**Syllabus**

Backend Developer (Scala)

**COURSE CALENDAR**

| **Topic** | | | **Links** |
| --- | --- | --- | --- |
| Week 1 | Lecture | Intro. DevTools  Scala Hello World & GIT & SBT | https://docs.google.com/presentation/d/1W81Vw6xq71KWl-6Tn\_LjRLaamzP8-yfe\_8xJfMjRuvw/edit?usp=sharing |
| Laboratory works | TOUR OF SCALA | <https://docs.scala-lang.org/tour/tour-of-scala.html> |
| SIS 1 | Scala QUIZ / Hackerrank | <https://www.hackerrank.com/domains/fp?filters%5Bsubdomains%5D%5B%5D=intro> |
| Week 1 | Lecture | Intro Scala. Intro Microservice Arch. Final Project (ER, Comp, Seq diagram), SOLID, CQRS | <https://www.uplab.ru/blog/corporate-portals/> |
| Laboratory works | TOUR OF SCALA + FUTURES AND PROMISES +  scala.Either + Options | <https://docs.scala-lang.org/tour/tour-of-scala.html>  <https://docs.scala-lang.org/overviews/index.html#>  <https://docs.scala-lang.org/overviews/core/futures.html>  <https://alvinalexander.com/scala/scala-either-left-right-example-option-some-none-null>  <https://alvinalexander.com/scala/best-practice-option-some-none-pattern-scala-idioms> |
| SIS 2 | QUIZ. Scala CIT | <https://www.uplab.ru/blog/corporate-portals/>  <https://www.scala-exercises.org/std_lib/asserts> |
| Week 2 | Lecture | Intro Akka | <https://doc.akka.io/docs/akka/current/general/index.html> |
| Laboratory works | Getting Started Guide & Akka Actors | https://doc.akka.io/docs/akka/current/guide/index.html |
| SIS 3 | QUIZ, Ping Pong | https://doc.akka.io/docs/akka/current/guide/index.html |
| Week 2 | Lecture | BPMS - Zeebe | https://docs.google.com/presentation/d/1VFptKysnZjjBh4QTI\_pSmJ6Ny1Z4GasF3KvTo2zT9Eg/edit?usp=sharing |
| Laboratory works | Zeebe Getting started tutorial + bpmn | <https://docs.zeebe.io/getting-started/index.html> |
| SIS 4 | QUIZ, project bpmn |  |
| Week 3 | Lecture | Akka HTTP, REST API | <https://doc.akka.io/docs/akka-http/current/index.html>  https://drive.google.com/file/d/1DKACyeA2okeUzwYwugMejPnh\_LSh390Y/view?usp=sharing |
| Laboratory works | REST API of project | <http://techblog.net-a-porter.com/2013/12/ask-tell-and-per-request-actors/> |
| SIS 5 | QUIZ, REST PerRequest for project (CRUD), Seq diagram,ER diagrams | <https://www.draw.io/> |
| Week 3 | Lecture | DB. SQL/NoSQL (Postgres (slick )/Elastic (elastic4s)) | <http://slick.lightbend.com/doc/3.0.0/gettingstarted.html>  <https://habr.com/ru/post/280488/>  https://drive.google.com/file/d/1I1ov-OJzUKxcw0PoEG\_jCQ2KHD274e3W/view?usp=sharing |
| Laboratory works | Getting started | <http://slick.lightbend.com/doc/3.0.0/gettingstarted.html>  <https://elastic4s.readthedocs.io/en/latest/src/main/tut/docs/> |
| SIS 6 | QUIZ, DB for project |  |
| Week  4 | Lecture | Rabbit MQ & Kafka | <https://www.rabbitmq.com/getstarted.html>  <https://habr.com/ru/post/149694/>  <https://kafka.apache.org/quickstart> |
| Laboratory works | Getting started rabbit MQ (Alpaka) & kafka | <https://doc.akka.io/docs/alpakka/current/amqp.html> |
| SIS 7 | QUIZ, Sending events in project | <https://doc.akka.io/docs/alpakka/current/amqp.html> |
| Week 4 | Lecture | Docker, Kubernetes, Project, CI\CD | <https://docs.docker.com/get-started/> , https://drive.google.com/file/d/18yy0axX1ozqWjrqS7OBcjaoUPUJGLb4W/view?usp=sharing |
| Laboratory works | Wrap in docker || docker run | <https://kubernetes.io/docs/tutorials/> |
| SIS 8 | QUIZ, Project in docker |  |