Factsheet on Youth Cyber Exploration Programme (YCEP)

Cybersecurity talent is critical to Singapore's Cybersecurity Strategy. It is vital to the development of a vibrant cybersecurity ecosystem that can support our cybersecurity needs and contribute to good economic growth. To reinforce our future cybersecurity talent pipeline, we have to build a national pool of cybersecurity talent from an early age.

The YCEP is an exciting four-day cybersecurity programme designed to introduce students to the exciting cybersecurity career possibilities. The inaugural YCEP bootcamp in 2018, co-organised by CSA and Singapore Polytechnic saw the participation of around 100 students from 18 secondary schools.

YCEP 2019 has been expanded to involve all polytechnics. In addition, top students with outstanding YCEP scores from across the bootcamps get to come together to compete in the inaugural Central Capture-the-Flag (CTF) Competition hosted by CSA on 29 June.

The programme teaches students fundamental cybersecurity concepts, gives them opportunities to participate in practical assignments and competitions and introduces them to the many possibilities and prospects in the world of cybersecurity.

Students should join the YCEP because:
1. There are no prerequisites for participation;
2. The programme rewards competency by providing outstanding students with additional training opportunities; and
3. The programme is a stepping stone for students in their journey to be a cybersecurity professional. For those applying to polytechnics, YCEP contributes as evidence of portfolio for their Early Admission Exercise.

Polytechnic	Date
Nanyang Polytechnic	17 to 20 June
Temasek Polytechnic	17 to 20 June
Ngee Ann Polytechnic	18 to 21 June
Singapore Polytechnic	18 to 21 June
Republic Polytechnic	24 to 27 June

Factsheet on YCEP Central Capture-The-Flag (CTF) Competition

This year, CSA and all five local polytechnics are co-organising the YCEP to bring four day cybersecurity bootcamps and competitions to about 400 secondary school students. This is the largest number of secondary school students participating in such a programme in Singapore, and we intend to scale up the number of students participating even more in the next few years.

The top 60 students identified from the polytechnics' four-day YCEP will take part in the inaugural second stage YCEP Central CTF Competition organised by CSA. It is a fun and intensive two-day programme for youths to get up close to the latest cyber security technologies and learn from industry professionals.

The training day on 28 June will see students build on what they have learnt in the four-day YCEP conducted by the polytechnics. They will be exposed to intermediate Linux security concepts, security reconnaissance, web security concepts, SQL injection and command injection vulnerabilities. These will be done in a fun and casual setting with team building games mixed in to promote interaction among youths from different schools. There will be many hands-on exercises so that students will not just be exposed to theoretical concepts but also practical experience to handle real-life security tools and technologies.

The YCEP Central CTF Competition Day on 29 June will see participating students role-play as security consultants and pit their skills against one another to help a leading global artificial intelligence (AI) company check if their servers are secure or vulnerable to data breaches. Students will be asked to solve multiple security challenges related to cryptography, Linux security, database security, web vulnerabilities and command injections on servers located on-premise and in the cloud.

Post YCEP Engagement Activities

Post-YCEP, CSA is also making the following opportunities open to the secondary school students to encourage them to continue their cybersecurity exploration journey:

1. CSA has partnered Cisco to host **three months online training** from July to September 2019 for all YCEP students. Through the Cisco Networking Academy, students will have access to modules on cybersecurity and IoT, with (i) downloadable slides, and (ii) online interactive labs. In addition, CSA will also arrange for **monthly cybersecurity webinars for the YCEP students**.

2. AWS is sponsoring $100 worth of AWS Educate credits for the top 60 YCEP students. AWS Educate is an academic gateway filled with resources on cloud-related learning for both students and educators. The top 60 students will have free **access to AWS Educate content for self-study and online training labs**.

3. CSA has also created a **Discord YCEP server chat group** for all participating students to be part of an online youth community. This will allow them to keep in touch with one another, have vibrant exchanges on cybersecurity and learn about upcoming cybersecurity activities and resources for students.

    a. Discord is a free platform designed for video gaming communities. This software specialises in text, image, video and audio communications between users in a chat channel. Discord is able to host up to 5,000 online users simultaneously. It is currently very popular with youths and used as a platform for information and knowledge sharing.