

Course duration: 180 academic hours

1

QA Lead - why do I need this role?

Lesson objectives:

describe the role of a QA lead.

Summary:

E. Deming's principles of quality management;
the need for test management and QA lead for
business, team, and processes;
qa lead responsibilities (improving the process;
creating a repeatable and transparent process;
instrumental process support; managing
people);
roles in the testing team.

2

QA Lead's responsibilities and roles

Lesson goals:

tell us about the roles and skills of the leader.

Summary:

leader;
scrum master;
facilitator;
coach;
mentor;
QA ambassador.

Home assignments

1

Self-determination of roles and skills per course

Goal: 1. Self-determination of roles and skills for the

course.

2. Determine that the student has mastered the material and chosen the path of development.

According to the material of 1 lecture:

1. Create a list of responsibilities for the qa lead in the company where you work. To do this , first answer the following questions:
questions on determining the value of a QA lead for the company and its area of responsibility.
2. Formulate “Why does your business need a qa lead?”
3. Formulate “Why do your teams (dev team and qa team) need a qa lead”.
4. Formulate “What are the qa lead's responsibilities to processes (creation and support)?”.
5. Differentiate between your area of responsibility and that of your employees.

Based on the material of 2 lectures

1. Determine the value of a QA lead in different roles on your product / project . (short analysis for each role from the lecture (except for combining roles))
2. Who can be a mentor in your team?
How can it help others ?
3. Write down in what role you did not act but would like to?
4. Write down the roles that you don't want to perform and why ? (if any)
5. Required: State your course goals regarding the roles /skills covered.

Explanation of the formalization of the DZ:

* * The result of completing homework should be in the form of a link to the open-to-read Google Docs file (!) sent for verification. The file name must contain the lecture number and the student's last name.

*You don't need to send files, archives, or links to the cloud via your merchant profile, just a link to the document!

Before you send a link, make sure that its content is NOT private (open for viewing by anyone who has the link).

1

Team Design

Lesson goals:

create a team portrait;
create a team member profile;
analyze the team's work.

Summary:

types of teams (self-organizing team,
cross-functional team, functional
team);
emotional portrait of team members;
main roles and team portrait;
team dynamics according to Bruce Tokman;
team star map;
employee profile formation.

2

Conducting

interviews

Objectives of the lesson:

create vacancies;
conduct interviews.

Summary:

job description;
resume review;
interviewing;
test tasks;
feedback to the candidate;
documentation.

Home assignments

1

Preparing / conducting an interview,
creating a vacancy, job description

Goal: 1. Create a team star map:

- create a team profile of your project;
- create a QA engineer profile for this project (product);
- based on the team's profile picture analyze whether all current employees

are in their places;

- analyze the team's performance and determine what stage of group dynamics it is at.

2. Based on the results of interviews:

- prepare a job description,
- make an interview plan with the preparation of text /questions:
- conduct an interview;
- create an offer letter, rejection letter;
- develop a job description or test task.

1. The task under item 1 must contain a star map for your team, if you have a team of which you are the lead. If you don't have such a team, then create a star map for the team you work for.

You can complete this task either by working with the team (invite them to a special meeting), or by yourself.

An example is given here:

<https://onagile.ru/trends/talents/agile-for-hr-stars-map>

Пример :

<https://docs.google.com/spreadsheets/d/1ulClb9vBpUR2oebzjzuEJRVA6TSRdqNFJ4n4Ge81Azk/edit?usp=sharing>

The task for item 1 should contain the conclusions (answers to questions) that were made after the formation of the star map.

2. The task for item 2 must contain all items. In the part of the interview - you need to unsubscribe the result of how it went, what you think needs to be corrected.

The exception in point 2 is a job description or test task. Do it for those who need it in their work.

3

Adapting

a new

employee

Objectives of the lesson:

describe the principles of adaptation;
conduct high-quality onboarding;

build a process and documentation.

Summary:

the process of onboarding a new employee;

creating goals and tasks for a probationary period;

knowledge management for immersing a new employee (in the company, team, project/product, system)

QA lead responsibilities for successful integration of a new person into the team.

1

Employee development process

Objectives of the lesson:

describe why to develop employees and how to explain it to the business;

list the main ways to develop employees.

Summary:

why develop people and why it is beneficial for business;

ways to develop employees;

employee training;

knowledge management in a team;

common mistakes in employee development.

2

Goal setting:

IPR

Objectives of the lesson:

define goals for employee development;

draw up an IPR.

Summary:

SMART goals;

the process of working with IPR.

Homework assignments

1

Create a development plan for the employee

Goal: 1. Evaluate the employee

2. Make an IPR
 3. Take into account the interests of the project, business and employee when drawing up IPR
 4. Practice as a mentor
 5. Set SMART goals
1. Evaluate the employee, spend 1-2-1 with them, and select development goals
 2. Prepare an IPR, set deadlines, and discuss deadlines with the employee and mentors who will be responsible for any item in IPR
 3. Prepare materials for development, and criteria for achieving each item of IPR
 4. Record the final IPR and the scheme of decision-making based on the result of its achievement

Goal setting:**OKR****Objectives of the lesson:**

apply OKR to implement the goal setting system
in the team and you will know how it differs from other
systems, such as KPI and IPR.

Summary:

why you need OKR;
how to formulate OKR;
what you need for implementation;
how OKR differs from KPIs;
practice.

Homework assignments

1

OKR

Goal: 1. Formulate an OKR for your team
(if you are a lead, then for your employees, if not
a lead, then for the team in which you work)
2. Formulate an OKR for yourself as a lead.
3. Formulate the course goals as a personal OKR
(work on mistakes in the
initial goal setting)

4

Employee training:

**employee development
through
mentoring
and mentoring**

Lesson objectives:

describe the roles involved in the learning process;
list the types of knowledge sharing.

Summary:

mentoring, mentor qualities;
mentoring;
knowledge sharing (through documentation, community, and
other ways of sharing knowledge).

Home assignments

1

Building a mentoring system, practicing
as a coach or consultant

Goal: 1. Build a mentoring system based on
the example of your project
2. Conduct a coaching session with an employee /
colleague on the course or act as a
consultant
1. Build a mentoring system based on the example
of your project.
2. Conduct a coaching session with an employee /
colleague on the course or act as a
consultant.

5

**Employee training:
development through
coaching and
consulting**

Summary:

The need for a coaching style of communication in management.

Development through coaching.

Consulting in the profession.

1

Working with feedback

Lesson objectives:

describe the content of the work with feedback.

Summary:

collecting feedback (about employees and about yourself);

open questions for collecting

performance information;

goals for collecting feedback;

rules for reporting feedback;

360°review;

implementing a feedback culture;

frequency of feedback collection;

tools for collecting feedback;

data aggregation and analysis.

Home assignments

1

Prepare a list of questions for collecting feedback, analyze the feedback received, and give feedback in writing on the case

1. Prepare a list of questions to collect feedback about yourself, prepare a list of people you want to get feedback from, and think about how to request feedback about yourself.

2. Prepare a rating system for Performance
Review employees of your department, conduct an employee evaluation.

2

Performance review

Lesson goals:

explain when to apply Performance review;
apply Performance review in practice.

Summary:

performance Review;
the process of conducting Performance Review.

3

Competence matrix

Lesson goals:

create a matrix of competencies;
build a grading system;
organize the certification process.

Summary:

competencies;
grading.

Homework assignments

1

Create a competence matrix of 3 grades

1

Emotional

state of the team

Lesson goals:

evaluate your own and
employees ' emotional state;
describe how to work with different
behaviors in a team.

Summary:

the need to scan the emotional
state of employees;
the emotional state of the team;
assessing the state of the team;
working with the state of employees;
special cases (toxic employees,
impostor syndrome, Dunning-Kruger effect,
burnout, sabotage, conflicts);
using external resources to solve
the above problems.

2

Non

-material motivation

Lesson goals:

You will be able to apply not only material, but also
non-material motivation;
you will analyze motivation options and understand how
to determine the interests of employees in this
context.

Summary:

fundamentals of motivation;
Well Being concept;
determination of employee motivation;
options for non-material motivation;
practical cases.

Homework assignments

1

Emotional state and non
-material motivation

Goal: 1. Spend 1:1 time with your
employees: analyze their
emotional state, their problems and
prospects.

2. Analyze your team for sabotage, conflicts, toxic employees, and burned-out employees.
3. Develop non-material ways to motivate yourself/action plan for neutralization, for employees from point 2.4
- . Develop non-material ways to motivate employees who are dissatisfied with their PO.

We send your homework as usual, in the Google form.doc of the file.

1. We describe how it went, what was asked, your thoughts about employees + information on the state, problems, and so on, depending on the event (for example, in the sign).
2. We describe how they understood, by what signs, that the employee/employees in one of the states. We also rate ourselves!
3. If burned out, then a plan for motivation, if conflict, sabotage or conflict - a plan for neutralization. If none is found, develop a plan to motivate the theoretically burned-out employee in the future.
4. Describe what can be done specifically for you in the case of your specific team, conditions, and product.

If you do not have any subordinates, you can complete 1 point without 1:1, as far as possible, relative to your colleagues. If you encounter additional features and difficulties, you can write to the lecturer. In cases 3 and 4, you can develop the same plan, but imagine that you are already their manager.

3

**Team stability and
interchangeability
of people**
Lesson goals:

describe how to bring the team to stability;
describe the basics of delegation.

Summary:

team star map;
T -, P-shape;
knowledge sharing (inner source, documentation,
paired sessions, internal
community development);
delegation and 7 levels of delegation;
growth of "your " replacement.

Home assignments

1

Team stability and
employee interchangeability

Goal: 1. Analyze what competencies need to be developed in employees to improve interchangeability and decide which employees could develop T-shape to complete the necessary competencies. Describe why you made this choice.

2. Write down what responsibilities and tasks you can delegate to your employees, and indicate at which level of 7 you would be able to do this.

3. * Conduct the Delegation Process in your team and describe how it went and what conclusions you and your employees were able to draw from it

.

1. If you are the only employee, then write down what your deputy would need to be able to do if he appeared in the team.

If you are not a manager, you can analyze your colleagues.

2. If you don't have any colleagues, specify which tasks can be outsourced.

3. The task with an asterisk is optional

.

1

Business component of the product

Lesson goals:

dive into the topic of understanding products and systems in the context of business tasks.

Summary:

IT product concepts and business values;
business requirements;
impact of business metrics on testing processes;
quality criteria from a business point of view;
QA lead task within the topic.

2

**Technical
component
of the product:
understanding
the architecture**

Summary:

the C4 model and its impact on the testing pyramid;
the impact of the system architecture on
the testing strategy;
the impact of the network architecture on the choice
of testing strategy.

3

**Technical
component
of the product:
working with
technical**

quality criteria

Summary:

Technical quality criteria. Ways to work with them.

Testability.

4

Defining

quality criteria

Lesson objectives:

describe the quality criteria and how to measure them.

Summary:

D. Gerwin's quality system;
product health metrics.

Home assignments

1

Analysis of the current test model. Creating a quality system for a project

Goal: To create a quality system for your project and find gaps in the current test model

based on an analysis of the system and network architecture, to identify places in the system with insufficient test coverage

1. Formulate a quality manifesto for the team

2. Create a quality system for your project

3. Prioritize the test model based on business metrics

4. Evaluate architecture testability

*As part of the DZ, you need to analyze your quality based on the module you listened to, draw a diagram of the product architecture, and analyze it from the point of view of coverage.

1

**Methods
for testing
requirements**

Lesson objectives:

describe methods for testing requirements.

Summary:

Using User Story and acceptance criteria for
testing business requirements;

Example Mapping as a way to test
technical requirements;

3 Amigo;
requirements diagrams.

2

**Ways
to build
a test
model**

Lesson objectives:

learn how to build a test model.

Summary:

platform-based;

feature-based;

based on user scenarios;

based on the requirements tree;

features of testing with a particular approach;

synchronization of the test model between different
teams.

3

**Evaluating
the effectiveness
of a test
strategy
using
test
coverage**

Lesson objectives:

Describe how to evaluate the effectiveness of a test

strategy using test coverage.

Summary:

evaluating the effectiveness of testing activities;

what is test coverage;

creating a requirements tree;

structural methods for building a test model;

how to achieve good coverage;

why test coverage metrics are needed.

Homework assignments

1

Analyze the test coverage of the product

or project you are responsible for

Objective: 1. Determine the degree of product coverage.

2. Evaluate the effectiveness of the applied test model.

3. Identify areas in the project / product that need to be revised in the approach to building a test model.

1. Analyze the test model for the product or project that you are responsible

for 2. Specify which method of building the test model was chosen earlier and which one should be applied based on the new knowledge

3. Identify places in the system with insufficient or excessive test coverage

4. Please indicate how you can solve the identified problems with test coverage

1

Teams under development

Lesson objectives:

describe the types and differences of teams.

Summary:

testing department;

tasks of a QA engineer in a product team;

working with contractors: outsource and outstaff.

Process**methodologies and
testing in
them****Objectives of the lesson:**

to understand various development models and methodologies;

to organize the testing process depending on the development methodology used;

to analyze and optimize the testing process depending on the development methodology used.

Brief content:

organization of the testing process in a waterfall project;
organization of the testing process in a scrum team
(review of the scrum framework);
organization of the testing process in a team
working on the kanban method (review of the kanban method);
organization of the work process in scalable agile
approaches (review of safe, less and nexus).

3

**Organization
of a transparent and
understandable****work process****Lesson objectives:**

describe approaches to organizing a clear
work process.

Summary:

scrum / kanban boards;
task management;
test management systems;
definition of done/ready;
conducting effective meetings and techniques
for facilitating retrospectives.

4

Communications**Objectives of the lesson:**

to understand the basics of building communication in
a team at different levels of interaction.

Summary:

interaction with management and customers;
identification of stakeholders;
application of design thinking to
solve customer problems
building communication (with your team,
business customers, your department and related
teams);
features of communication in a distributed team.

Home assignments

1

Communications

Goal: 1. Identify stakeholders regarding the testing process in your team.

Analyze the level of influence and importance of these process participants.

2. Select the format of communication with them and describe it. If it already exists, describe the existing one; if it doesn't exist, describe how you think you should proceed.

3. Describe what weaknesses you have in communicating with the groups listed below, and what options you have for solving these problems.

a) Stakeholders

b) Development team c

) Within the team

Add 3-5 suggestions about your work to better understand the context. This will improve your understanding of completed homework.

5

Facilitation

for

building

productive

communications

Lesson objectives:

formulate meeting goals;

develop a scenario and facilitation map.

Summary:

the role of the facilitator;

coach VS facilitator VS coach VS consultant VS

moderator;

who and when can be in the role of the facilitator;

facilitation session (facilitation in Agile,

pyramid of levels of facilitation goals);

preparation of the goal and formulation of the main question

for the session agenda;

ORIP: focused conversation method;

space design.

Test automation goals

Lesson goals:

describe the goals of test automation.

Summary:

automation process and its participants;
choice of automation method;
choice of technology stack for automation;
definition of scope for automation.

Home assignments

1

Create

a test automation strategy and create
a test strategy for the case or your current project

Definition of Done for the testing strategy:

1. Selected modules and functionality for testing. Describe how the functionality was chosen.
2. The levels for test coverage are defined and target metrics for coverage are specified.
3. The required execution test suites are defined

.

4. The configurations to be tested are specified.
5. Specify the required number of employees to perform the test.

Definition of Done for
a test automation strategy:

1. The structure of the automation group is defined(all in one, part of the team, as a service).
2. Automation tools are selected.
3. The infrastructure for performing autotests is described.
4. Defined levels for automation coverage and specified target metrics for coverage.
5. Specify the required number of employees to perform automation.

2

Implementation

of test automation

3

Automation ROI

Homework assignments

1

Calculate ROI from test automation

Goal: Calculate the ROI from

test automation. Evaluate the contribution from automation, for further use of this assessment in your work.

1. Collect data on

automation costs

2. Collect data on the cost of manual testing

3. Calculate ROI

4

Managing

your testing infrastructure

Lesson objectives:

choose tools for creating optimal testing infrastructures, depending on the types of testing used.

Summary:

At the webinar, we will look at different approaches and tools needed in the infrastructure to perform different types of testing.

Homework assignments

1

Calculate the cost of supporting the infrastructure for autotesting

5

Support and maintenance

of the testing infrastructure

6

Creating

a testing strategy

Lesson goals:

collect a vision and complete picture of building quality.

Summary:

principles of Lean approaches to development in quality assurance;

testing quadrants;

testing pyramid;

testing strategy for microservice

architecture;

testing strategy for event driven architecture;

monolith testing strategy;

SOA application testing strategy.

7

Organization

of testing

with different

development methodologies

Summary:

BDD;

ATDD;

TDD.

1

Labor cost estimation and

test planning

Lesson goals:

plan labor costs and testing.

Summary:

why you need to plan and estimate labor costs;

when we plan, what we use;

how and where we plan;

labor cost estimation.

Home assignments

1

Planning and evaluating testing

Goal: Learn how to plan / improve existing methods.

Create a process plan for process implementation/ change.

Working out risks and ways to mitigate them.

Make a conclusion on the quality of processes at the moment and whether there is a need to change them.

Planning:

1. Describe how and when your planning takes place. What are the gaps and shortcomings in this?

Is there anything with the lecture that you would use to improve the process /change the process to another one . What exactly?

Labor cost estimation:

1. Describe your current assessment method. Its pros and cons.

2. Choose a different evaluation method that you think would be better to use

3. Write a short plan to implement the evaluation process, or change the current

4. Describe the risks involved in your chosen process and how you would mitigate them

5. What visualization methods would you use, and what would you control with them? help?

Conclusion: make a conclusion how effective is your current process, and should you change it?

2

Use

system

thinking tools to

optimize and

improve

the process

3

Optimization

of the test

model

Lesson objectives:

learn how to optimize the test model.

Brief content:

when to optimize;

optimization methods

Home assignments

1

Work on optimizing the test model with different approaches

Goal: 1. Analyze defects and

categorize them using root cause

2. Perform an analysis of bugs from the product and a test.

contour using 5Why to detect

an unstable area on the coating

3. Identify bottlenecks and analyze the

need to correct the test model

using Impact analysis

4. Formulate conclusions about the choice of the method

of optimizing the test model on the project or

the absence of such a need, indicating

the arguments.

Note: If you do not have a project at the

moment, then focus on any project

that you participated in earlier.

1. Prepare a description of the context of the analyzed situation.

2. Perform an analysis for the need

to use root cause on a permanent basis.

Describe what the analysis showed when categorizing

defects: whether there are uncovered or redundant

areas in the work.

3. Analyze a number of bugs (more than 10 of them)

from any polygon (test/prod is not important) for the

causes of

4. Create an Impact analysis table for 2 or more

features/services and analyze

whether it is necessary to increase or decrease

test coverage in a particular area.

5. Write conclusions about what

optimization method can be used in your project.

Or a rationale for why optimization is not needed.

4

Bug lifecycle

Lesson objectives:

learn different practices for working with bug reports and related KPIs.

Summary:

prioritization of bugs;

risk matrix;

SLA for fixing problems;

bug reports;

KPIs for the number of defects in the system.

5

Analyzing metrics

with bugs

Objectives of the lesson:

to analyze the main types of reports and how to analyze them.

Summary:

bugs with prod;

bugs during development;

analysis of causes;

how to teach the team to work with these metrics.

Home assignments

1

Working with bugs

Goal: 1. Calculate the cost of a bug in requirements, idea, or development.

2. Create a formula for calculating the cost of a bug on your project.

3. Classify bugs by their impact on the product.

Determine exactly which ways to assess severity and/or priority

are relevant to you and how you will rank severity and / or priority.

1. We calculate the cost depending on your project, its features and participants in the process.

2. The task is to understand what exactly affects your product to a greater extent, what to a lesser extent,

in relation to business tasks, features of the test object, and other parameters.

Based on the analysis of the root causes of bugs on your project, determine the most common ones.

6

Yandex. Metrica

Lesson goals:

describe the goals and principles of selecting metrics.

Summary:

theory of constraints (TOC) in QA;

goals for collecting metrics;

product metrics (summary of the studied);

process

efficiency metrics; automation efficiency metrics;

quality metrics;

ways to measure metrics (calculation formulas, tools);

how to sell the need for metrics to the team.

Home assignments

1

Search for problems in the process using metrics and TOC and classify bugs

Goal: 1.1. Identify bottlenecks where queues accumulate

1.2. Calculate the cost of delay due to testing queues

2.1 Classify bugs by product impact

2.2 Classify bugs by their size

1

Advice

on projects and

homework

assignments

Objectives of the lesson:

get answers to questions about the project, DZ and course;

get an explanation of what project work

is and what its goals are.

Summary:

questions about how to improve and optimize the project;
difficulties in performing DZ;
questions about the program.

Homework assignments

1

Project work: development of a solution to the problems found in the testing processes

Goal: To learn how to solve problems from the point of view of the three main areas of responsibility of a qa lead (people management, process management, testing expertise).

What you need to do: find "losses" in the process of your team or teams from the point of view of the lean approach and analyze what may be the systemic causes of these problems. Create a strategy for implementing changes in processes to solve problems.

Task:

1. Find "losses" in the work and processes of your teams from the point of view of a lean approach.
2. Analyze what might be the systemic causes of these problems.
3. Provide various alternative solutions to the problems found and indicate the most preferred option in your case.
4. Create a plan (strategy) for implementing changes in processes to solve problems.
5. Prove the chosen solution.

2

Summing up the course results**Objectives of the lesson:**

to learn how to get a certificate of completion of the course, how to interact after the course with OTUS and teachers, what vacancies and positions are available for graduates (optional - in Russia and abroad) and what companies should be paid attention to.

Brief content:

organizational issues;

job market in the direction;
course statistics and questions about the course.