

Syllabus
Certified Test Automation Professional (CTAP)
Foundation



Version 1.0

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Description

This syllabus describes the Certified Test Automation Professional (CTAP) Foundation Level Certification requirements, learning objectives and related information to prepare for the CTAP Foundation exam.

Need for standardized approach in test automation

Professionals and organizations are becoming increasingly dependent on IT, which raises questions about the quality of software.

The speed at which software is developed today makes manual testing obsolete. It's not easy to keep the pace up. The speed of development and releases is important in an Agile/DevOps environment. The concepts of Continuous Integration and Continuous Delivery (CI/CD) are commonplace nowadays. Continuous testing is a need of CI/CD, where test automation plays a key role.

In this scenario, test automation extends beyond simply automating regression tests. Test automation must be implemented across the entire development process. This requires that tests must be administered as quickly as possible and, preferably, automatically.

Test automation is one of the first things that is implemented within Agile teams. However, knowledge and expertise are frequently restricted to one team or project and are difficult to transfer to other teams or projects.

An overly technical approach is frequently suggested, with the main focus on tools and too little attention paid to people, organizations, data and processes. This makes it difficult to scale and transfer best practices within an organization.

The goal is to set up test automation in a way that will be beneficial in the future so that other members of the organization can take advantage of it. Extra attention is required for the creation of test automation that is reusable, expandable, and transferable in such a manner that inside the organization a reliable quality level of test automation is attained.

This demands more attention to detail and a focus on transferability and knowledge sharing, but it also affects how specific test situations and test scripts are created.

Certified Test Automation Professionals and organizations benefit from:

- Increased quality of test automation;
- Reusability of test automation;
- Ability to leverage industry best practice from a vast number of professionals over many years;
- Availability of a common language within your team and organization in relation to test automation;
- Guaranteed quality levels of a test automation engineer.

About the CTAP consortium

The CTAP consortium is a non-for-profit collaboration of industry experts, consultancy organizations, end users, trainers and academics. All these participants believe that the automation of testing involves common approaches that should always be followed, regardless of a professional's background, type of tooling used and industry.

CTAP stands for Certified Test Automation Professional. The shared ambition of the consortium members and its founders is to ensure that professionals who are active within the testing domain have been certified in CTAP, and therefore can benefit from a common understanding of best practice in test automation. The aim is to also ensure a proper execution, enabling higher quality software and reusability of test automation. The Foundation level is the first level which is completed. Applying the CTAP accreditation will guarantee an assured quality level of test automation engineers.

The CTAP consortium has set out three main activity areas through which to achieve this goal:

1. Auditing the supported Test Automation Certification and trainer accreditation program.
2. Promoting the adoption of test automation in public and private organizations.
3. Facilitating access to test automation learning materials and certification for individuals who want to increase their employability.

The Certification Council is an independent panel of test automation and certification experts, each representing different industries and interests. Council members are selected from member organizations of the CTAP consortium based on their experience, network and contributions to test automation.

The Council provides advice on content-related matters and is responsible for auditing the Test Automation Certification based on market standards.

The ambition of the CTAP consortium is to:

“Create a common understanding of the level of expertise required for managing test automation.”

Practical information

You must pass a multiple-choice exam in which your knowledge of test automation will be assessed to obtain the CTAP certificate.

All exam candidates will get access to the online exam environment and will need to answer 40 multiple-choice questions within 60 minutes.

You must answer 65% of the questions correctly (or at least 39 of the 60 questions) in order to pass. Each question usually has four possible answers and only one of these is the best answer.

You will receive the result immediately after the exam. (Digital) Access to your certificate will be given once you have passed.

Registration for the exam can be done by purchasing a participation certificate at www.vanharen.store.

Number of questions:	40
Time (minutes) for the exam:	60 minutes
% minimal passing grade	65%
Open/closed book:	Closed
Language:	Dutch and English. See www.vhls.global for other available languages.
Exam format:	Online
Type of questions:	Multiple choice. Candidates are advised to read the questions carefully.
Are there also negative questions included in the exam?	Yes. Candidates are advised to read the questions carefully. (for example: "which of the following is NOT a principle in the Agile Manifesto?")

Levels

Certified Test Automation Professional (CTAP)

Foundation tests candidates at levels 1 and 2, according to the Bloom Revised Taxonomy.

Bloom Level 1: Recall & Retention

We test candidates on their ability to memorize factual information, to retain information by collecting, remembering and recognizing specific knowledge. Knowledge includes facts, terms, answers or terminology.

Bloom Level 2: Understanding

We test candidates on their ability to construct meaning from oral, written or graphical pieces of information. This is done by interpreting, summarizing, distracting, comparing, classifying, predicting or explaining the message.

Learning objectives

The learning objectives state what the delegate will need to know and be able to execute after successfully obtaining this certification. The certificate that the student will receive proves that they have learned:

- An understanding of test automation.
- Why test automation is important for current development methods.
- What are the purposes of test automation.
- The advantages and disadvantages of test automation.
- In which cases are test automation applicable.
- Which trends are recognized inside test automation.
- Different kinds of test tools.
- Selection of test tools.
- The evolution of test automation.
- Manual vs automated testing.
- Scripting.
- Implementation of test tooling.
- Future-proof development of test automation.
- Introduction to scripting.
- Testing automation and development methods.
- Testing automation functions.
- A CTAP certified person is able to implement test automation inside an Agile release train and to transfer knowledge inside and outside the release train.

Exam requirements and specifications

Module	Exam Requirements	Exam Specification	Weight	Ref.
1	Introduction		10%	
1.1		The importance of test automation for current development methods		A, D
1.2		The purposes of test automation		D
1.3		Advantages and disadvantages of test automation		D
1.4		A CTAP certified person is able to implement test automation inside an Agile release train and to transfer knowledge inside and outside the release train		B, D
2	Test automation		30%	
2.1		The cases in which test automation is applicable		D, H
2.2		Which trends are recognized inside test automation		D
3	Tooling & Scripting		35%	
3.1		Different kinds of test tools		D
3.2		Selection of test tools		D
3.3		Introduction to scripting		D
3.4		Implementation of test tooling		D
3.5		Scripting		D
4	Establishment of test automation		10%	
4.1		The evolution of test automation		A
5	Architecture		15%	
5.1		Manual vs automated testing		A
5.2		Future-proof development of test automation		A
5.3		Test automation and development methods		A
5.4		Test automation functions		A

Recommended literature

ID.	Source	Form
[A]	'Testautomatisering wendbaar organiseren' – Rooyen, van J, Mersie, MJ, – 2020	Core literature
D	Geautomatiseerd software testen. Egbert Bouman	Core literature
H	M. Siteur: "Automate your testing, sleep while you are working, blz 143-144," Academic Service, 2005.	Core literature
B	'Het gebruik van testautomatisering binnen Agile projecten' – Rooyen, van J – 2012	Optional
C	'Acht redenen om te beginnen met unit tests' – https://www.delta-n.nl	Optional
E	D. Greefhorst, M. Mersie, J. van Rooyen: "Principes van testautomatisering," Computable, 2015.	Optional
F	J. van Rooyen: "Effort estimation test automation in an Agile environment," Valid2016, 2016.	Optional
G	C. Schotanus et al.: "Testframe, hoofdstuk 6,7,8," Academic Service, 2008.	Optional
I	J. van Rooyen: "Het gebruik van testautomatisering binnen Agile projecten", 2012.	Optional
J	Ravichandran et al.: "DevOps for Digital Leaders" CA Press, 2016	Optional