization	
Cookies	To know how to add a cookie	Selenium. KP2			Add cookies
	how to remove a cookie	Selenium. KP2			Delete cookies
	how to edit a cookie	Selenium. KP2			Named cookie
Elements location	how to use relative locators [above/below/left of/right of /near]	Selenium. KP2			Relative locators
	how to chain locators, how to implement an optimized locator by speed	Selenium. KP2			Chaining relative locators
Capabilities	how to set up a headless mode in a browser	Selenium. KP2			Headless browser testing, Updates for Firefox and Chromium based browsers

	how to run a browser in a incognito mode	Selenium. KP2			Incognito mode
Elements interaction	how to upload a file to a page	Selenium. KP2			File upload
DevTools API	To know how to use DevTools API (for example, how to get data from network tab in devtools mid test)	Selenium. KP3		Inspect Network Activity in Chrome DevTools	
Waits	how to avoid mix of wait times from different types of waits, what are the consequences and what will be a resulting wait time	Selenium. KP3		Waits	

Selenide. KP1

Requirement	Details	Internal trainings	Internal links	External links
Navigation	To know how to navigate by URL			Navigator , Navigation Commands in selenide
	how to refresh the page			
	how to navigate forward/back			
Tabs/Window management	how to switch to iFrame, how to switch back from it			switchTo().methods
	how to switch to alert, how to manage it			
	how to switch to another tab			
Capabilities	how to change browser settings using capabilities			Config
	how to set up a headless mode in browser			isHeadless
Driver instance	how to set up an instance of webdriver			Create Driver
	how to properly destroy an instance of webdriver			Close Driver,closeWindow()
DevTools	how to perform basic authorization			BasicAuthUtils
Elements location	how to use findElement method			Introduction to Selenide
	how to use findElements method			
	how to use xpath to locate the element			
	how to use css to locate the element			
Elements interaction	how to use different types of clicks (regular click, double click, js click, context click)			Documentation
	how to get element's attributes			Documentation
	how to send text to the element, how to get text from the element			Introduction to Selenide
Waits	how to use built-in waits, at what moment do we start waiting and for what time period			Waits
Cookies	To know how to add a cookie			getWebDriver().addCookie
	how to remove a cookie			Clear cookie,Clear cache
	how to edit a cookie			Cookie with Name
Elements location	how to use relative locators (above/below/left of/right of/near)			relative locators
	how to chain locators, how to implement an optimized locator by speed			Selenide elements
Elements interaction	how to upload a file to a page			UploadFile

Katalon. KP1

Requirement	Details	Internal trainings	Internal links	External links
Keywords customization	To know how to customize keywords			https://docs.katalon.com/docs/create-tests/keywords/custom-keywords/introduction-to-custom-keywords-in-katalon-studio
Custom desired capabilities	how to customize capabilities			Custom desired capabilities
Customized report	how to customize a report			Log, test suite and test suite collection reports, BDD reports
Custom fields and tags	how to customize fields and tags			Add Custom Fields and Tags to test cases

OpenCV. KP1

Requirement	Details	Internal trainings	Internal links	External links
OpenCV set up	How to set up OpenCV [how to add to the project and set up]			Java: https://www.baeldung.com/java-opencv
Visual testing	How to compare [get difference and process the result] 2 pictures with different quality, size, color, etc.			Operations with images

OpenCV. KP2

Requirement	Details	Internal trainings	Internal links	External links
Text recognition	How to recognize a text on the screen How font affects recognition How to recognize text correctly [for example text with unusual font]			Text recognition
Figure recognition	How to recognize specific UI element [particular button, field, etc.]			Contours

PlayWright. KP1

Area	Requirement	Details	Internal trainings	Internal links	External links
Navigation	To know how to navigate by URL				Navigations
	how to refresh the page				Page reload
	how to navigate forward/back				Go Back, Go Forward, Navigation
Tabs/Window management	how to switch to iFrame, how to switch back from it				Frames
	how to switch to alert, how to manage it				Dialogs
	how to switch to another tab				Pages[]
Capabilities	how to change browser settings using capabilities				Browser settings, The WebDriver implementation
	how to set up a headless mode in browser				Headless mode
Driver instance	how to set up an instance of webdriver				Browser instance

	how to properly destroy an instance of webdriver				Close
DevTools	how to perform basic authorization				Authentication
Elements location	how to use findElement method				Page locator,Locators
	how to use findElements method				Using locators
	how to use xpath to locate the element				Page locator
	how to use css to locate the element				Page locator
Elements interaction	how to use different types of clicks (regular click, double click, js click, context click)				Keyboard,Mouse
	how to get element's attributes				getAttribute()
	how to send text to the element, how to get text from the element				Keyboard,Text input,getAttribute()
Waits	how to use auto-waiting, at what moment do we start waiting and for what time period				https://playwright.dev/docs/actionability

PlayWright. KP2

Area	Requirement	Details	Internal trainings	Internal links	External links
Cookies	To know how to add a cookie				Add Cookie,context Cookie
	how to remove a cookie				Clear Cookie
	how to edit a cookie				Add Cookie
Elements location	how to use relative locators (above/below/left of/right of/near)				Relative locators
	how to chain locators, how to implement an optimized locator by speed				And
Elements interaction	how to upload a file to a page				Upload file

PlayWright. KP3

Area	Requirement	Details	Internal trainings	Internal links	External links
DevTools API	To know how to use DevTools API (for example, how to get data from network tab in devtools mid test)				https://playwright.dev/docs/api/class-cdpsession

Web Testing. KP1

Requirement	Internal trainings	Internal links	External links
How to locate the element in a page layout using dev tools			DevTools guide
How cookies and cache may affect auto test			Cookie, session and cache

Web Testing. KP2

Requirement	Internal trainings	Internal links	External links
What is a cross-browser testing, why and when do we need to use different browsers for tests			cross-browser testing
How to use network throttling in dev tools			Network Throttling

Web Testing. KP3

Requirement	Internal trainings	Internal links	External links
How to debug using dev tools			Debugging Chrome https://developer.chrome.com/docs/devtools/javascript/ https://developer.chrome.com/docs/devtools/javascript/breakpoints/ https://developer.chrome.com/docs/devtools/javascript/reference/#stepping

Network. KP1

Requirement	Internal trainings	Internal links	External links
How to check internet connection speed and stability using ping and tracert, how to localize the issue			Network stability test https://www.practicallynetworked.com/network-stability-test/
How to find an IP address (internal and external) and when to use it			Internal and external IP, Ping and a Tracert
How to connect to resources using VPN			FortiClient, Connect and disconnect, Download OpenVPN
How to connect to a remote desktop using RDP			Use RDP, RDP from Linux to Windows

Network. KP2

Requirement	Internal trainings	Internal links	External links
How to detect a DNS issue, how to localize the issue			DNS issues

Docker. KP1

Requirement	Internal trainings	Internal links	External links
How to run existing docker container		Docker	Get started guide
How to build docker container from existing DockerFile			

Docker. KP2

Requirement	Internal trainings	Internal links	External links
How to create custom Docker container		Docker	Create container, Edit file
How to modify existing DockerFiles			

Docker. KP3

Requirement	Internal trainings	Internal links	External links
How to use and manage docker compose			Docker
What is docker swarm and how to use it			
What is k8s and how to use it			
How to use docker hub			

Security. KP1

Requirement	Internal trainings	Internal links	External links
What 2fa is, how to set up factor in Azure		Security	2FA to Azure DevOps
Don't use simple/repeating passwords		Security	Password ideas
Knows information classification, and how to handle confidential information		Security	Information classification policy
How to detect phishing emails		Security	Fishing email
How to work with confidential information in code		Security	Confidential information in code

Security. KP2

Requirement	Internal trainings	Internal links	External links
Basic security rules for server set up		Security	security server set up

Test Execution Platform. KP1

Requirement	Internal trainings	Internal links	External links
How to connect and execute tests in Browserstack			Sample build, Test Suite with BrowserStack

Test Execution Platform. KP2

Requirement	Internal trainings	Internal links	External links
How to connect to an Azure instance			Connect using SSH
How to connect to an AWS instance			Connect to Linux instance
How to connect to a Google cloud instance			Connect to Google cloud

Test Execution Platform. KP3

Requirement	Internal trainings	Internal links	External links
How to create an Azure instance			Create Azure instance
How to change allocated resources of an Azure instance			Create and deploy ARM templates

How to set up an AWS instance			Set up to use Amazon EC2
How to change allocated resources of an AWS instance			CPU options for your instance
AWS load balancer - what is it, how to use			Elastic Load Balancer
What are browserstack's limitations (native browser support, simulators)			Simulators vs Emulators
How to use Browserstack features (local testing, cross-platform testing, set up a specific device/change settings, test results customization)			BrowserStack Local Testing,Cross Device Testing, Selenium Test Results,Appium test results
How to set up a Google cloud instance			Create and start, Set Up Google Cloud Server To Host
How to change allocated resources of a Google cloud instance			CPU allocation services
How to set up an instance of VM			Create and start VirtualBox,VMware

Test Execution Platform. KP4

Requirement	Internal trainings	Internal links	External links
How to create Azure instances using existing ARM templates			Create Azure instance
How to create and manage Azure instances using Terraform			Create a Windows VM cluster in Azure using Terraform

Regular Expressions. KP1

Requirement	Internal trainings	Internal links	External links
How to get a required part of text using regex, how to verify if the word starts with, contains numbers/letters/special symbols			https://regexone.com/lesson/introduction_abcs https://regex101.com/

Regular Expression. KP2

Requirement	Internal trainings	Internal links	External links
How to search by partial match and use groups in regex			https://regexone.com/lesson/introduction_abcs https://regex101.com/

Linux. KP1

Requirement	Internal trainings	Internal links	External links
How to navigate using bash (how to navigate to a specific folder, get to root, home, tilde)			Using the terminal

Linux. KP2

Requirement	Internal trainings	Internal links	External links
How to connect to a remote Linux using SSH			Connecting with SSH

Excel. KP1

Requirement	Internal trainings	Internal links	External links
How to create charts in excel			Create chart
How to create pivot tables in excel			Pivot table

AI. KP1

Requirement	Internal trainings	Internal links	External links
AI tools (chatgpt/copilot/bard)	AI. KP1		Comparing Microsoft Copilot, Google Bard, and ChatGPT
How to use AI tools to generate code for models' description,	AI. KP1		https://www.promptingguide.ai/applications/coding https://www.learnprompt.org/chat-gpt-prompts-for-coding/
How to generate a regular expression	AI. KP1		https://www.promptingguide.ai/applications/coding https://www.learnprompt.org/chat-gpt-prompts-for-coding/
What data can we share with AI tools and what not	AI. KP1		Security
What tasks can be solved using AI tools	AI. KP1		https://www.promptingguide.ai/applications

AI. KP2

Requirement	Internal trainings	Internal links	External links
Learning processes	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Single layer & Multilayer perceptrones	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Radial-Basis function networks	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Support Vector & committee machines	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Principal components analysis	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Self-organizing maps	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Information-Theoretic model	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Stochastic machines and their approximates in statistical mechanics	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Neurodynamic programming	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Temporal processing using feedforward networks	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
Neurodynamics	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501

Dynamically driven recurrent networks	-	-	https://www.amazon.com/Neural-Networks-Comprehensive-Foundation-2nd/dp/0132733501
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Automation risks

Requirement	Details	Internal trainings	Internal links	External links
Changes in UI	Can understand how changes in UI affects automation, automation results and what will be the outcome			UI Automation testing
Product business logic changes	Can understand how product business logic changes affects automation, automation results and what will be the outcome			Automation Streamlining Operations with Business Logic Automation
Large number of defects	Can understand how large number of defects affects automation, automation results and what will be the outcome			Defects and its solutions, Uncovering high value defects
Environmental issues	Can understand how environmental issues (for example, unstable environments) affects automation, automation results and what will be the outcome			Test Automation Environment
Test data issues	Can understand how test data issues affects automation, automation results and what will be the outcome			Importance of Test Data Management
Infrastructural issues	Can understand how infrastructural issues (for example, unstable connection) affects automation, automation results and what will be the outcome			Test Automation Environment

Testing Terminology and Processes. KP1

Requirement	Internal trainings	Internal links	External links
Agile. Scrum, Kanban	-	Project Management process terminology#Agile Project Management process terminology#Scrum Project Management process terminology#Kanban	What Is Agile Methodology? What Is the Scrum Methodology? What Is Kanban?
Defect reporting, tracking, lifecycle	-	Defect lifecycle	Lifecycle,defect report
Test documentation	-	Test Documentation	What is Test Documentation?
Types of testing: By depth, width, source code availability, time and place,preparedness, components isolation, the object of testing, automation	-	Types of testing	Types of testing

Testing Terminology and Processes. KP2

Requirement	Internal trainings	Internal links	External links
Test model	-	Knowledge base: Test model management	Software Testing Models
Test design	https://ep.a1qa.com/secure/lms/profile/55	Test design presentations	Test design techniques