

Alexander Kovalev

Teamlead, Senior Go/Python developer

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## Skills & Expertise

**Go, Python, Django, Flask, aiohttp, PostgreSQL, Oracle, MongoDB, Neo4j, MySQL, Redis, RabbitMQ, Tarantool, Lua, Vue.js, JavaScript, TypeScript, REST, GraphQL, gRPC, WebSocket, Docker, Kubernetes, Vagrant, Terraform, Ansible, Git, Scrum, Project Management, Software Development, HTML, CSS, Ubuntu, Asterisk, Linux, Zeebe, KeyCloak, 1C**

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## Experience

### Go Teamlead at IVA-Technologies

February 2020 – Present

We are developing Class 5 Softswitch (telephony server) which consists of three basic layers, one of them is “logic” – set of microservices implementing backend, call routing, etc - written in Golang

My job is building this layer – I organize developers, plan architecture, form tasks, do code-reviews, merge/fix MRs if necessary, align with other teams, describe and prepare development and production environments, etc.

Technologies used in “logic” layer: Go 1.15 (with modules), NATS.io, JSON RPC (slightly modified), PostgreSQL, Redis/Tarantool (decision on choice is still in progress), GitLab (repo / CI / registry), WebSocket, Terraform (for organizing environments). We also integrating with other communication platforms and billing systems using REST API.

### Go Developer, Go Teamlead at DCLOUD

June 2018 – Present

I started as a developer, studied current code base, tools and practices, implemented several features and replaced former backend teamlead, who switched to other projects.

We develop a web platform for UK customer. It allows landlords and tenants to find each other and rent a property in London. This product is in beta version stage – deployed to production and functioning with real users. Another product we started do develop for this customer – the similar platform for selling and buying property. Here I work on backend architecture, plan tasks for backend team, review code and control tasks progress.

These projects built as a set of microservices, deployed on GCP kubernetes cluster. Technologies used here: Go 1.15 (with modules), BPMS Zeebe, KeyCloak, MongoDB, PostgreSQL, kubernetes, GitLab (repo / CI / registry), GraphQL, gRPC, Prometheus, Grafana, Loki. We also integrating with payment processing and other third-party services using REST and gRPC API.

### Python/Vue.js Developer at DCLOUD

April 2018 – June 2018 (3 months contract)

I started as a python developer and at some point, I also had to take over frontend development.

We developed admin panel for internet advertising/SEO company and its customers.

## **Software Developer at Yandex (Financial Division)**

November 2017 – November 2019 (2 years)

Our team was constantly working on fixes and improvements of payment gateway backend services.

This includes API (REST and XMLRPC), caching, maintaining sensitive data, interaction with payment processing services and banks, integration with a variety of Yandex services.

Unfortunately, I can't give any particular information about my tasks. I can tell that I made several integrations for sensitive data (payment cards stored within PCI DSS perimeter) exchange between our services and internal and external partners (i.e., Yandex.Money, Tinkoff bank, Alfabank). I also improved some parts of our services with critical performance and storage consuming issues.

Implemented several Golang alternatives of internal services as a performance proposal, successfully tested them in test environment.

Technologies used here: Python 2/3, MongoDB, PostgreSQL, pgbouncer, Oracle, Liquibase, REST, XMLRPC, Docker, deb-packages.

## **Senior Developer at Positive Technologies (Division of Development Technologies)**

July 2016 – October 2017 (1 year 4 months)

Developed tools and services for DevOps automation using python and django. My job was not only implementing tools but plan entire architecture and support fellow-developers implementing their own extensions for these tools. Developed ICAP asynchronous client in python.

Implemented some of internal DevOps tools alternatives in Golang as a performance research. Performance tests showed significant improvement.

## **Self-employed (entrepreneur)**

October 2015 – October 2017 (2 years)

Developed and deployed to production several micro web-applications using python/django, javascript/angularjs, typescript/angular2.

## **Backend python developer at VIAcode**

January 2016 - March 2016 (3 months contract)

I worked as a contractor (backend python developer) for US customer. Technologies: python, flask, celery, websocket, neo4j, mongodb, nginx, ubuntu. Client side (another contractor): jQuery. Client server integration: REST (JSON). Agile (scrum): daily scrum meetings in English. We used JIRA for project management, and Bitbucket as a git repository.

## **CEO / project manager / developer at Center of Technical Services KRUG, LLC**

March 2014 - February 2016 (2 years)

We developed and deployed to several customers our implementation of call-center, based on asterisk, ubuntu server and SIP- telephony. Our product was built using python/django, javascript/dhtmlx.

## **CFO at TransSvyazTelecom, LLC**

January 2014 - February 2016 (2 years 2 months)

I was engaged in the development of regulations, accounting policies, and automation of business processes and financial/accounting based on 1C:ERP / 1C:Accounting 3.0. Led implementation of technical components of the project "112" in our city (similar to 911 in USA).

## **CEO / owner at Compium, Ltd**

September 2010 - February 2016 (5 years 6 months)

IT outsource for financial departments of companies (accounting software support and development). Some projects developed using python and django. Sometimes I used dhtmlx for a frontend. Since 2014 I started implementing simple command line tools in golang.

## **Self-employed (entrepreneur)**

March 2004 - September 2010 (6 years 7 months)

IT outsource for financial departments of companies (accounting software support and development)

**Developer at several small companies** (contractor)

December 2002 - February 2004 (1 year 3 months)

I supported and eventually fixed several small business applications, including 1C configurations.

**IT engineer at Tyndales, JSC**

November 2001 - November 2002 (1 year 1 month)

Local area network installation, server setup. Support and fixes for existing software of wood sales management (FoxPro, Clipper)

**Sound engineer at Amur Region State Television**

October 2000 - November 2001 (1 year 2 months)

Audio editing for radio and documental films, broadcasting of radio programs, occasional video editing.

**IT engineer at Tyndales, JSC**

January 1999 - October 2000 (1 year 10 months)

Restructuring and fixing local area network (coaxial), reinstall or setup workstations.

**Developer at Computer Class of PMA LLC**

August 1995 - November 1996 (1 year 4 months – until conscription for mandatory military service)

Develop software for students managing. Help students with their computer science assignments.

**Languages**

<b>Russian</b>	(Native)
<b>English</b>	(Professional working proficiency)

**Certifications**

1C:Professional. "1C:Enterprise 8.2" platform	1C	April 2011
1C:Professional. "1C:Accounting 8"	1C	May 2009
1C:Professional. "1C:Accounting 7.7"	1C	May 2009
Work with "1C:Accounting 7.7"	specialist.ru	May 2007
Work with "1C:Trade 7.7"	specialist.ru	May 2007
Setting up home and office computers	specialist.ru	May 2007
Using Linux	specialist.ru	April 2004

**Courses****Independent Coursework**

1C: Enterprise 8. Deploying and adapting configuration "Accounting"	2011
1C: Common mechanisms of "1C:Enterprise 8.2" platform	2011
1C: Configuring 1C system	2011
1C: Accounting in "1C:Enterprise 8"	2009
Accounting	1995
PC operator	1990

## Recent projects

### **IVASW – Softswitch Logic**

Technologies: Go 1.15 - 1.17 (with modules), PostgreSQL, Redis/Tarantool, GitLab (repo / CI / registry), NATS, JSON RPC, WebSocket, REST, Vue.js, deb-packages, Terraform, Ansible, Grafana, Loki

Class 5 Softswitch (telephony server) which consists of three basic layers:

- “traffic switcher” - media/signaling traffic switcher – written in C++
- “logic” - microservices implementing all softswitch logic such as user management, call routing, extended services, API for third-party integrations, backend for UI, etc – written in Golang
- “frontend” – web-interface: admin control panel and user personal account – written with Vue.js

My job is building “logic” layer – I organize developers, plan architecture, form tasks, do code-reviews, merge/fix MRs if necessary, align with other teams, describe and prepare development and production environments, etc.

This project built as a set of microservices, deployed with docker or via deb-packages on one or more hosts. We plan on preparing kubernetes configuration too at some point after delivering MVP.

### **Mashroom** - <https://mashroom.com>

Technologies: Go 1.15 – 1.16 (with modules), BPMS Zeebe, KeyCloak, MongoDB, PostgreSQL, Redis, kubernetes, GKE, GitLab (repo / CI / registry), GraphQL, gRPC, protobuf, REST, Prometheus, Grafana, Loki.

Web platform for UK customer. It allows landlords and tenants to find each other and rent a property in London. It includes integrations with payment processing services, [Rightmove](#), [Zoopla](#), [Rentprofile](#), etc. The platform fully covers rent-related processes such as offering, tenants reference checking, contract signing, rent payments, acquiring required certificates, contents insurance, claims negotiation and resolving, etc.

### **Tepilo X**

Technologies: Go 1.15 (with modules), KeyCloak, MongoDB, PostgreSQL, kubernetes, GKE, GitLab (repo / CI / registry), GraphQL, gRPC, protobuf, REST.

Web platform for UK customer. It allows property sellers and buyers to find each other and make a deal.

Project currently is on hold in favor of Mashroom project improvement.

### **trust-directory**

Technologies: Go

Golang version of reference data service, originally written in Python. This is a REST service, which responds with several types of data fetched from oracle database. Request/Response is a json structure. Service loads its configuration from xml file with additional xml files included. So it reads all xml files recursively and loads necessary parameters. This application showed possibility of visible performance boost. There were several other similar researching projects.

### **Django-rester**

Technologies: python3, Django 1.11+

Package for creating API with built-in validation and authentication.

This product is designed to build API endpoints of varying complexity and nesting, but simple enough comparing to DRF.

The core is a view class - BaseAPIView (the inheritor of the standard django view class)

### **@devops\_mega\_bot**

Technologies: python3

Telegram bot that allows to find out most recent versions of opensource python packages from DevOpsHQ GitHub community.

I made this bot when worked on CrossPM project in Positive Technologies company.

There was a number of other Telegram bots developed afterwards for unnamed business-trainer, which includes a lot of user interaction, audio text recognition and natural language processing.

### CrossBuilder

Technologies: python3

CrossBuilder is a universal extensible build steps executor. It lets you define single build process which can be started from different CI/CD systems. TeamCity or GitLab CI for instance.

This tool is widely used in CI/CD processes in Positive Technologies company.

### CrossPM (Cross Package Manager)

Technologies: python3

<https://github.com/devopshq/crosspm>

<https://pypi.python.org/pypi/crosspm>

CrossPM is a universal extensible package manager. It lets you download and as a next step - manage packages of different types from different repositories.

This tool is widely used in CI/CD processes in Positive Technologies company.

### CrossPM2

Technologies: Go

CrossPM2 is a simplified version of original CrossPM project. It was written in Go language just out of curiosity of possible performance profits. It indeed works faster, but it's not as universal as python version. Yet it might evolve in fully functional replacement of python version someday.

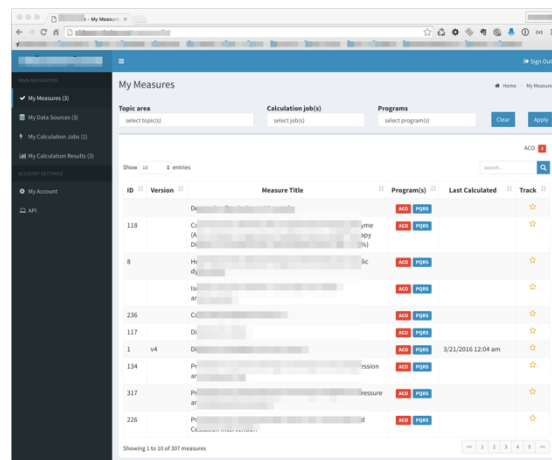
### Application for accessing medical measurements related information (python backend)

Technologies: ubuntu servers on Digital Ocean, nginx, python, flask, celery, neo4j

I worked as a contractor (backend python developer).

After this project, I really like neo4j database and the whole idea of graph database, although I'd wish a better performance if taking it for my own projects.

This project actually was an amazing experience, when I was happy to work with distributed team, and to write backend only. Our daily scrum meetings (online) were productive enough and I was really enjoying talking with that passionate and determined team.

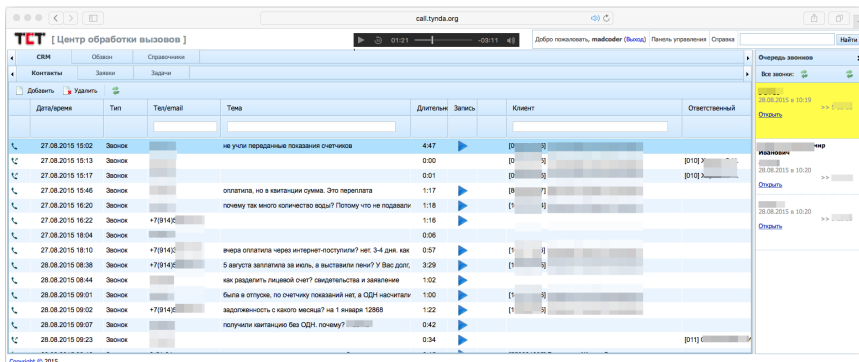


### Call center

Technologies: ubuntu server, asterisk, nginx, python, django, javascript, dhtmlx.

This application works with few customizations in several companies.

By the time I finished working on the project, I planned rewriting frontend to Angular instead of dhtmlx. It'd allow joining this project with a bigger one improving application performance as a bonus.





- [Netology-Skyeng Meetup](#) speaker.
- [Moscow Python Meetup #54](#) speaker.
- As a teamlead I worked on several Django based projects.
- [Moscow Python Conf 2017](#) speaker.
- Took part in US customer's project where I used Python and Go languages.
- As a senior developer in Positive Technologies, I worked on DevOps automation.
- [Moscow Python Meetup #43](#) speaker.
- I did my part in development of web application for US customer as backend python developer.

I constantly learn something new about technologies I chose to use, or just interested in. I think a day is wasted if no new knowledge obtained.

The list of my current technologies:

- **Go**
- **Python**, Flask, Django, ApiStar, aiohttp
- **MongoDB**, Neo4j
- **PostgreSQL**, Oracle, MySQL
- **Redis**, Tarantool (with Lua language), NATS, RabbitMQ
- **Docker**, **Kubernetes**, Terraform, Vagrant, Ansible
- Vue.js, Javascript, TypeScript
- Scrum, Kanban
- Swift (as a hobby)

Technologies I used earlier (outdated experience):

- Assembler
- C/C++
- FoxBase/FoxPro/Clipper
- PHP
- Perl
- VBA (Microsoft Office Macros)
- 1C

In my projects I use Linux for development and production servers. I like Ubuntu, but I can work with other distributions too.

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## Education

### **Moscow Institute of law and economics**

Master of Management, State and City Management, 2003 - 2009

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## Interests

Family (wife, daughter and son)

Golang; Python; Apple products; Podcasts, books (in English mostly), audiobooks; Apple/Yandex Music during work; Gym, Swim, Bicycle

I want to improve my English and learn Italian.