

# Report: Student Exchange to Maputo

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This is a report of my trip to Maputo for a student exchange from *Technische Universität Dresden* in Germany to *Universidade Eduardo Mondlane* in Maputo, Mozambique. I stayed there for two and a half months, from 5. April until 15. June 2022. The student exchange was organized by the ProSeM Project.

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## Arrival

When our plane arrived in Maputo, we were shocked by the 36°C in the city. In contrast, from my train to the Frankfurt airport I could see the last snow of the winter in Germany. The sunny weather in Maputo was a pleasant change. Our colleague (and soon friend) Martina collected us from the airport and brought us to our new home.



## Accommodation

My home for the time in Maputo was in the student residency SELF, in the center of the city. I had a comfortable room with a bed, desk and balcony with an impressive view from the 8. floor. The room was in a shared apartment with Ally from Tanzania (who prayed at least once

per day and made the best coconut cassava), Isabella and Nercia from Mozambique (they sometimes brought us very delicious eggs from home) and my fellow student Amy from Germany. All nine floors of the building were filled with open-minded students and we met many interesting people there, especially on the roof while hand-washing our laundry.



## Project activity

During our stay we worked on two lectures of the new master and one independent course. We researched the topics, prepared the teaching material and held the courses as workshops with interested students.

### Secure communication

The first course covers vulnerabilities of the unencrypted HTTP protocol. It also discusses how to solve them using HTTPS. In the course students set up a virtual network with a host and client machine. Then they intercept a transmitted (unencrypted) password. The connection is secured by setting up a HTTPS server. For authentication, a local certificate authority infrastructure is set up, such that the server can generate a certificate and the client can check that certificate with the certificate authority.

### Penetration testing

The second course covers common vulnerabilities in web applications. It teaches methods of penetration testing, which is conducted on a dedicated vulnerable server. The server has several leaks, which are exploited during the testing. The attack methods are cross-site request forgery, command injection, brute force to identify login-data and file / website



inclusion to set up a reverse shell. After the attack it is discussed how these vulnerabilities can be avoided.

## Programming basics

The independent course explains basic programming concepts for non computer science students. The course covers simple programming techniques like conditions and loops using python. The turtle module for programmatically drawing graphics is introduced. Students are tasked to use the presented methods to write a program that creates an image.



## Daily life

On the opposite side of the street from the student dormitory was a gas station with a car repair shop. The repair shop started to be very busy between 5 and 6 am every day, therefore I got up early, even without an alarm. Usually, we had a small breakfast with badjillas and avocado. In the first weeks we worked from home or in the university, later we were offered an office to work. Our free time was filled with interesting activities, going to the beach of Maputo, having dinner at a market, learning acro-yoga and visiting the sites of the city, for example the historic train station. All in all, it was a great opportunity to get to know a different country and culture and take a step outside of the regular daily routine.



