Cyber Academy

Welcome & Introduction

Taught by Michelle Sheppard

November 3 2021

TTA |

TECH TALENT ACADEMY |

Welcome

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Tech Talent Academy

Cyber Academy

Course Start Date:
Wednesday 27 October 2021

Duration:
16 Weeks

Trainers:
Michelle Sheppard

Checklist - today

Go through Admin - recap

Introduction to course - recap

Employability

Python

HLTs

You will have:

- ❑ Installed MS Teams and activated your Teams account (email sent to you)
- ❑ Complete the pre-course survey https://forms.office.com/r/Y1DXYmnde2
- ❑ Created a repl.it account.
- ❑ Created a GitHub account.
- ❑ Installed Microsoft VS Code.
- ❑ Installed JDK 8
- ❑ Installed Netbeans.

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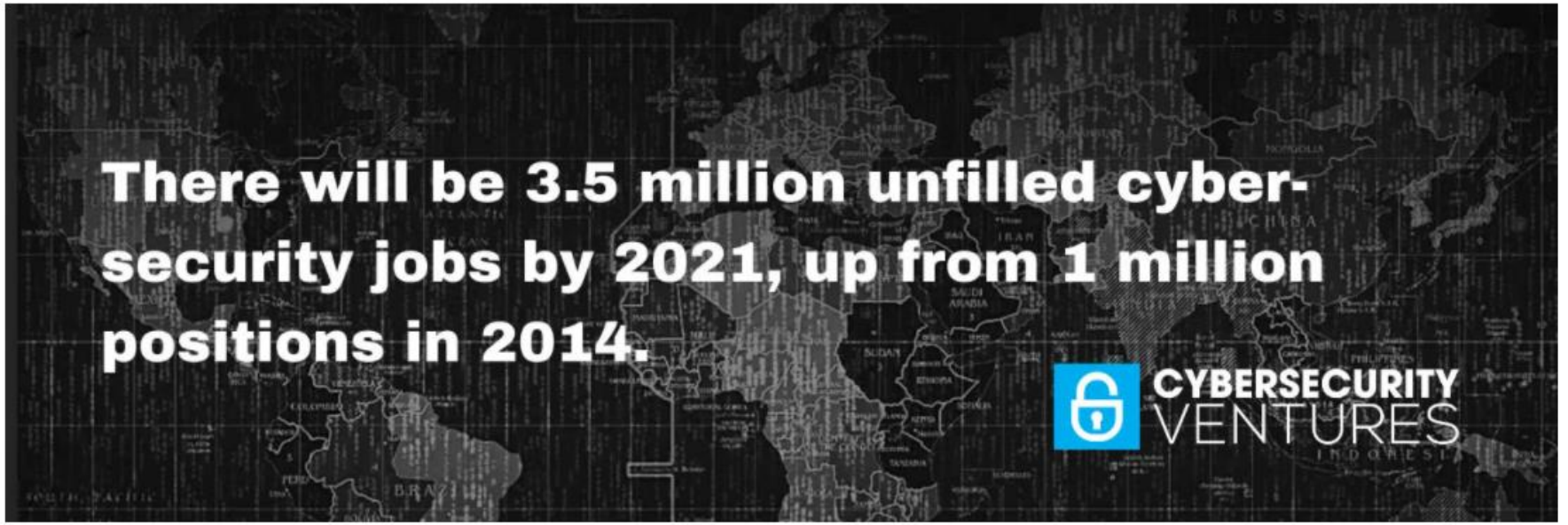
Introduction

- Why join a Cyber Academy?
- Shortage of Cyber professionals across the world!



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Tech News

- COP26
- Why is technology concerned with environmental issues?

Streaming's dirty secret: how viewing Netflix top 10 creates vast quantity of CO2

▲ Every activity required to stream video, from the use of huge datacentres to transmission over wifi and broadband, requires electricity. Photograph: Beata Zawrzel/NurPhoto/Rex/Shutterstock

Explosion in popularity of shows on Disney+ to YouTube raises question of impact on planet

Streaming has a dirty secret. The carbon footprint produced by fans watching a month of Netflix's top 10 global TV hits is equivalent to driving a car a hefty distance beyond Saturn.

The world's largest video-sharing site, YouTube, is responsible for emitting enough carbon dioxide annually to far surpass the equivalent greenhouse gas output of Glasgow, the Scottish city where world leaders will be gathering from Sunday at the Cop26 climate summit.

While much of the focus of campaigners falls on sectors that emit the most CO2 - such as aviation, automotive and food - the explosion in popularity of services from Disney+ to Netflix is raising the question of just how bad the streaming boom is for the planet.

Every activity in the chain required to stream video, from the use of huge datacentres and transmission over wifi and broadband to watching the content on a device, requires electricity - the majority of which is generated by emitting greenhouse gases.

"Strangely, environmental impact is a very young story in the streaming industry," says Dom Robinson, the founder of Greening of Streaming, a fledgling body that aims to address the sector's energy impact. "People talk about the bottlenecks in internet traffic caused by the growing demand for streaming and gaming services, but there is plenty of capacity, it is actually about the growing demand for power supply."

Netflix has estimated that one hour of streaming by one user on its platform produces "well under" 100g of carbon dioxide equivalent (CO2e) - a unit of measure that indicates carbon footprint. More specifically, the Carbon Trust says the European average is 55g to 56g of CO2e for every hour of streaming video. That is equivalent to driving about 300 metres in a car.

Netflix recently gave a rare insight into its most popular global hits by total hours viewed, a metric it said last week it intended to publish more frequently. It reported that fans clocked up more than 6bn hours watching the top 10 shows - which included Squid Game, Stranger Things, Money Heist and Bridgerton - in the first 28 days after each show was released.

NEWS

Home | Coronavirus | Climate | UK | World | Business | Politics | Tech | Science | Health | Family & Education

Stories

Dirty streaming: The internet's big secret

With the launch of streaming services from Disney and Apple, the rollout of 5G and the growth in cryptocurrencies, experts are warning about the impact this huge rise in data use could have on the environment.

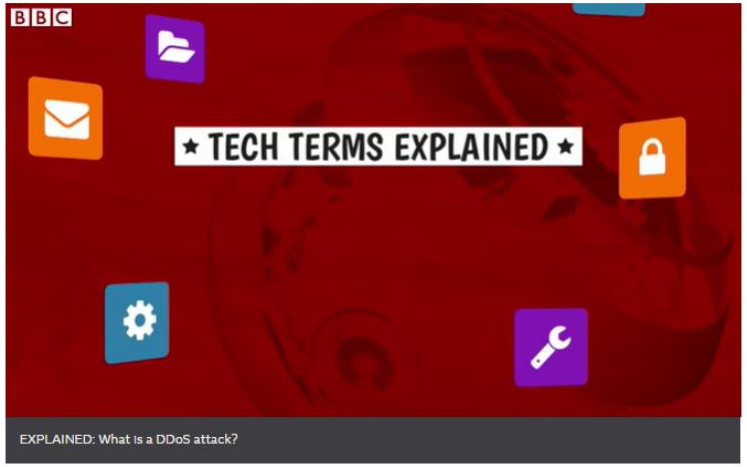
There are now hundreds of thousands of data centres around the world, storing everything from viral videos to doctors' notes and even bank account details. Many of them run on electricity generated by burning fossil fuels.

Film and TV writer Beth Webb went in search of the internet and discovered that 'the cloud' is actually a vast network of energy-guzzling data centres and undersea cables.

'Dirty Streaming: The Internet's Big Secret' will be available on BBC Three on iPlayer from Thursday 5 March 2020.

News – Cyber attacks

- Distributed denial of service attack
- DDoS
- Watch the video on the link
- https://www.bbc.co.uk/news/technology-59053876



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Technology

Cyber-attack hits UK internet pho providers

26 October

An "unprecedented" and co-ordinated cyber-attack has struck multiple UK-based providers of voice over internet protocol (VoIP) services, according to an industry body.

Industry body Comms Council UK said several of its members had been targeted by distributed denial of service (DDoS) attacks in recent weeks.

"An overall threat has been made to the entire industry," a spokesman added.

Ofcom said it was aware of the situation.

NCSC

https://www.ncsc.gov.uk/blog-post/denial-service-guidance

National Cyber Security Centre

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Home » Denial of Service guidance

BLOG POST

Denial of Service guidance

Preparing for, and dealing with, DoS and DDoS attacks.

WRITTEN BY
Harry W

PUBLISHED
15 March 2018

WRITTEN FOR
Small & medium sized organisations

Large organisations

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News – Cyber attacks

- IOT – Internet of things
- IOW- Internet of warfare

World | Africa | Asia | Australia | Europe | Latin America | Middle East | US & Canada

Iran blames foreign country for cyberattack on petrol stations

6 days ago

ANADOLU AGENCY

President Ebrahim Raisi said the hackers sought to create chaos and disrupt people's lives

Iran has said a foreign country was behind a cyberattack that paralysed its petrol distribution network on Tuesday.

A group called itself Predatory Sparrow claimed it carried out the hack, but Iran's top internet policy-making body blamed an unnamed "state actor".

President Ebrahim Raisi said the attack was about "stoking public anger".

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Introduction –support@TTA

Employment support

- Paul@techtalent.academy

Well being and welfare support

- Satinder@techtalent.academy

General course support

- Use the teams support channel
- Trainer

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Format of Course

- Each week: training days on Wednesday.
- Each training day: sessions at 11-1 OR 4.30 – 6.30
- Other days are for independent completion of practice activities and Home Learning Tasks (HLTs), and for self-study.

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Format of Course - Home Learning

- There will be 1 lesson every Wednesday consisting of a two hour online session from 4.30 pm
- Other days are for independent completion of activities and tasks.
- Monday is your submission day: This is practical work with an evaluation (not a pass or fail). Each week you will be advised of the format of submission (group demo, group discussion, sending files via Slack, etc).
- Please note that I am usually only available for support from 9:30am to 4.30pm, Monday to Thursday and until 12 pm on Fridays.
- Please use Teams for informal quick messages
- Please use email for more 'formal' communications.
- You can email and message out of hours and I will reply back to you between 9:30am and 5.00pm.
- There will be extra Zoom calls dependent on group tasks – please keep me informed about any commitments that you might have so there are no clashes in timings.

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Trainer Availability

- Please note that I will only be available for support from:
  - 9:30am to 4:30pm, Monday to Thursday.
  - 9:30am to 3:30pm, Friday.

- You can email and message at any time and I will reply back as soon as possible.

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Communication

Communication during remote learning will include:

- Class webinars (Zoom)
- Emails
- Individual calls (Zoom)
- Course materials (Teams)
- Slack – DM or in class chat

Queries: Send a Direct message to me via email me with your query and I will get back to you.

Email address: Michelle@techtalent.academy

Any complaints or welfare issues contact satinder@techtalent.academy

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Format of Course – HLTs

- HLTs are practical work that form the evidence of your participation on the course and that give me an opportunity to give you feedback.
- Submission day: **Monday**.
- Submission time: **Midday**.
  Each week I will advise you of the format of submission (GitHub, group demo, group discussion, sending files via Teams etc).
- Where HLTs consist of code, then the submission must contain working code.

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Format of Course

- There may be extra Team meetings, for example for ad hoc workshops, guest speakers, etc.
- Please keep me informed about any commitments that might mean you are unable to attend. Please be aware that if you fall behind in the work, it is very difficult to catch back up.

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Attendance

TECH TALENT ACADEMY

Certificate of Achievement

Awarded to

for successfully completing the

Data Academy

Modules: **Grade:** Pass

Python Fundamentals

NumPy

Pandas

Modelling for Data Science

Machine and Deep Learning

- 100 % is desirable
- Attendance – aiming for 90%
- HLT – 80% completion to pass the module
- Certification at end of course with completed modules

- If you are unable to attend please let me know and we can arrange a catchup session – via teams

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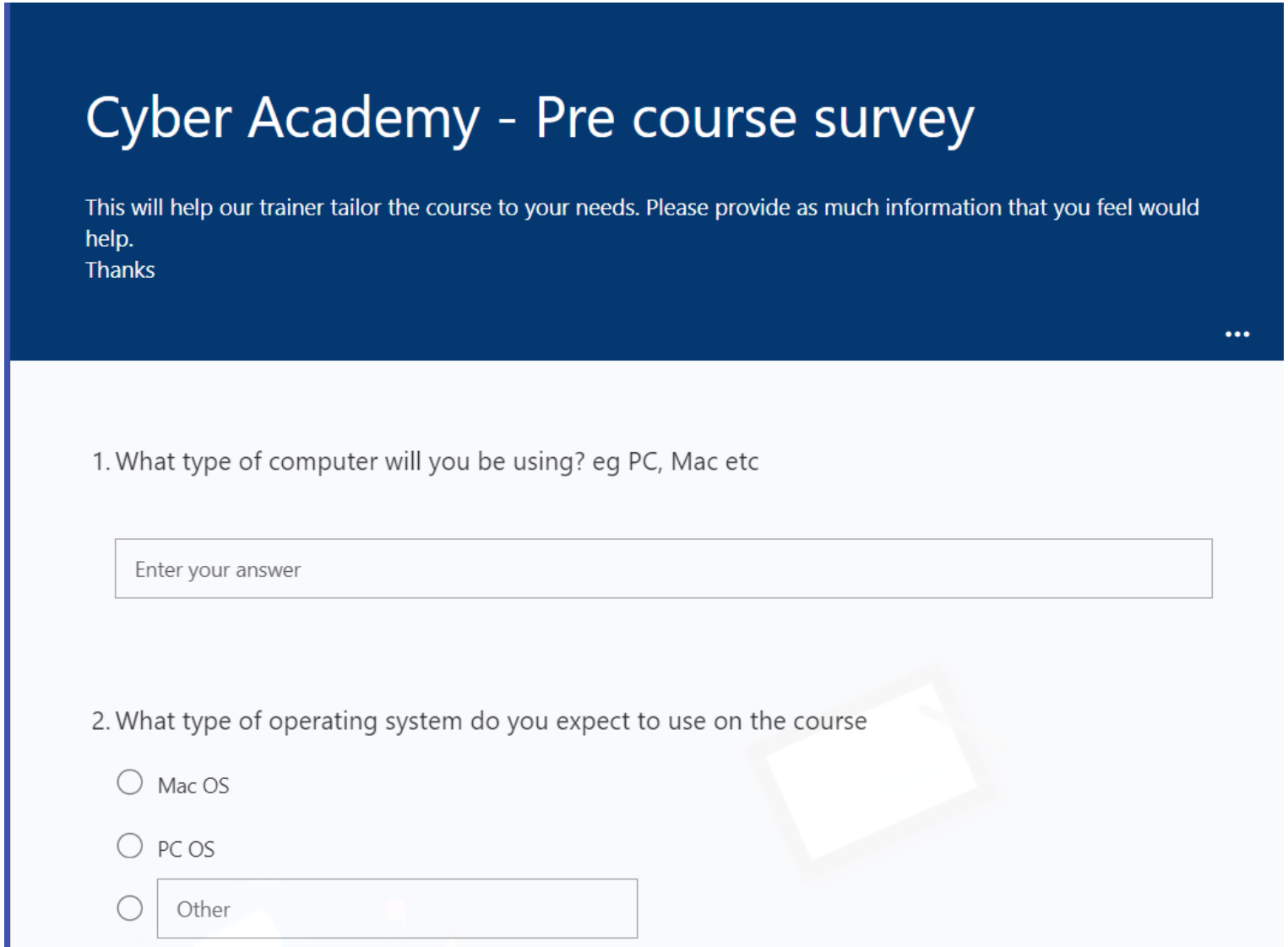
MS Form – Cyber pre course survey



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Teams

- All ‘non formal’ communication will be through Teams Chat
- You have access to post on the support section – this will be seen by all members of the course
- General information will be posted in the ‘general’ area
- Files will be uploaded in the files section by session

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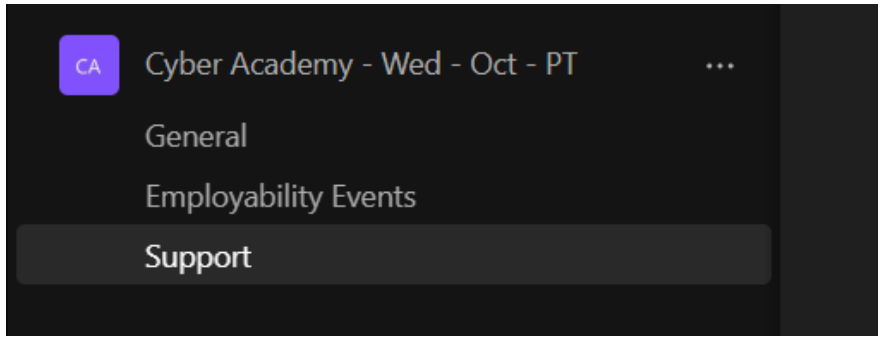
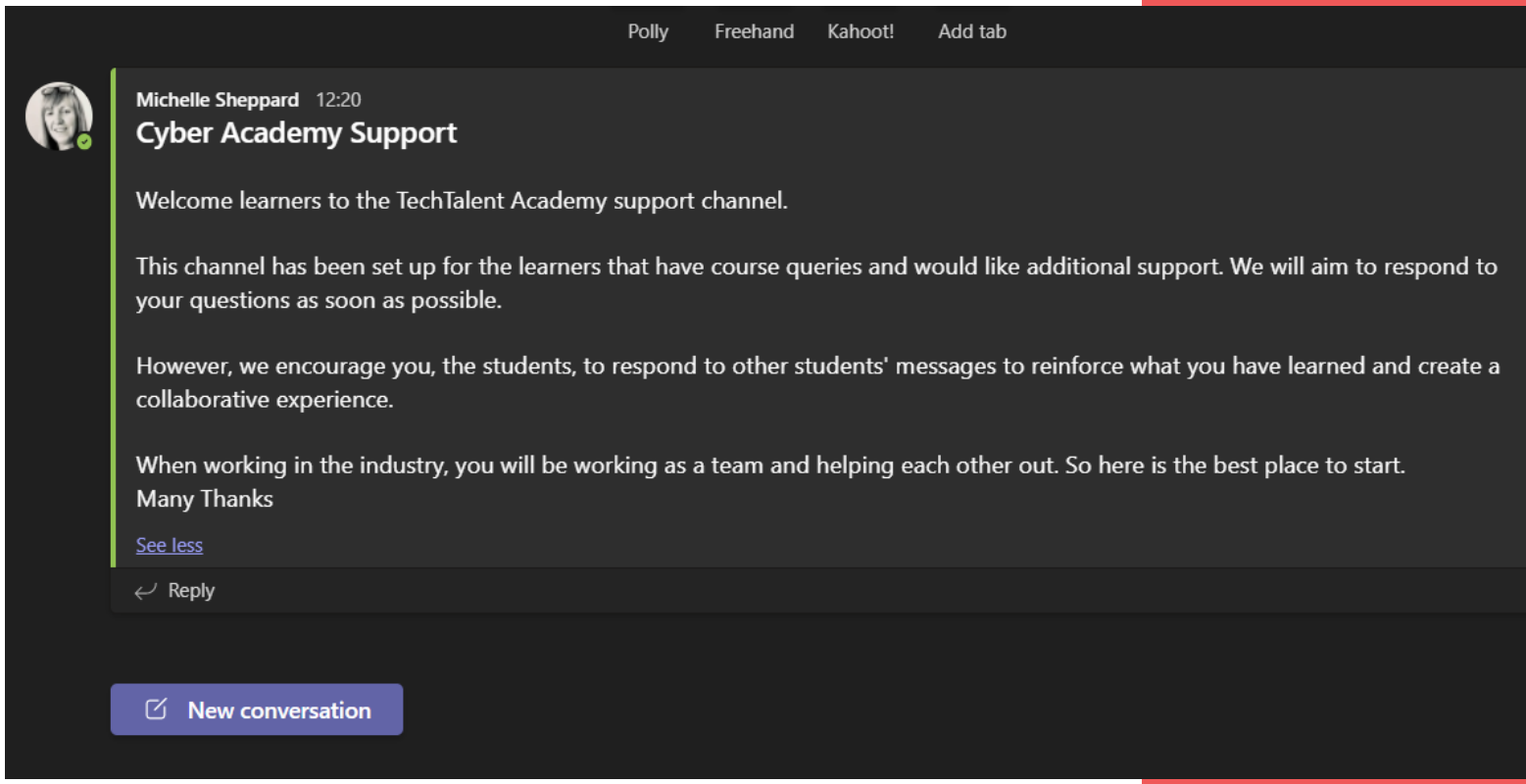
Teams - Cyber





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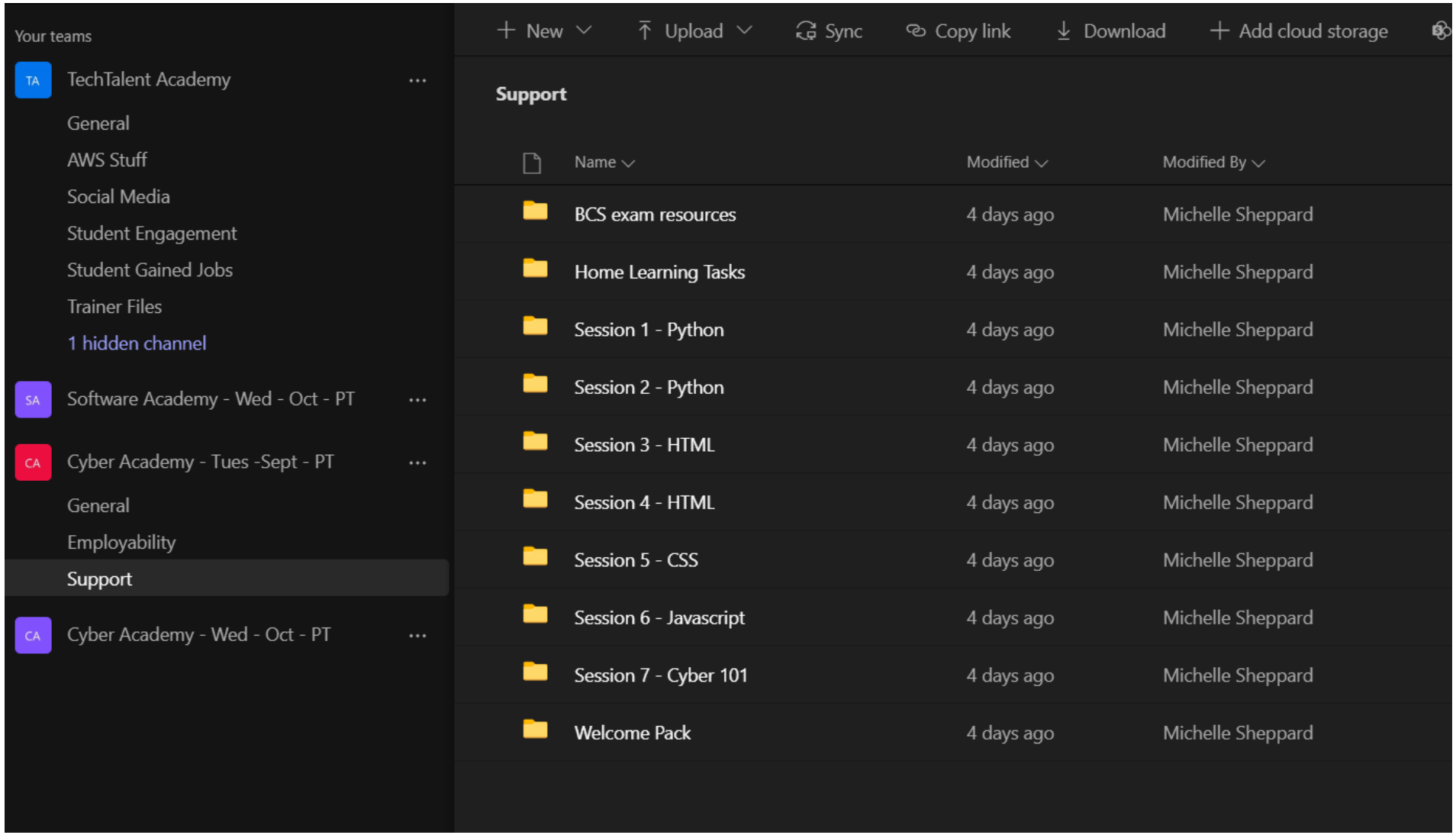
Your teams
TA
TechTalent Academy
General
AWS Stuff
Social Media
Student Engagement
Student Gained Jobs
Trainer Files
1 hidden channel
SA
Software Academy - Wed - Oct - PT
CA
Cyber Academy - Tues -Sept - PT
General
Employability
Support
CA
Cyber Academy - Wed - Oct - PT
New
Upload
Sync
Copy link
Download
Add cloud storage
Support
Name
Modified
Modified By
BCS exam resources
4 days ago
Michelle Sheppard
Home Learning Tasks
4 days ago
Michelle Sheppard
Session 1 - Python
4 days ago
Michelle Sheppard
Session 2 - Python
4 days ago
Michelle Sheppard
Session 3 - HTML
4 days ago
Michelle Sheppard
Session 4 - HTML
4 days ago
Michelle Sheppard
Session 5 - CSS
4 days ago
Michelle Sheppard
Session 6 - Javascript
4 days ago
Michelle Sheppard
Session 7 - Cyber 101
4 days ago
Michelle Sheppard
Welcome Pack
4 days ago
Michelle Sheppard

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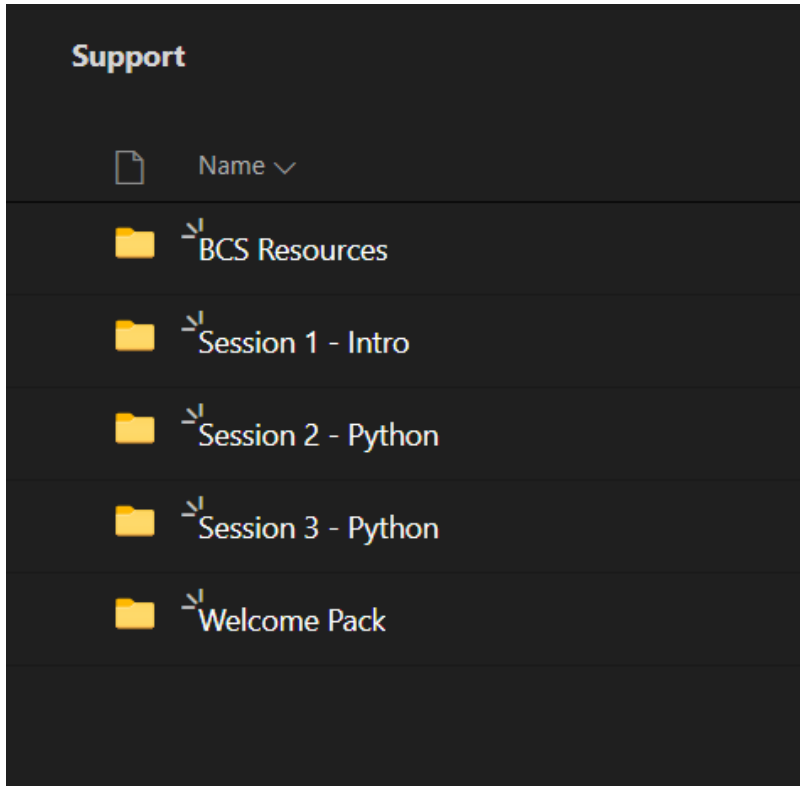
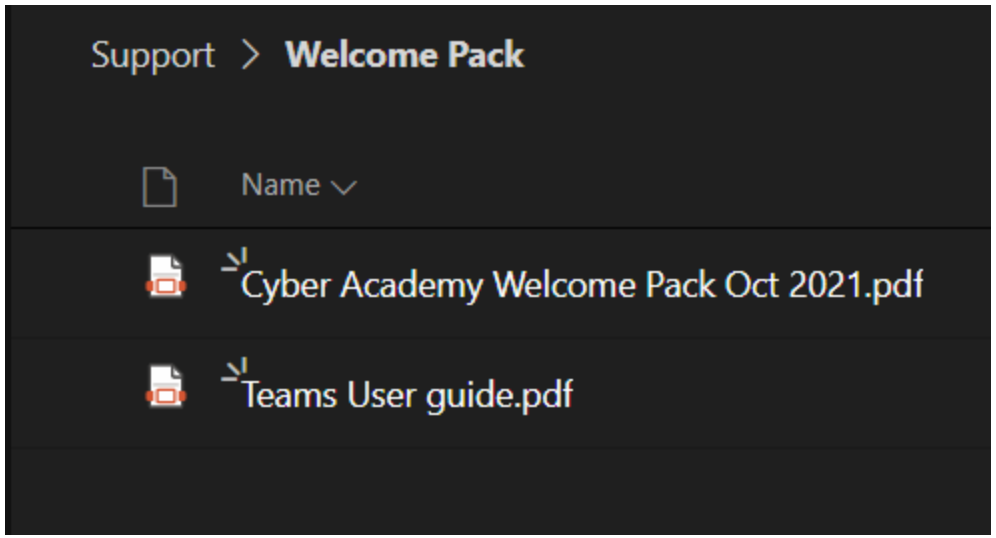
Welcome Pack

- In Teams
- Navigate to the files section and download the welcome pack





cademy Welcome Pack Oct 2021.pdf

Cyber Academy Welcome Pack 2021

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COMPUTER REQUIREMENTS

You will need access to a laptop or desktop from day one of the course. The course materials are based on Windows/Mac applications, so please advise your technical trainer or the person who on-boarded you, if you do not have access to a Windows/Mac device.

At a minimum, a laptop with a current operating system, such as Windows 8/10 or MacOS 10.15 (Catalina), should be sufficient to carry out your course.

Some suggested system requirements are as follows: • Intel i5 CPU, with an i7 recommended. • 8GB RAM, with 16GB recommended. • 1920 x 1080 resolution monitor display.

Please note that tablets and mobile devices are not suitable for the course.

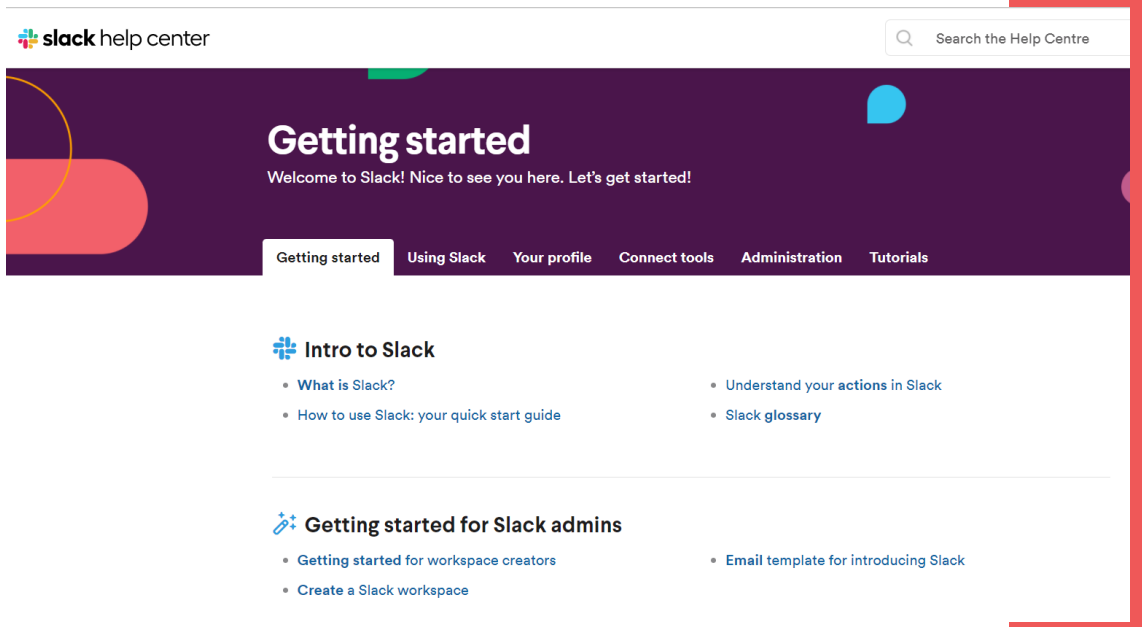
You will need to download the following free software applications to your laptop prior to the course (your trainer will help you during day one if you encounter any issues, suggesting alternatives that may be available).

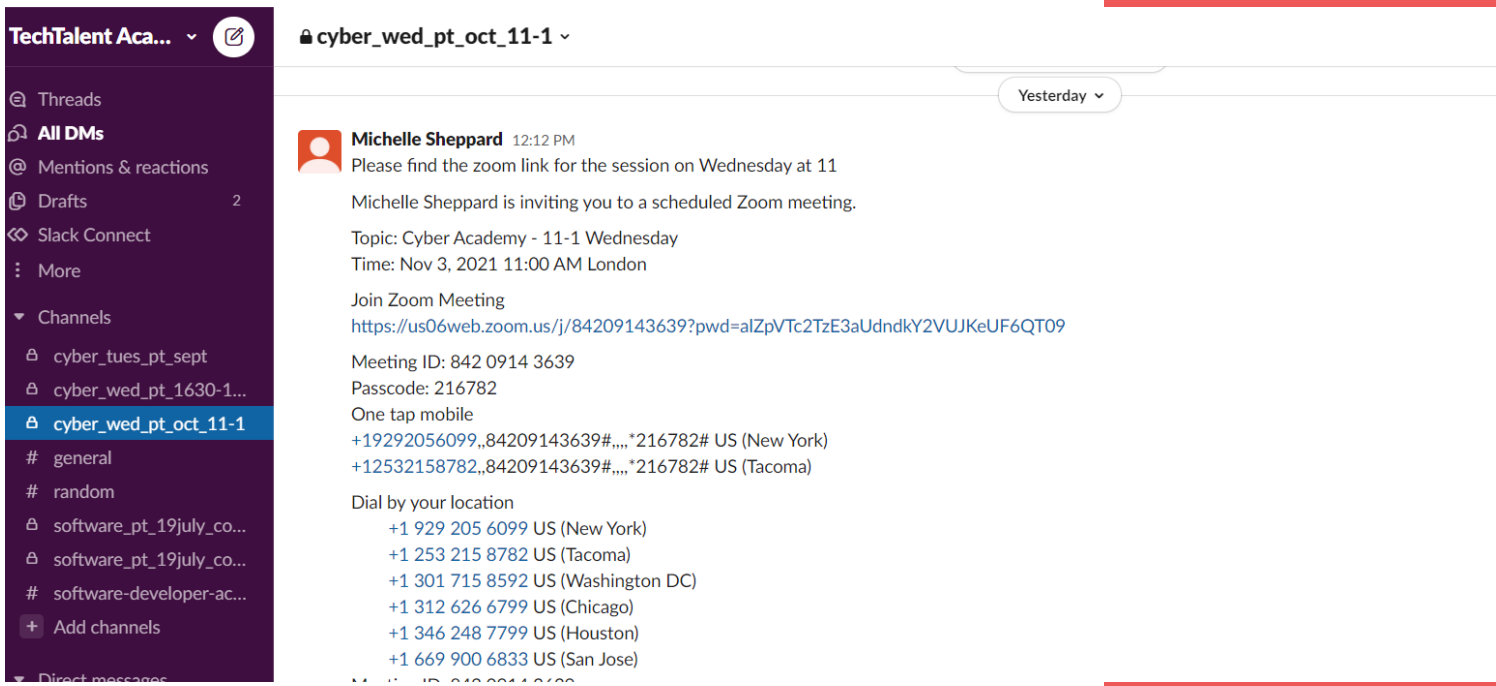
- Teams
- Python 3
- C++ for Windows
- C++ for Macs
- Java
- Intellij
- Visual Studio Code

If you haven't already signed up for Zoom and repl.it, then please do so.

Slack

- Use for invites
- In meeting chat
- Can be used for DM





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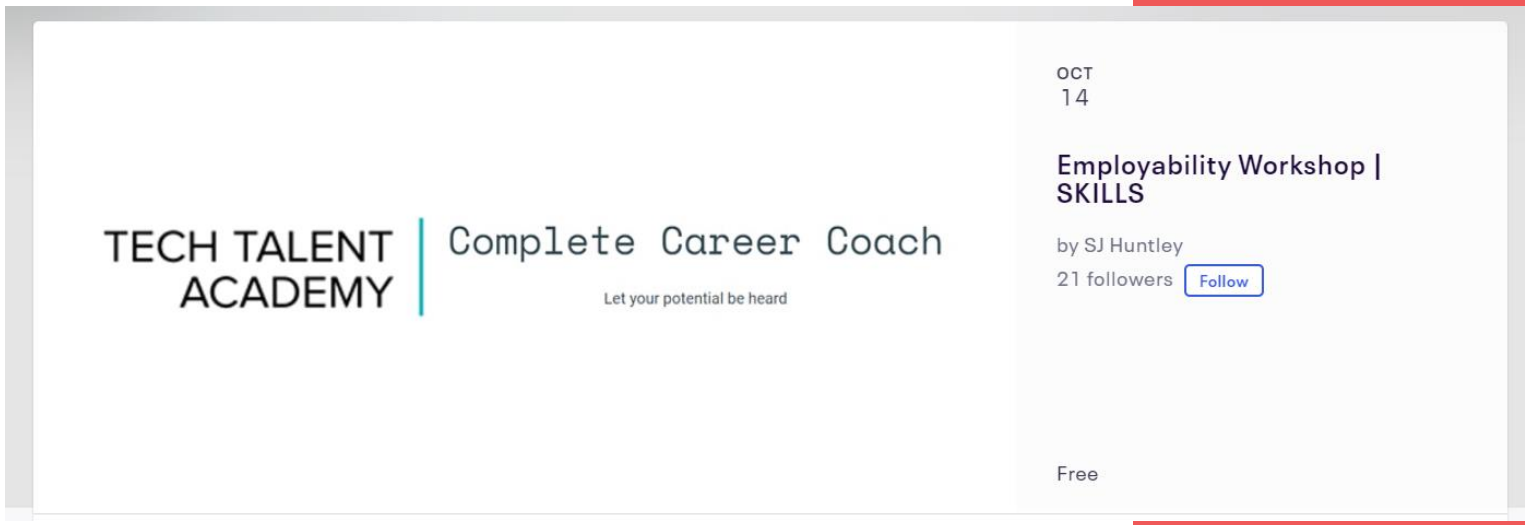
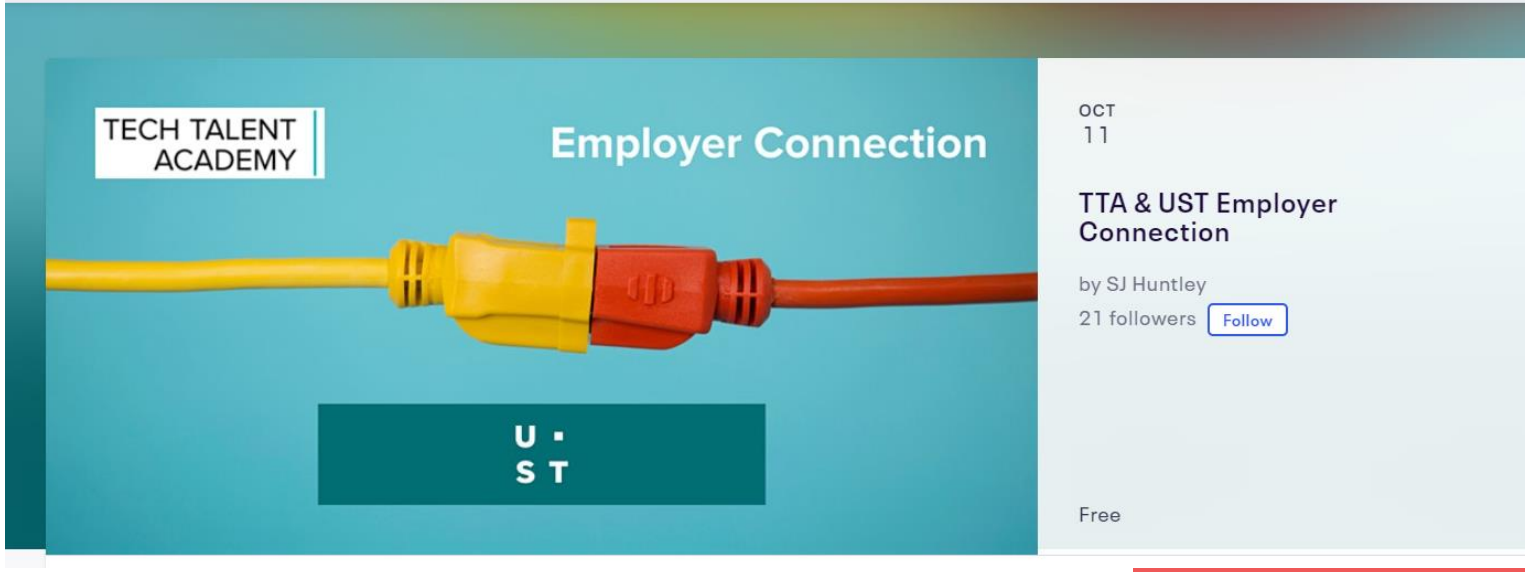
Employability

- AWS opportunities at end of course
- Employability workshops
- CV workshops
- Employer connections





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Course Overview

Week	Topic
1	Welcome
2	Python Fundamentals
3	Python Fundamentals
4	HTML Fundamentals
5	HTML /CSS Fundamentals
6	CSS /Javascript Fundamentals
7	JavaScript Fundamentals
8	Cyber 101 Fundamentals
9	Cyber 101 Fundamentals
10	Coding Fundamentals (C++)
11	Coding Fundamentals (C++) & Linux
12	Linux
13	Linux & Java Fundamentals
14	Java Fundamentals
15	Network Security
16	Exam Prep
17	Exam

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There might be times when we swap over parts of the course when we have client talks or company engagement days. You will be given at least a weeks' notice before we swap topics.

Software Requirements

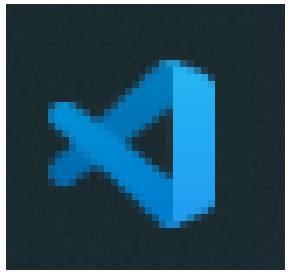
In your welcome pack it highlighted what software is suitable for the course:

- Visual Studio Code, follow this link:

https://code.visualstudio.com/

- To install intelliJ, follow this link:

https://www.jetbrains.com/idea/



Other useful tools:

- Repl.it https://repl.it/
- Notepad++ (Windows) (https://notepad.plus/)
- Notepad Brackets (Mac) http://brackets.io/

You don't need all of these! They're just tools to do a job (write code), so pick the tool you prefer. If you're not sure then have a play and find one you like.

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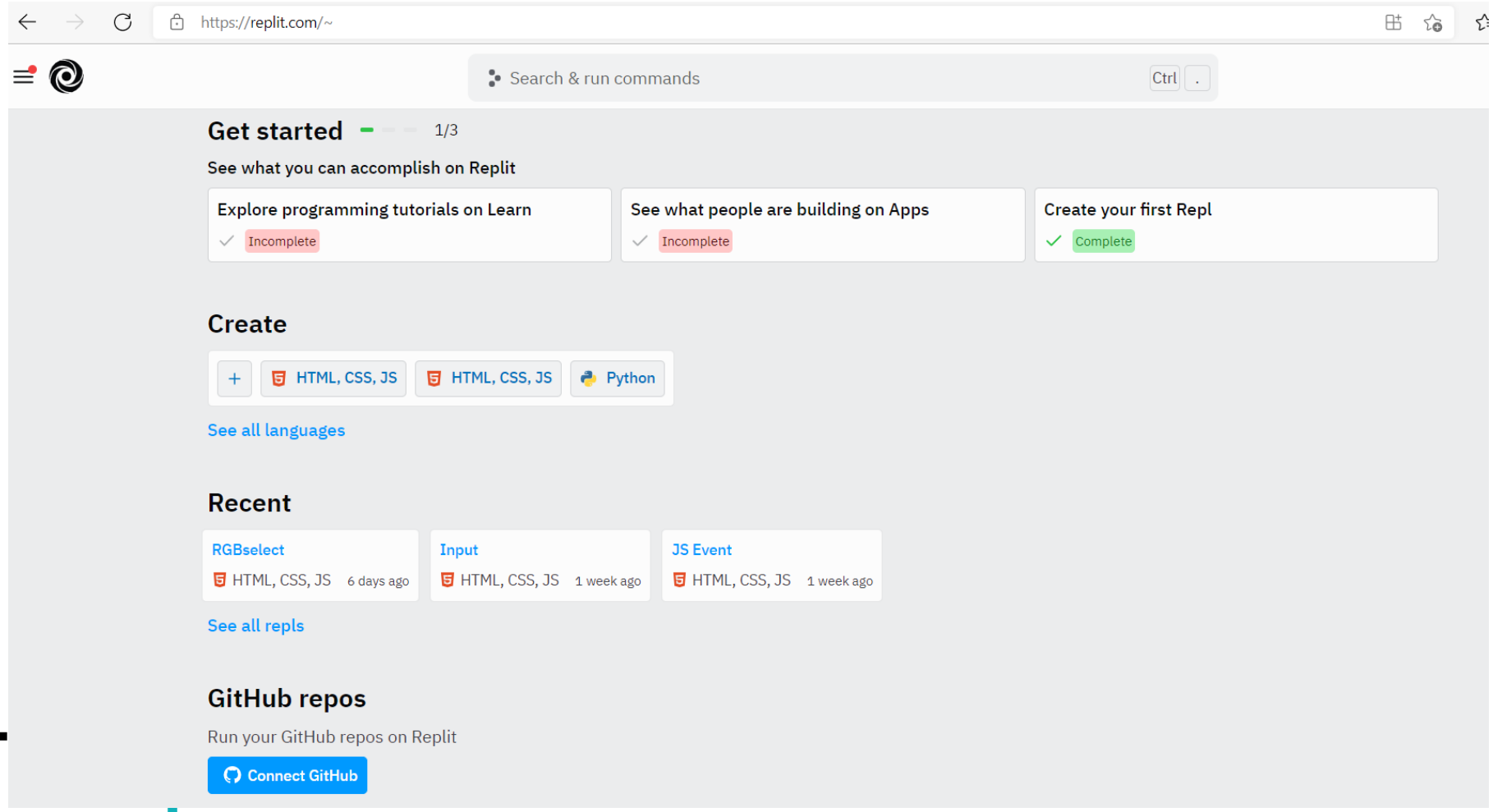
Software requirements – repl.it



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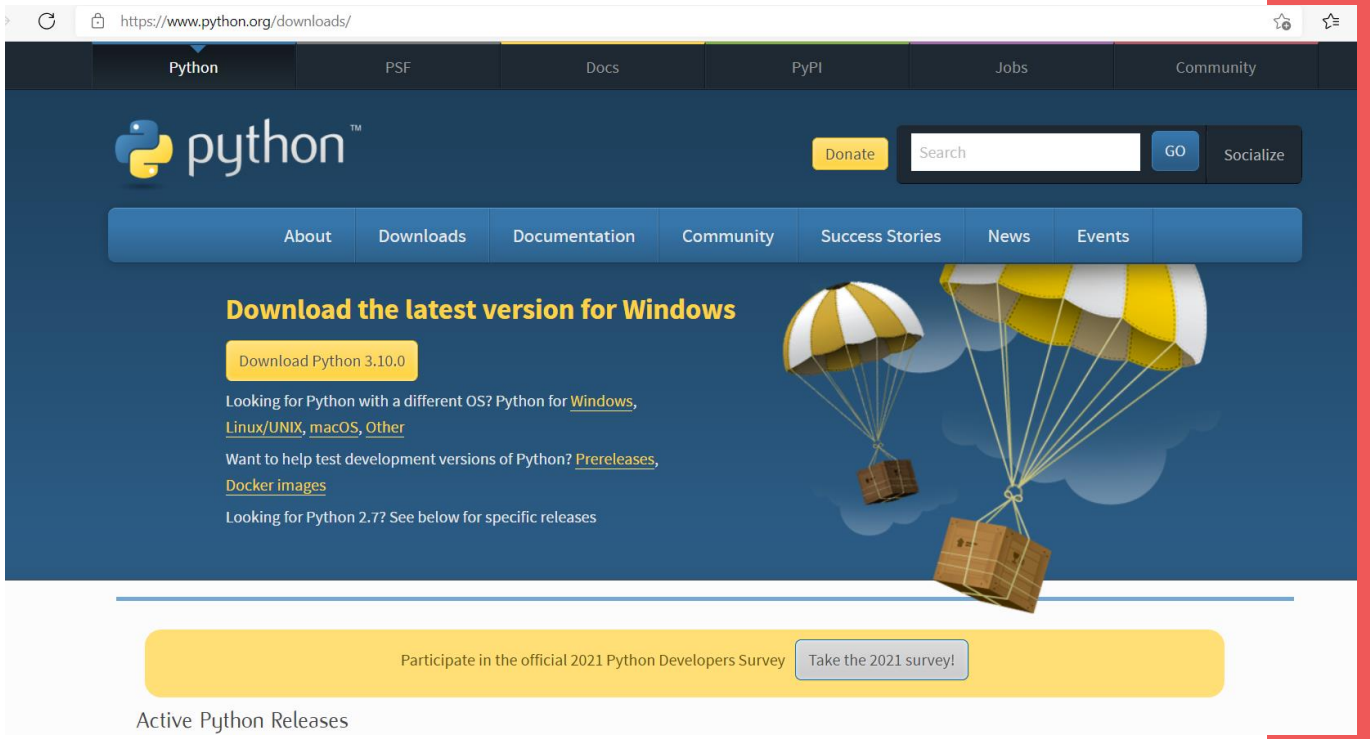
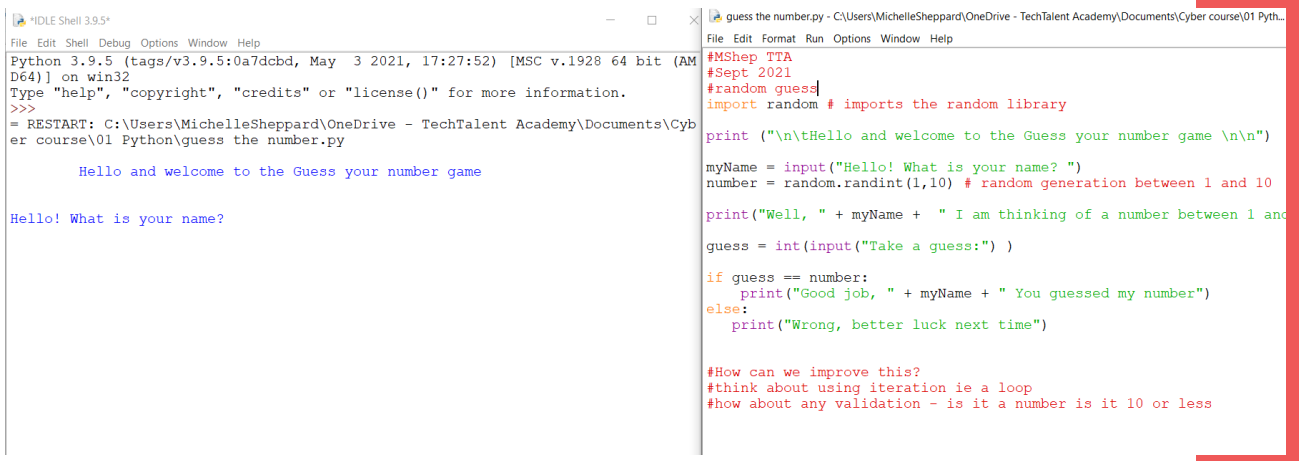
Python

- Download or
- Repl.it





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BCS - Exam

- The exam you will be entered for is
- BCS Foundation Certificate in Information Security Management Principles
  - Knowledge of the concepts relating to information security management.
  - Understanding of current national legislation and regulations which impact upon information security management.
  - Awareness of current national and international standards, frameworks and organisations which facilitate the management of information security.
  - Understanding of the current business and common technical environments in which information security management must operate.
  - Knowledge of the categorisation, operation and effectiveness of controls of different types and characteristics.

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BCS

- You are entered for the course as part of the Cyber academy – we will have a session nearer the exam date.
- Two hour ‘closed book’ with 100 multiple choice questions
- Pass mark is 65% (65/100)
- Resources
  - Book title: Information Security Management Principles, Author David Alexander, Amanda Finch, David Sutton

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https://www.bcs.org/get-qualified/certifications-for-professionals/information-security-and-ccp-assured-service-certifications/bcs-foundation-certificate-in-information-sec...

BCS Foundation Certificate in Information Security Management Principles

Gain a clear understanding of IS management issues including risk management, security standards, legislation and business continuity.

Who is it for?

Anyone with an interest in information security, whether as a career or for general business knowledge.

Entry requirements

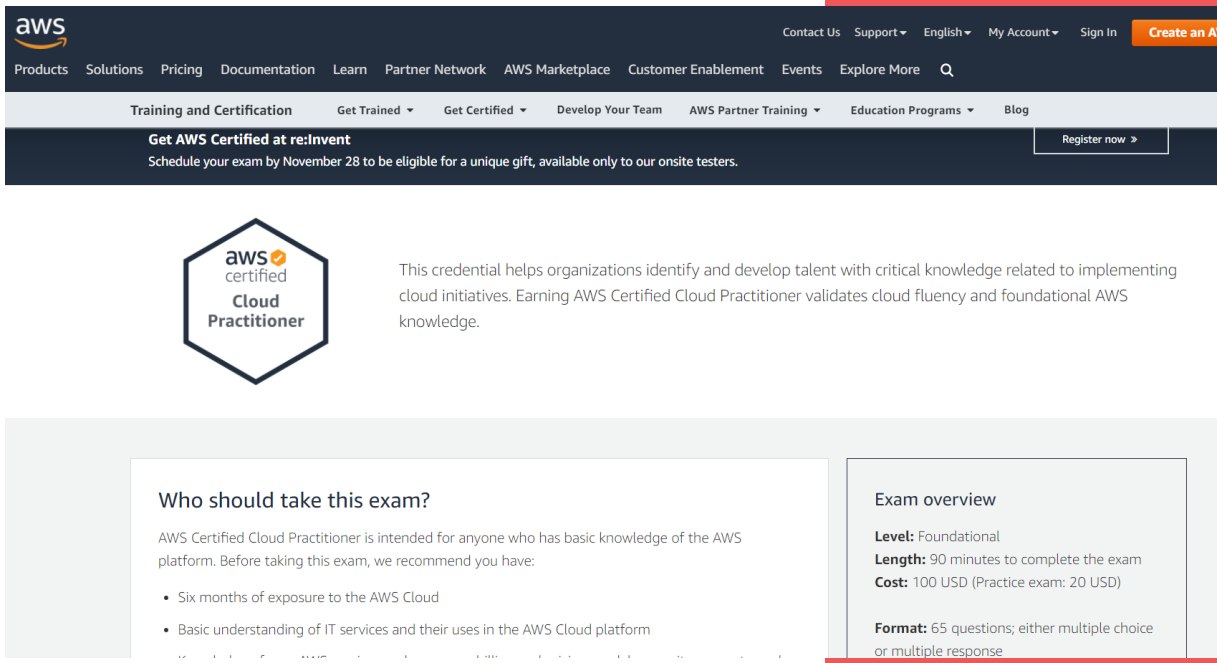
There are no formal entry requirements however, the candidate should have basic working IT knowledge and an awareness of the issues involved with the security control activities.

It's recommended that candidates read the BCS course approved reference book Information Security Management Principles, as well as attend training with a BCS accredited training course.

Amazon Web Services (AWS)

aws training and certification

- AWS Cloud
- Free AWS Cloud Practitioner qualification on successful completion of the Cyber course
- Optional 'bolt on'
- More details to follow!
- Returners to tech



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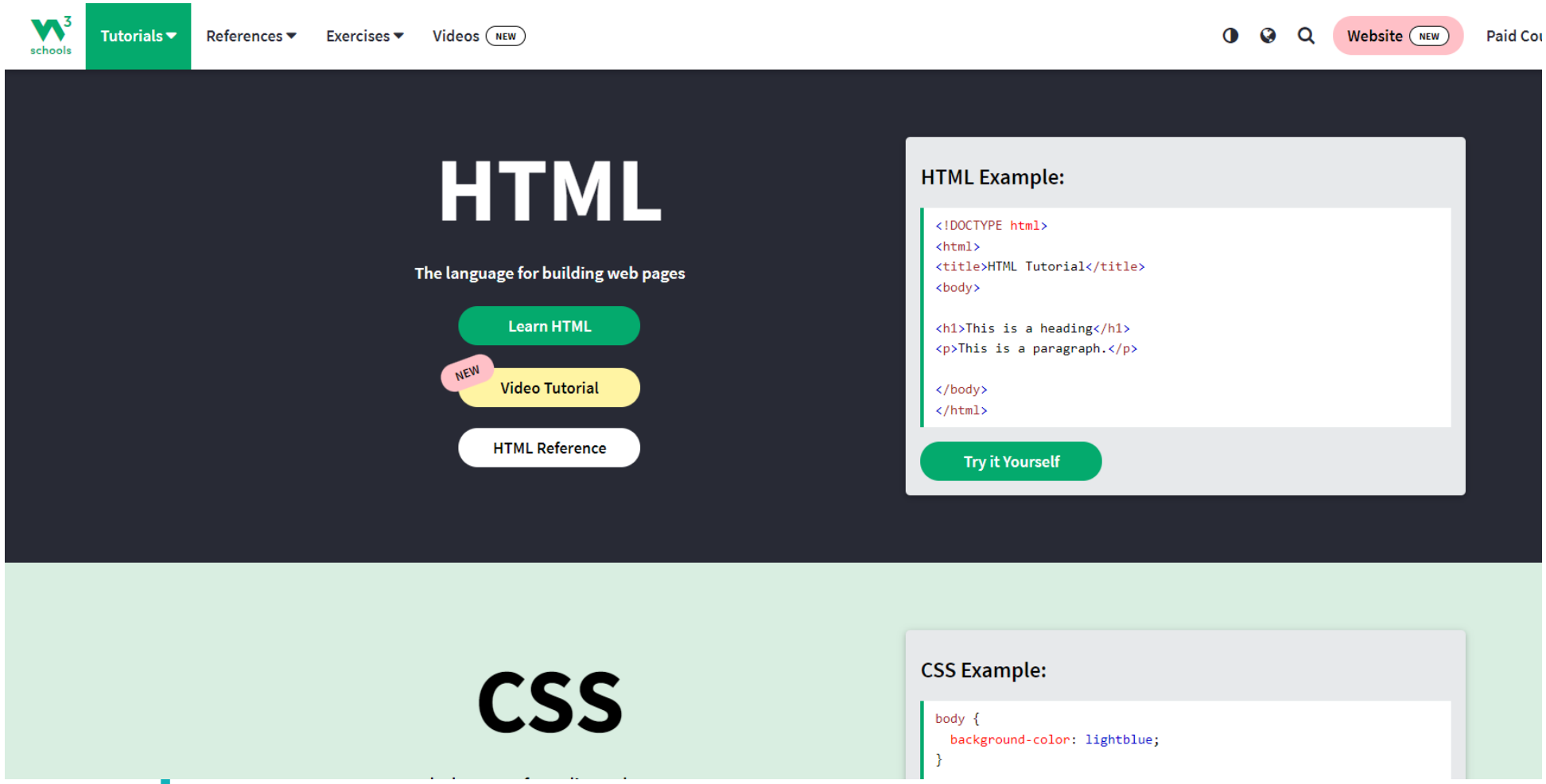
W3schools



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What to Do When You Get Stuck

- Ask other trainees – Teams
- Talk to the duck
  - https://en.wikipedia.org/wiki/Rubber_duck_debugging
- Take a break
- Google it
  - Do you recognise the website? (E.g. w3schools)
  - StackOverflow – make sure code is recent and you understand it
- Ask friends who know stuff
- Ask trainer
- Look at official docs

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