

Exercise Sheet 14

Exercise 1 (Web Services)

1. What is a **web service**?
(*Explain in just a few sentences.*)
2. What is **XML-RPC**?
3. Which **three roles** contains the theoretical implementation of SOAP web services?
4. Which **markup language** is used by SOAP web services for interaction?
5. Describe the **difference** between the theoretical implementation of SOAP web services and the way, SOAP web services operate in **practice**.
6. Which **markup language** is used by RESTful web services for interaction?
7. Which **four methods** are sufficient to initiate all necessary functions on objects inside RESTful web services?

Exercise 2 (RESTful Web Services)

1. Do some basic interaction with the python library boto [1] and an cloud infrastructure service of your choice.
2. Check your requests and the replies of the infrastructure service via Wireshark [2] to understand the way of interaction.

[1] <https://github.com/boto/boto>

[2] <http://www.wireshark.org/>

This simple python script helps you with your first steps. It fetches the buckets of a user from Amazon S3.

```
1 #!/usr/bin/env python
2 from boto.ec2.connection import *
3 from boto.s3.connection import *
4
5 try:
6     calling_format=boto.s3.connection.OrdinaryCallingFormat()
7     connection = boto.s3.connection.S3Connection(
8         aws_access_key_id="<ACCESS_KEY>",
9         aws_secret_access_key="<SECRET_ACCESS_KEY>",
10        is_secure=False,
11        validate_certs=False,
12        host="s3.amazonaws.com",
13        calling_format=calling_format,
14        path="/")
15 except S3ResponseError:
16     print "Error!"
17 else:
18     print "Connection established."
19
20 requestbuckets = connection.get_all_buckets()
21 print (requestbuckets)
22
23 for entry in requestbuckets:
24     print entry.name
25     print entry.creation_date
26     print entry.get_acl
27     # If the bucket is located anywhere other than inside region us-east-1,
28     # the location is printed next to it's name. Otherwise, it will be blank.
29     print entry.get_location()
```