

TSC

Cloud Technologies and Systems Assignment / Certification

Carlos Coutinho

Topics

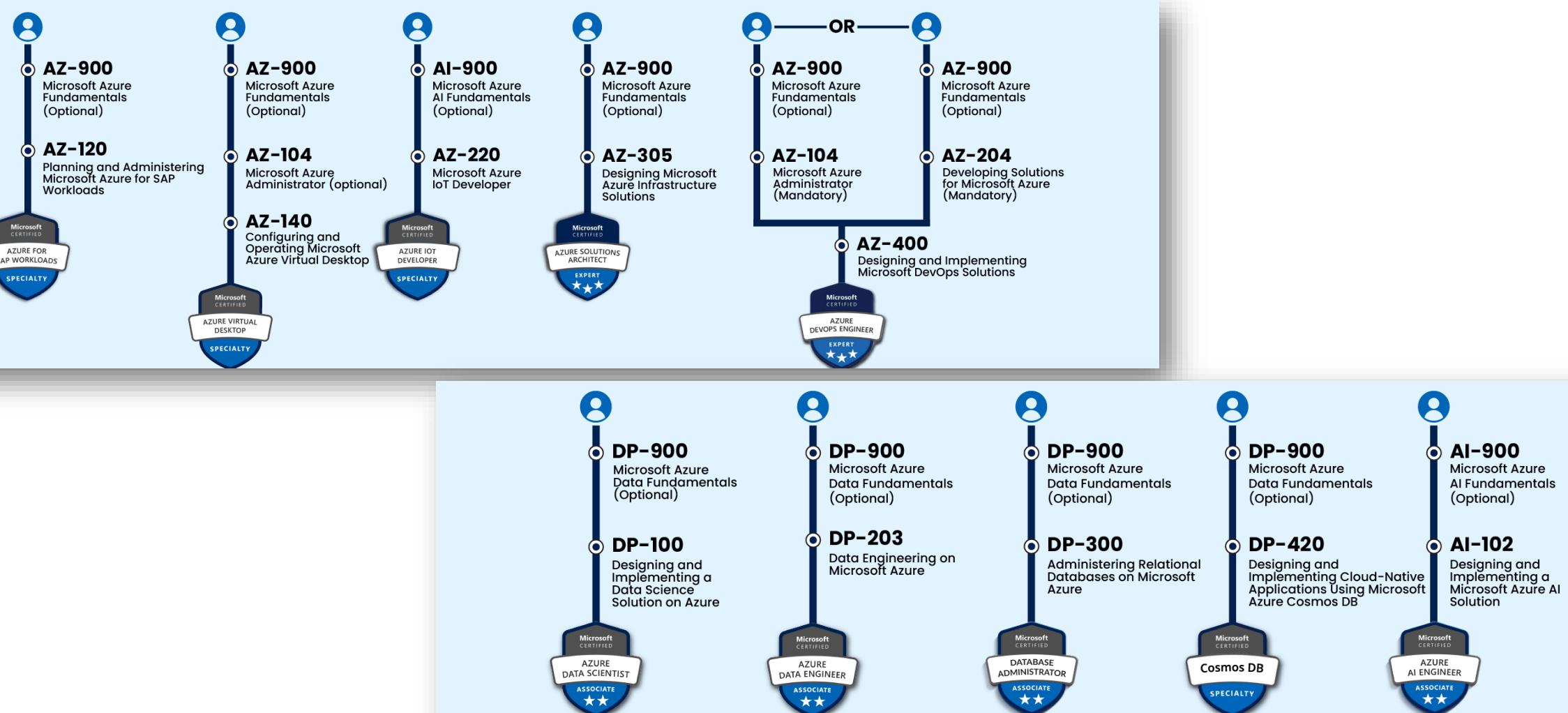
- TSC Assignment
- Cloud Certification



TSC Assignment / Cloud Certification

- Is worth **15%** of the TSC grade
- Assignment **OR** Cloud Certification (no extra for making both)
- **Deadline** (for any of both):
 - Officially: Until the grades launch date (written test revision date)
 - Actually... until the 2nd period (or even Special period, if you are eligible):
 - You can (and should!) pass the test on the 1st (main) exam period
 - You then need to subscribe the 2nd period, to let the teacher launch your grade
 - You must ask EXPLICITLY by e-mail to your teacher to keep your grade

Cloud Providers have a Certification Path – Evolution



Most Cloud Providers provide online training

Microsoft Learn

Welcome to Microsoft Learn. Discover your path. Whether you're just starting or an experienced professional, our hands-on approach helps you arrive at your goals faster, with more confidence and at your own pace.

Google Cloud Skills Boost

Start learning path

AWS Skill Builder

Exam preparation with AWS Skill Builder. Free on AWS Skill Builder.

Available with a subscription*

SUBSCRIPTION

- Official Practice Exams**
- Exam Prep course**
- AWS Cloud Quest**

Objectives

- Explore the different storage options and tools in Google Cloud
- Learn to differentiate between managed and unmanaged storage in the cloud
- Understand how you can use Google Cloud for unstructured data storage
- Explore the use case for real-time in Google Cloud storage systems
- Explore options to build hybrid clouds
- Explore local networking options

03 Google Cloud Computing Foundations: Networking & Security in Google Cloud

Course 8 hours Introductory

The Google Cloud Computing Foundations courses are for individuals with little to no background or experience in cloud computing. They provide an overview of concepts central to cloud basics, big data, and machine learning, and where and how Google Cloud...

Start course

TSC Assignment / Cloud Certification

- **Cloud Certification:**

- Is aligned with the current market needs
- You may select any Cloud certification
- It is not sufficient to present a diploma (forgeable)
 - You need to send a certification **transcript ID** (most platforms) or **code** (Certiport)
 - The teacher needs to validate your certification with the certification provider
 - Verification instructions in this presentation
 - If you already did a certification previously, but that is still valid, you may use it
- Progressive Classification is not possible (passed/failed):
 - You have a valid Cloud Certification that was verified by the teacher: **20**
 - Otherwise: **0**



TSC Assignment / Cloud Certification

- **Cloud Certification:**

- Is aligned with the current market needs
- **May I (student) select any Cloud certification???**
 - Actually no. The market evolved to include profitable (\$\$\$) businesses related to courses
 - A good hint is to follow Digital Ocean's article on cloud certification, and select:
 - **Amazon Web Services (AWS) certification (31% MS)**: Minimum – AWS Certified Cloud Practitioner
 - **Microsoft Azure certification (25% MS)**: Minimum – Microsoft Azure AZ-900
 - **Google Cloud (GCP) certification (11% MS)**: Minimum – Google Cloud Digital Leader
 - **IBM Cloud certification (2% MS)**: Minimum – IBM Certified Advocate – Cloud
 - **Oracle Cloud Infrastructure (OCI) certification (2% MS)**: Minimum – OCI Developer Professional
 - **Other**: CompTIA Cloud+ (very expensive (>350\$), but cloud provider agnostic)

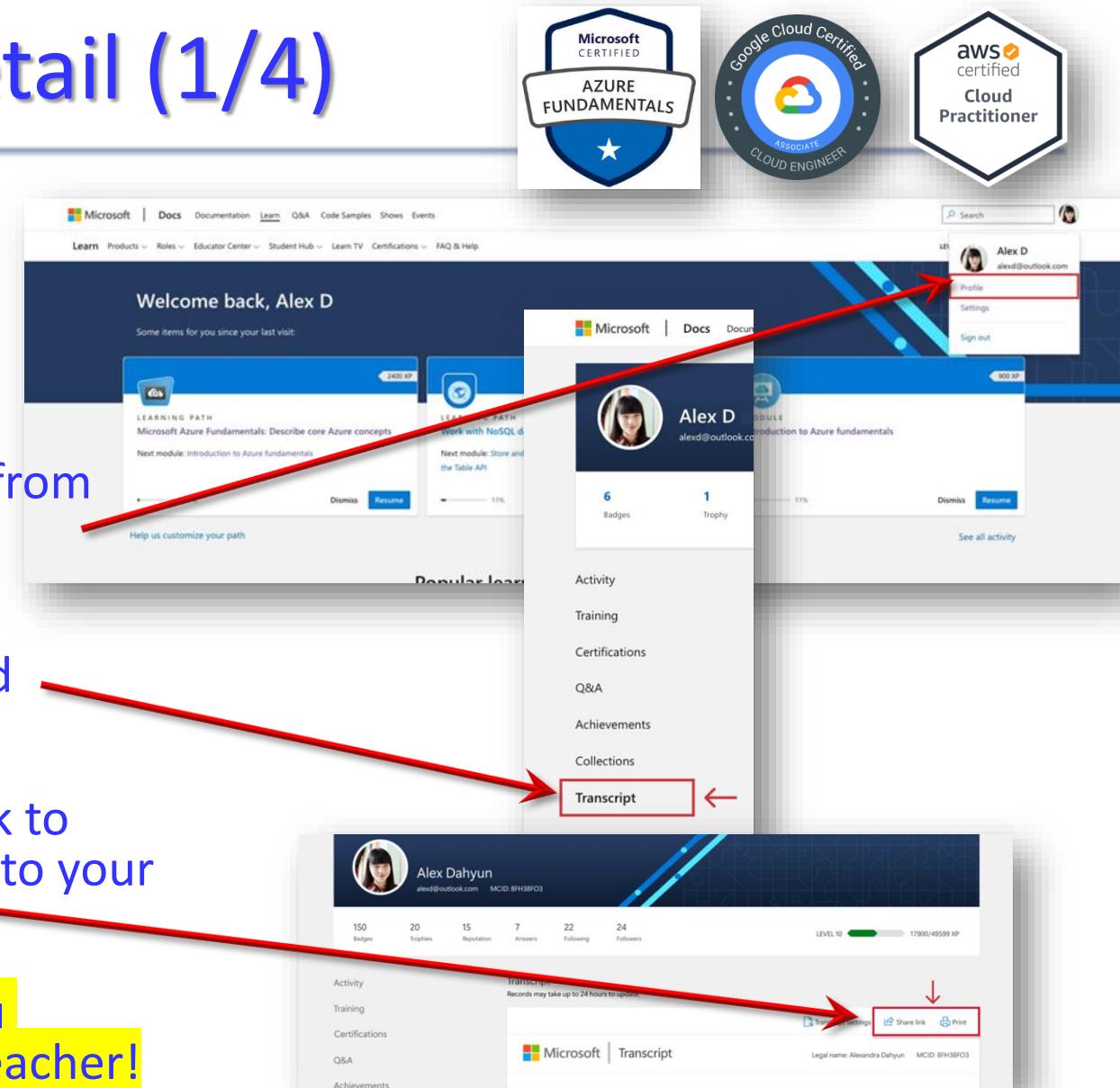


TSC Cloud Certification detail (1/4)

Microsoft Azure Certification completeness

Certification via Microsoft Learn account:

- Sign into your [Microsoft Learn profile](#)
- Click on the photo avatar and select Profile from the dropdown menu
- In the profile menu, select Transcript. Your transcript displays all successfully completed certifications and modules
- Select “Share link” to generate an online link to your transcript and send that link via e-mail to your teacher
- **Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!**



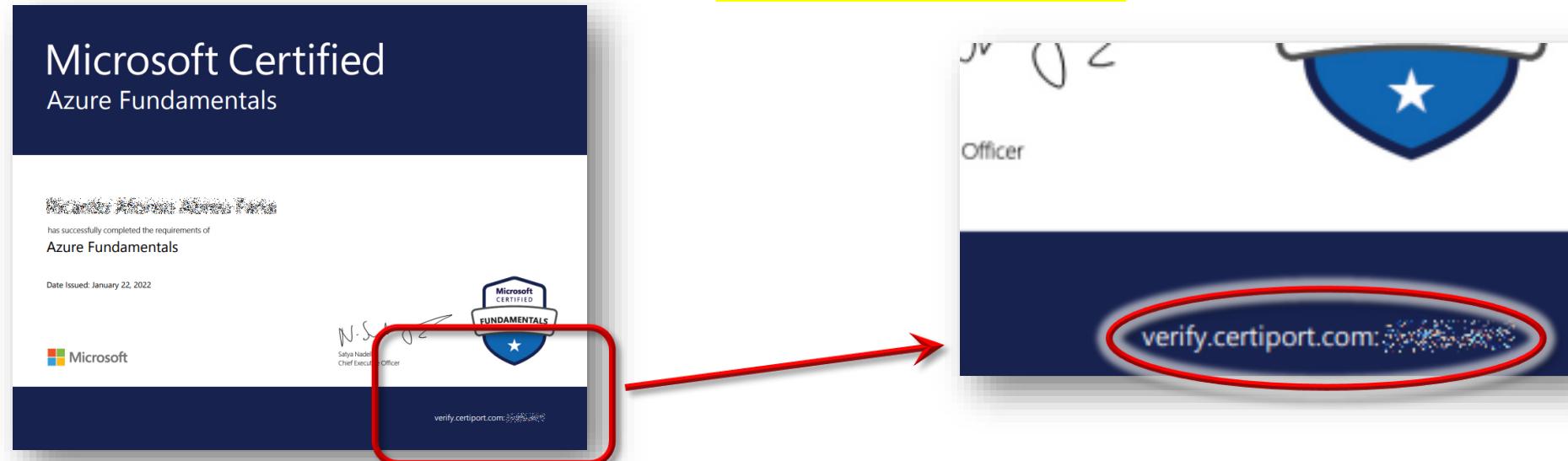
TSC Cloud Certification detail (2/4)



Microsoft Azure Certification completeness

Certification via Certiport:

- If you have certified using Certiport, then you should have received a diploma like the following, which on the bottom right has the text “[verify.certiport.com:](https://verify.certiport.com/)” <code>



- If that is your case, simply send the diploma (including that code) via e-mail to your teacher
- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!

TSC Cloud Certification detail (3/4)



Google Cloud Certification completeness

- Sorry, no examples available yet



- If that is your case, we'll need to check how to obtain a verification code to send via e-mail to your teacher
- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!

TSC Cloud Certification detail (4/4)

Amazon Web Services (AWS) Certification completeness



aws training and certification

Candidate Login

Please enter the validation code found at the bottom right of the AWS certificate. Click submit to verify the certification. For verification information, you may continue to use this form to verify additional certificates as needed.

Validation Number

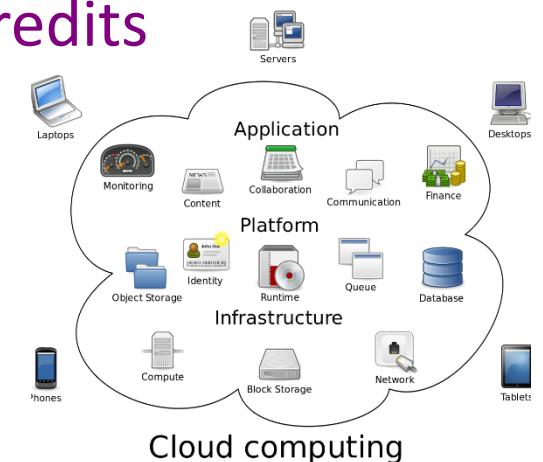
A distorted text image showing the validation code "JDOBR".

Type the code from the image

- You'll obtain a validation code, which you'll need to send via e-mail to your teacher
- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!

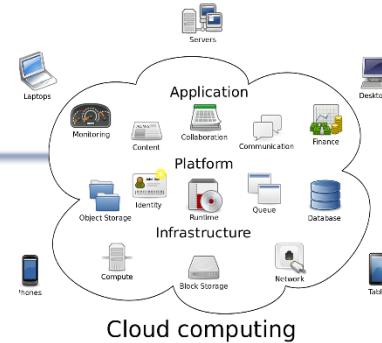
TSC Assignment / Cloud Certification

- **Assignment:**
 - Individual (no grouping)
 - You may select any topic, preferably one that gives you credits
 - At your job/activity
 - For your thesis research
 - You need to develop a project proposal
 - The proposal is subject to approval by the teacher
 - It needs to include some development in a (any) cloud platform PaaS
 - Assume that the teacher will need one week to correct and classify it
 - Classification graded **between 0 and 20**



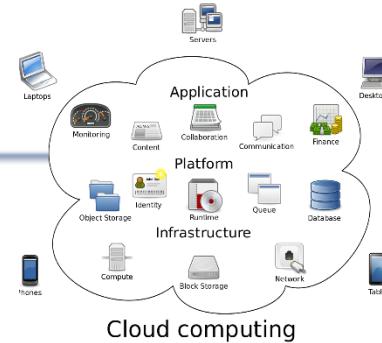
TSC Assignment detail (1/5)

- The whole assignment should include 5 sections
- Each section should be max 5 pages
- **Section 1 (20% of your grade):**
 - Define the chosen business model (SaaS, PaaS, IaaS)
 - Which are the revenue streams? What kind of licencing will it use to your customers?
 - Possible legal/regulatory limitations?
 - Competition analysis: Who already has the same type of business in the Cloud?
 - Develop a 5-year business plan
- Justify properly all chosen options
- Suggested tool: https://en.wikipedia.org/wiki/Business_Model_Canvas



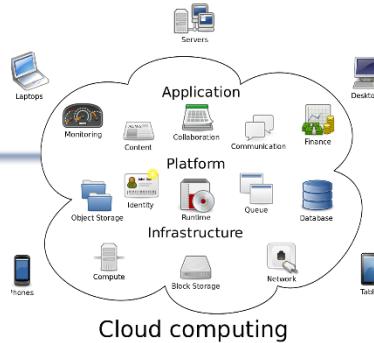
TSC Assignment detail (2/5)

- The whole assignment should include 5 sections
- Each section should be max 5 pages
- **Section 2 (20% of your grade):**
 - Elicit the requirements
 - Design the architecture and infrastructure of servers, network, public/private Clouds
 - Define the used Operating System and Technological stack to be used
 - Define the database engines to be used
 - Plan the infrastructure evolution in 5 years
- Justify properly all chosen options
- Suggested tool: <https://www.diagrams.net>



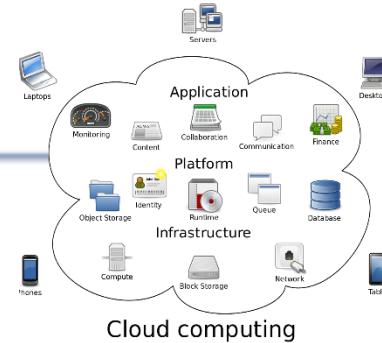
TSC Assignment detail (3/5)

- The whole assignment should include 5 sections
- Each section should be max 5 pages
- **Section 3 (20% of your grade):**
 - Design the application GUI, if any
 - Design the APIs (REST, JSON, XML, etc.), if any
 - If you are reusing already existing software/platforms, show screenshots of the reused screens and how they will be used (e.g., authentication/payment platforms)
- Justify properly all chosen options
- Suggested tool: <https://www.figma.com> (or even hand-drawn mockups)



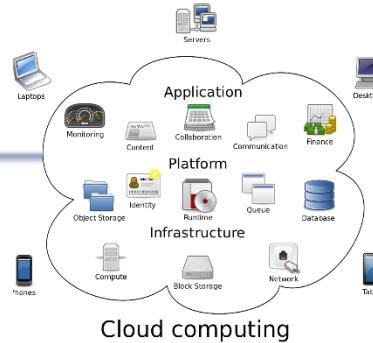
TSC Assignment detail (4/5)

- The whole assignment should include 5 sections
- Each section should be max 5 pages
- **Section 4 (20% of your grade):**
 - Create a financial plan:
 - Capital Costs (CAPEX), e.g., Servers and other equipments, Buildings and Hosting of equipments
 - Costs with your software licencing
 - Costs with direct development personnel
 - Operational Costs (OPEX), e.g., Electricity, Refrigeration, Maintenance, etc.
- Justify properly all chosen options
- Suggested tool: Spreadsheet (e.g., Ms Excel, LibreOffice Calc)



TSC Assignment detail (5/5)

- The whole assignment should include 5 sections
- Each section should be max 5 pages
- **Section 5 (20% of your grade):**
 - Implement a prototype which can implement totally or partially the proposed solution (POC)
 - Present an end-to-end use-case scenario usage of the solution, with screenshots and explanation of the steps (this may pass the 5 pages max limit)
 - If possible, provide an online link to the Proof-of-Concept (POC)
- Justify properly all chosen options



TSC Assignment / Cloud Certification

- Which one should you choose?

- **Cloud Certification is selected by the majority of students:**

- It will be more rewarding for your career and resume
 - It will mean a lot of work studying
 - It is recognised by the market
 - If you get the certification, you'll get graded 20 in this section

- **Assignment is selected by far less students:**

- You don't have to spend money on doing certifications
 - You have a genuine interest in entrepreneurship and creating your own business
 - It will mean a lot of work researching the business and doing the report
 - Depending on your work, you will be graded a value somewhere between 0 to 20 in this section

