Pemanfaatan Cloud Computing untuk MatKul JarKom

Muhammad Cordiaz S.Si., M.Kom

Perkenalan

Nama:

Muhammad Cordiaz, S.Si., M.Kom

Contact:

dosen01676@unpam.ac.id

@cordiaz

Materi

https://github.com/cordiaz/webinar-ri40

Revolusi Industri 4.0 Dampaknya Bagi Pendidikan

Revolusi Industri 4.0

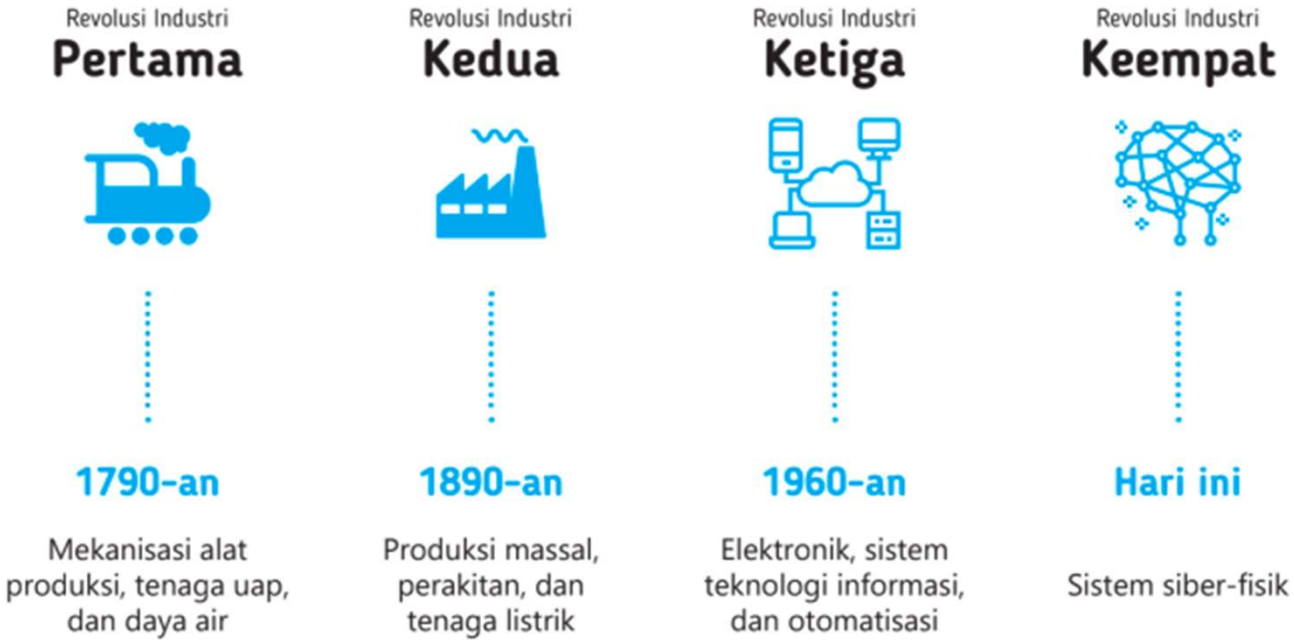
- Revolusi Industri 4.0
- Era Industri 4.0
- Industri 4.0
- RI 4.0
- 4IR

Teknologi Kunci Revolusi Industri 4.0

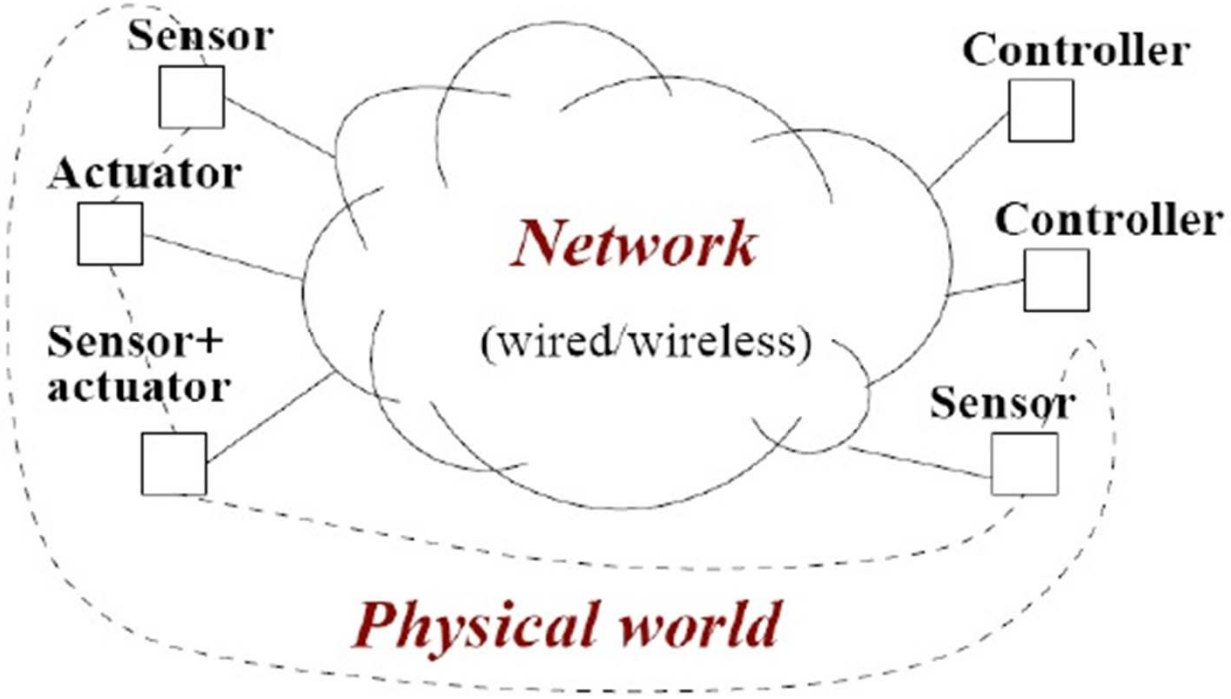
- CYBER-PHYSICAL SYSTEM
- INTERNET OF THINGS
- ARTIFICIAL INTELLIGENCE

  - ➔ Big data
  - ➔ Cloud computing
  - ➔ Nanotechnology
  - ➔ Wearable
  - ➔ Blockchain
  - ➔ Gene sequencing
  - ➔ Virtual reality
  - ➔ 3D printing

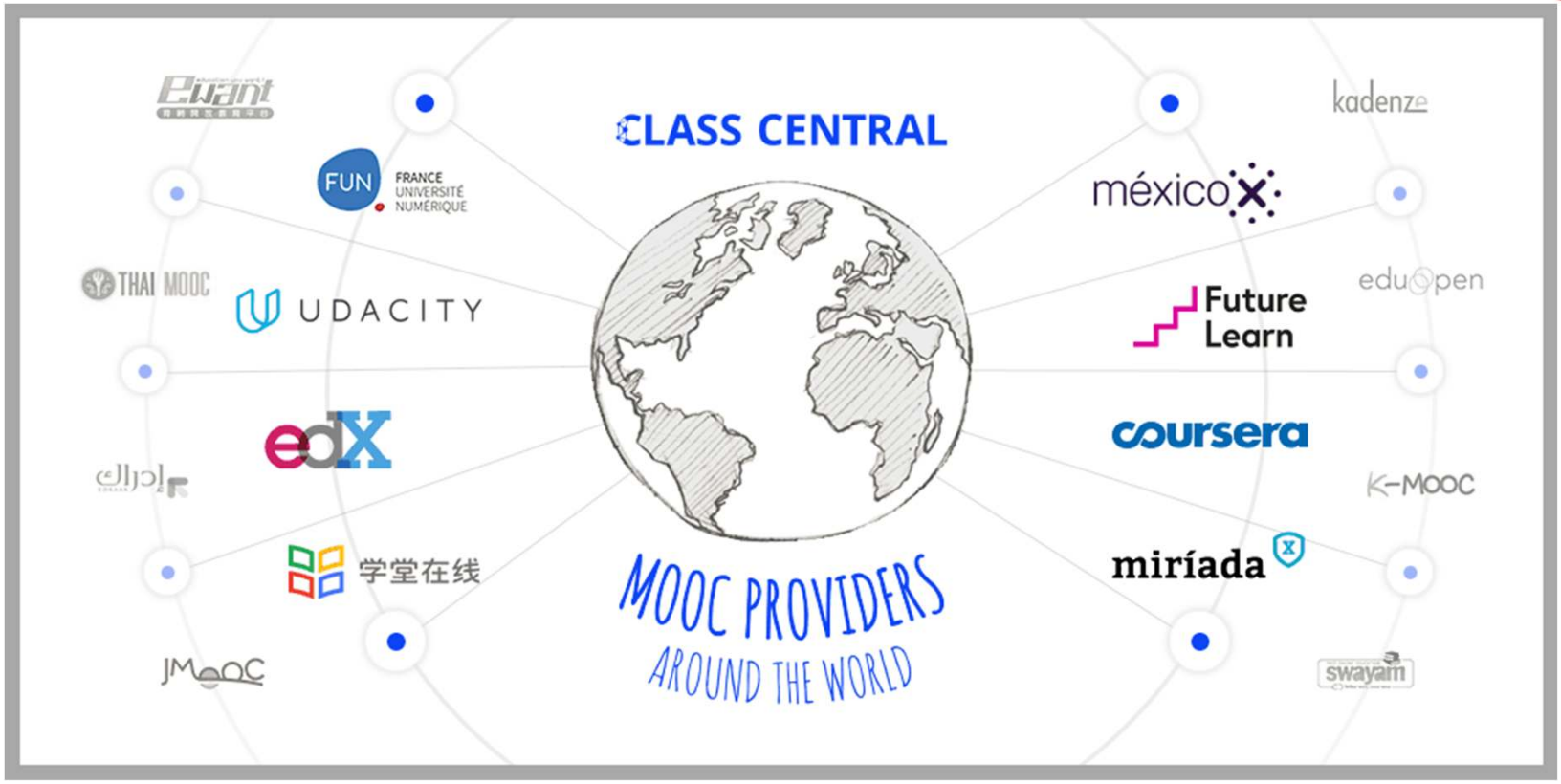
Milestones Revolusi Industri



Sekilas Cyber-physical system



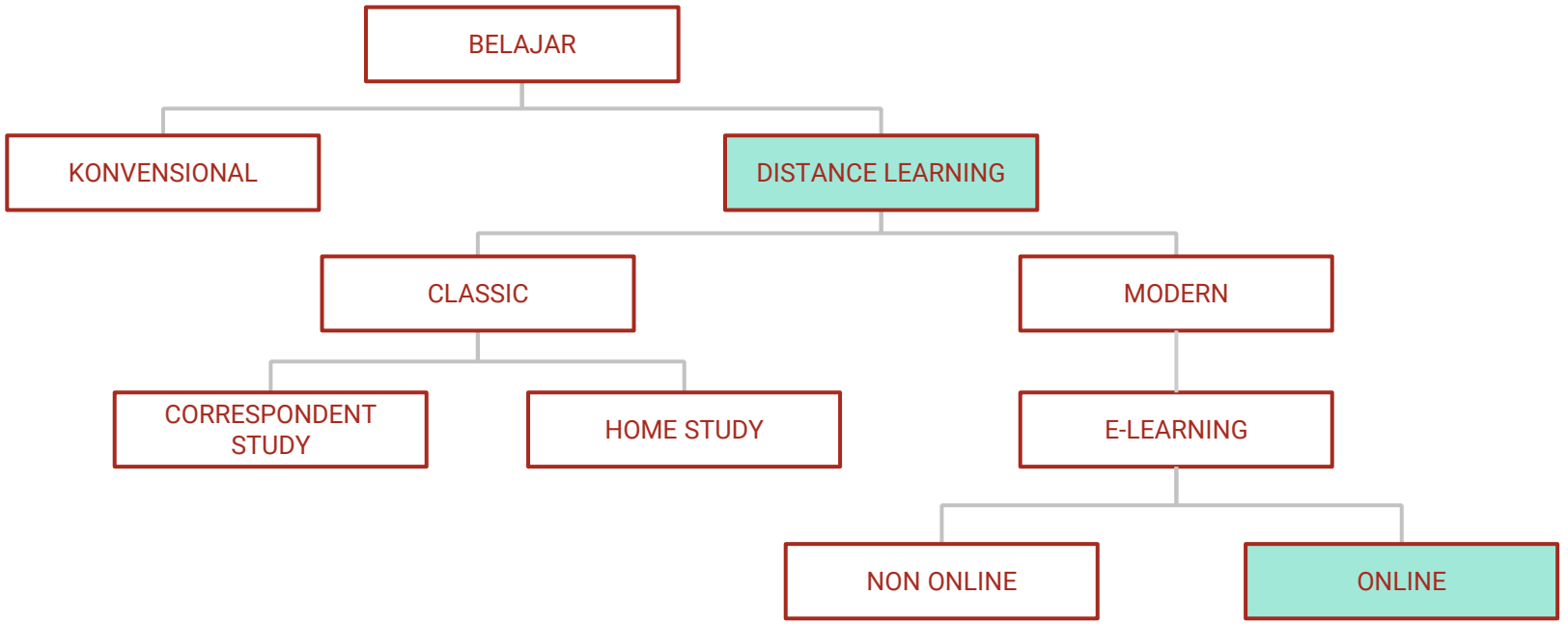
Bagaimana dengan Dunia Pendidikan?



E-learning

- E-learning merupakan segala bentuk aktivitas pembelajaran yang memanfaatkan media elektronik untuk belajar (Gilbert & Jones, 2001 dan Michael, 2013)
- E-learning sebagai penggunaan teknologi internet dan komputer berjaringan untuk membantu proses belajar manusia (Harley, 2001; Rosenberg, 2001 dan Kamarga, 2002)

Cakupan e-learning



MINISTRY OF EDUCATION AND CULTURE
DIRECTORATE GENERAL OF HIGHER EDUCATION
HIGHER EDUCATION PROJECT
ADB LOAN No. 1253 - INO

Certificate of Appreciation

This certifies that :

Muhammad Cordiaz

has been actively involved in

Distance Learning Training

as *Participant*

this event, held at *SPSU ADB Loan No. 1253 – INO General Soedirman University*

during the period *June - July 1999*

Frederik M. Poyk
Training Coordinator

Widadi W. Widayat
Manager

Sertifikat Distance Learning Depdikbud 1999

Karakteristik Pembelajaran Konvensional

Beberapa Prinsip e-learning

Menurut Littlejohn & Pegler (2007) penerapan pembelajaran e-learning memiliki beberapa prinsip:

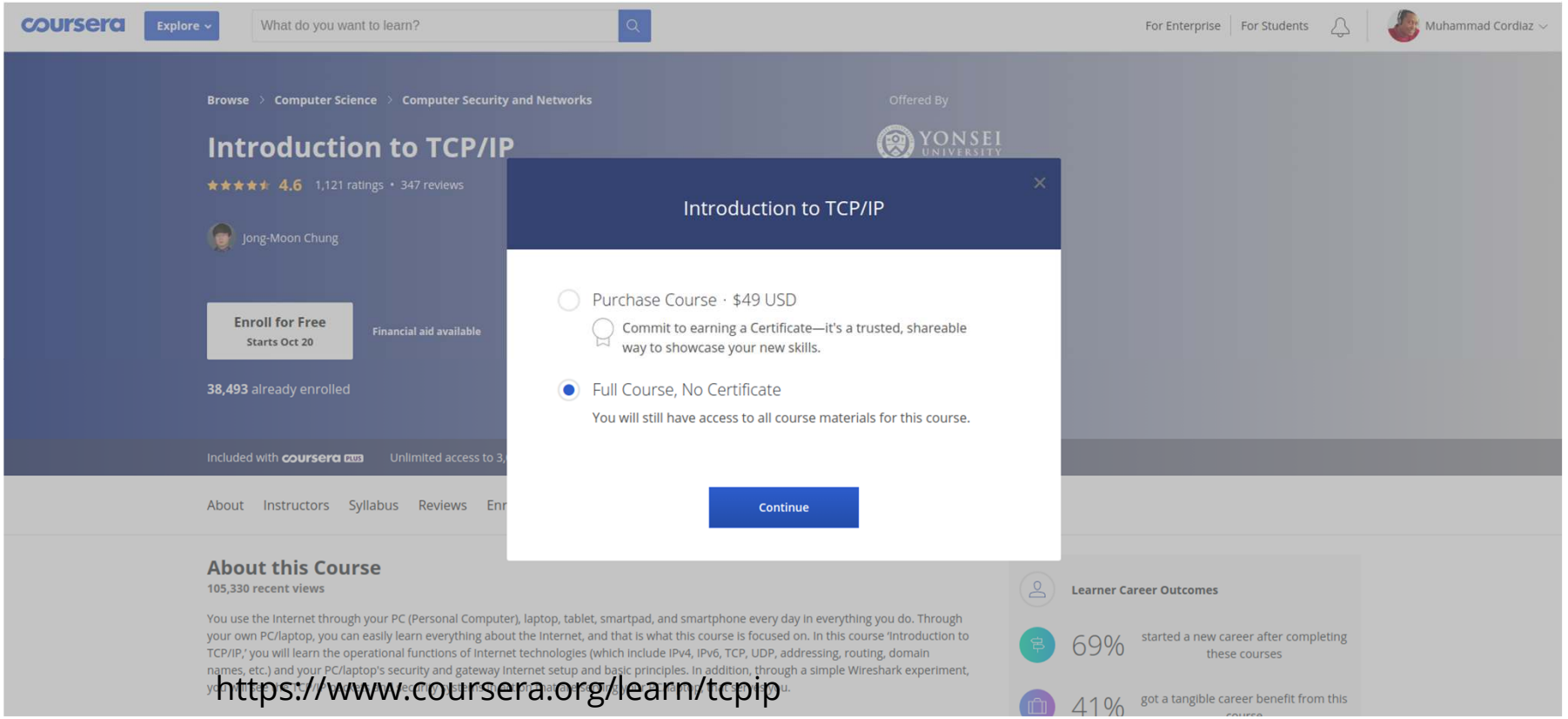
1. Personalisasi
2. Keamanan
3. Belajar mandiri
4. Tracking
5. Aplikasi pihak ketiga

Karakteristik e-learning

PEMBELAJARAN KONVENSIONAL	E-LEARNING
❖ Terbatas ❖ Real time ❖ Kontrol pada pendidik ❖ Linear ❖ Sumber sekunder ❖ Statis	❖ Tidak terbatas ❖ Fleksibel ❖ Kontrol pada peserta didik ❖ Multidimensional ❖ Sumber primer ❖ Dinamis

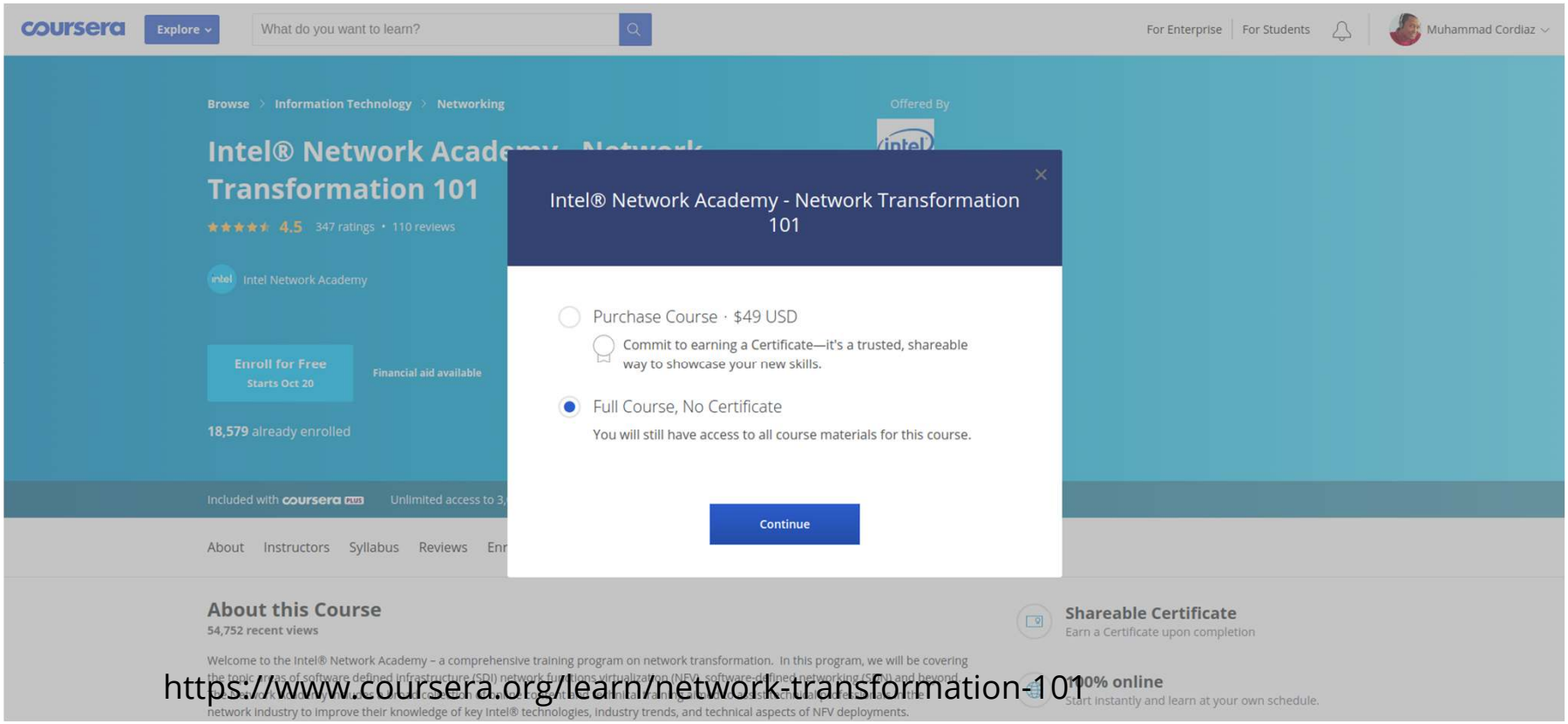
Sumber Referensi MatKul Jaringan Komputer

https://www.coursera.org/



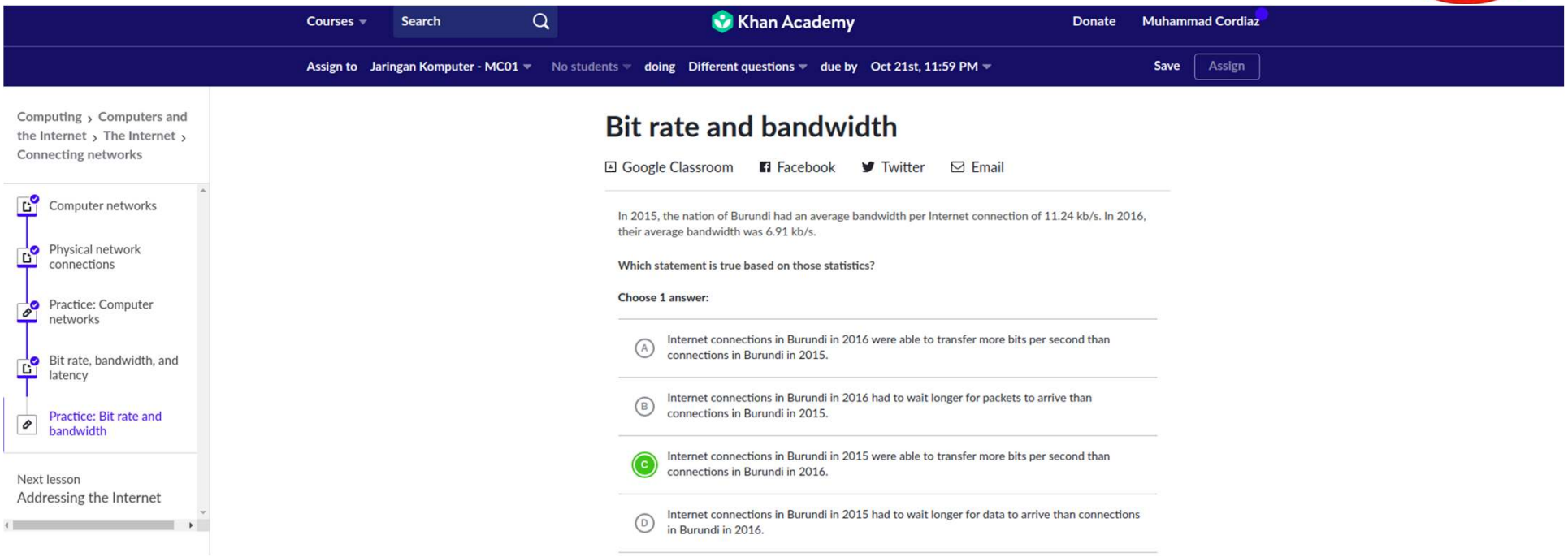
https://www.coursera.org/learn/tcpip

https://www.coursera.org/



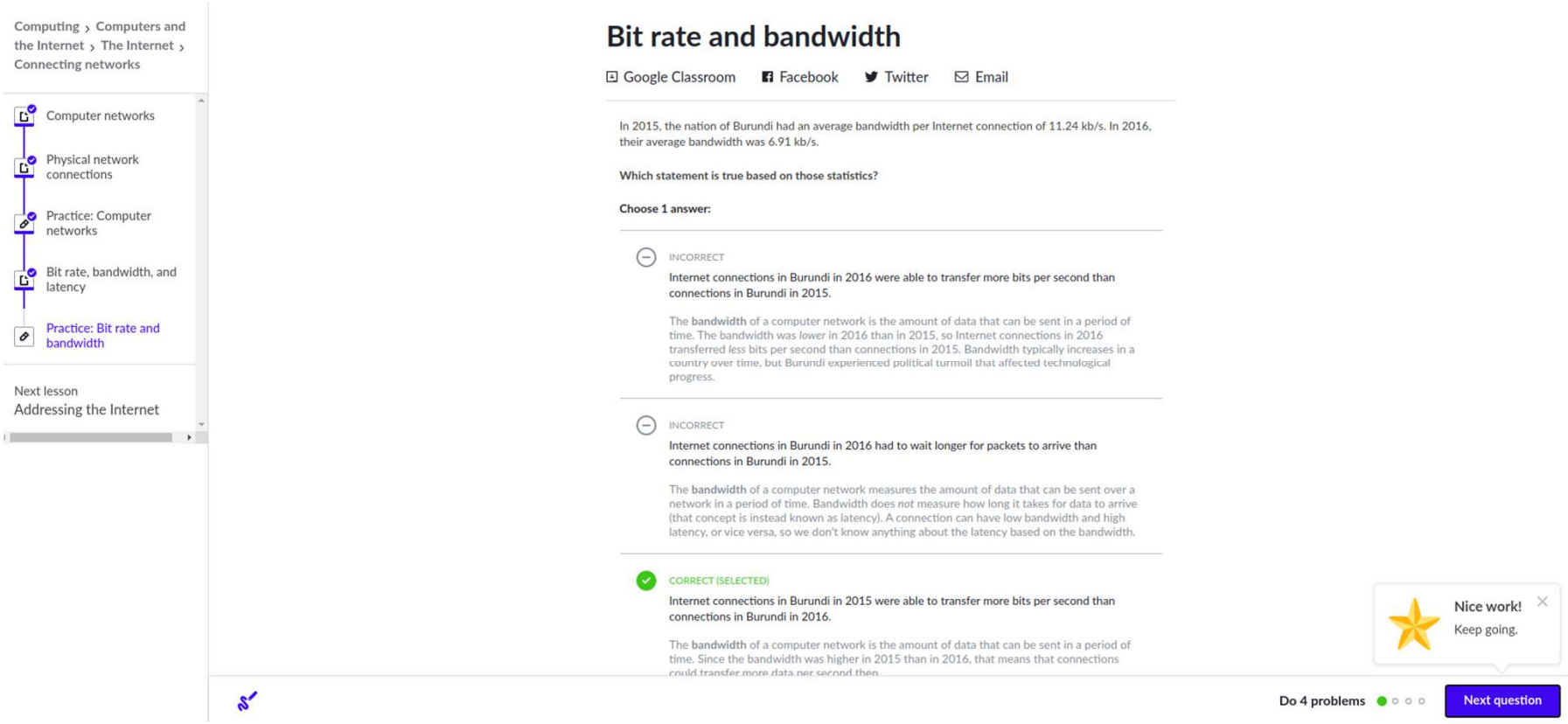
https://www.coursera.org/learn/network-transformation-101

https://www.khanacademy.org/

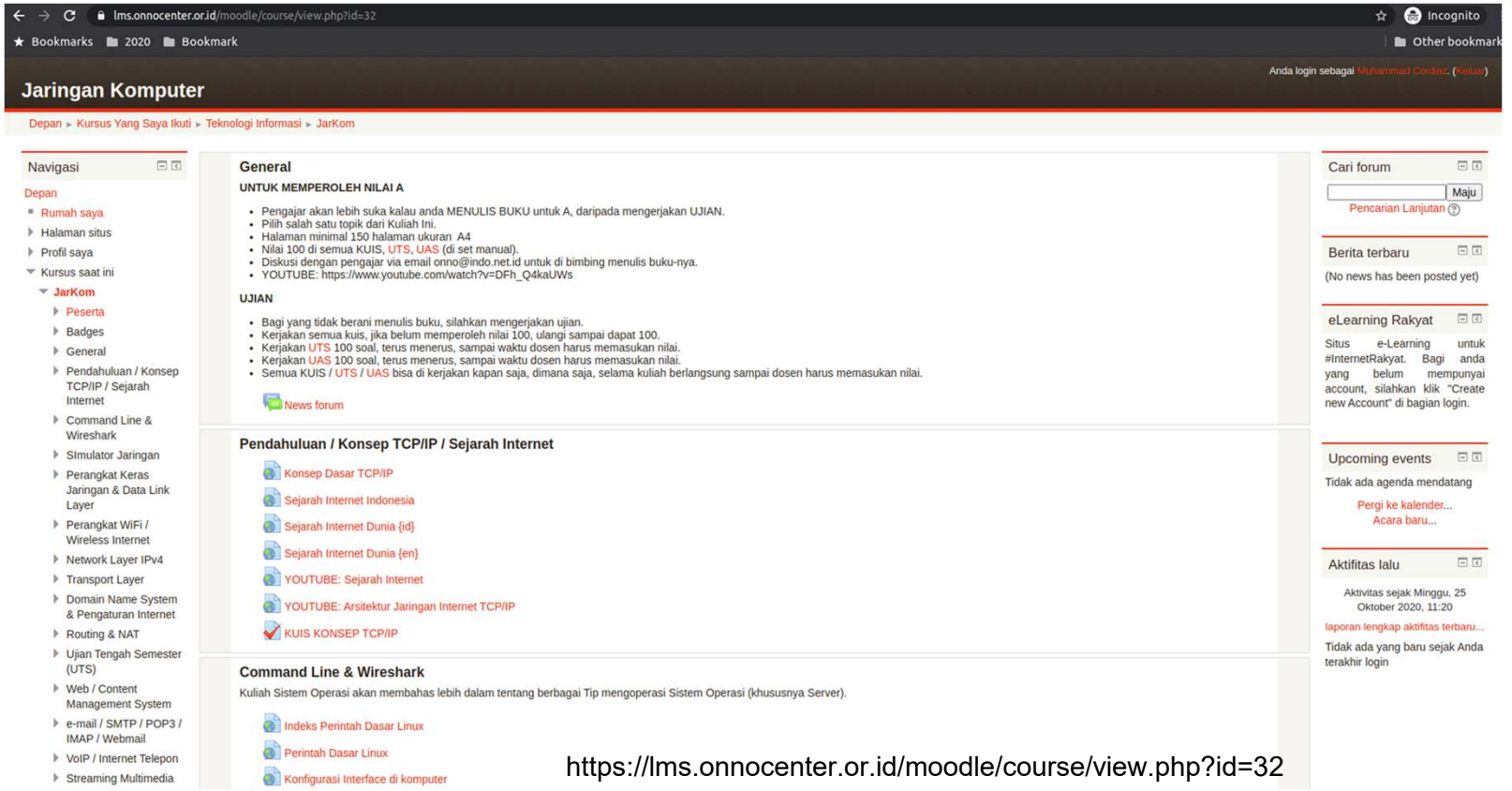


https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet

https://www.khanacademy.org/



https://lms.onnocenter.or.id/moodle/



https://lms.onnocenter.or.id/moodle/course/view.php?id=32

https://e-learningc.unpam.ac.id/

Teori Pengalamatan dalam Jaringan

Kelas IP Address

w . x . y . z = IP address

Class A	1 – 127	(Network 127 is reserved for loopback and internal testing)		
		Leading bit pattern	0	00000000.00000000.00000000.00000000 Network . Host . Host . Host
Class B	128 – 191	Leading bit pattern	10	10000000.00000000.00000000.00000000 Network . Network . Host . Host
Class C	192 – 223	Leading bit pattern	110	11000000.00000000.00000000.00000000 Network . Network . Network . Host

Private IP Address

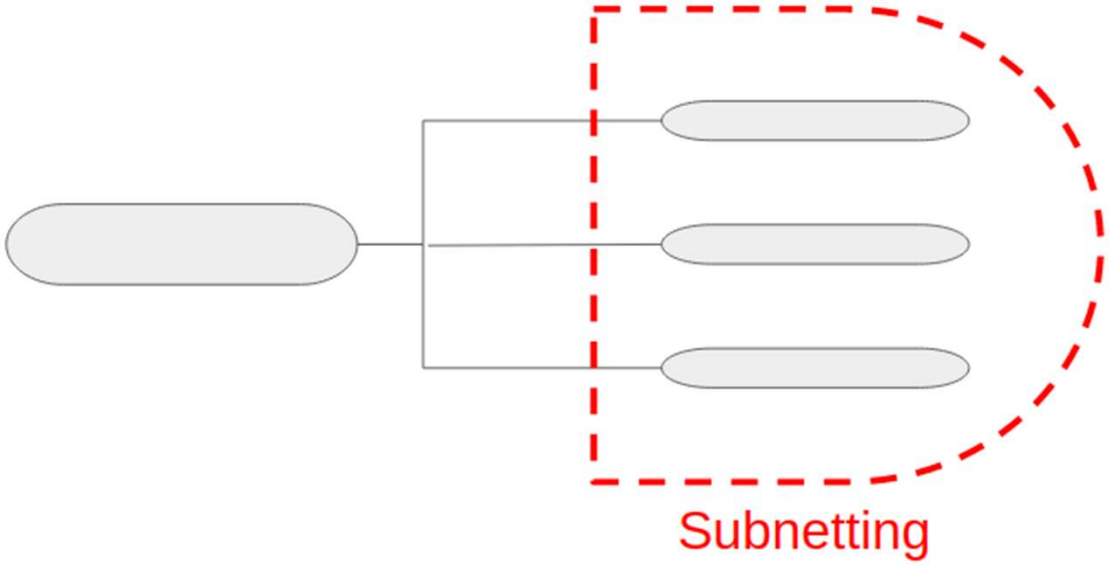
Class A	10.0.0.0 to 10.255.255.255
Class B	172.16.0.0 to 172.31.255.255
Class C	192.168.0.0 to 192.168.255.255

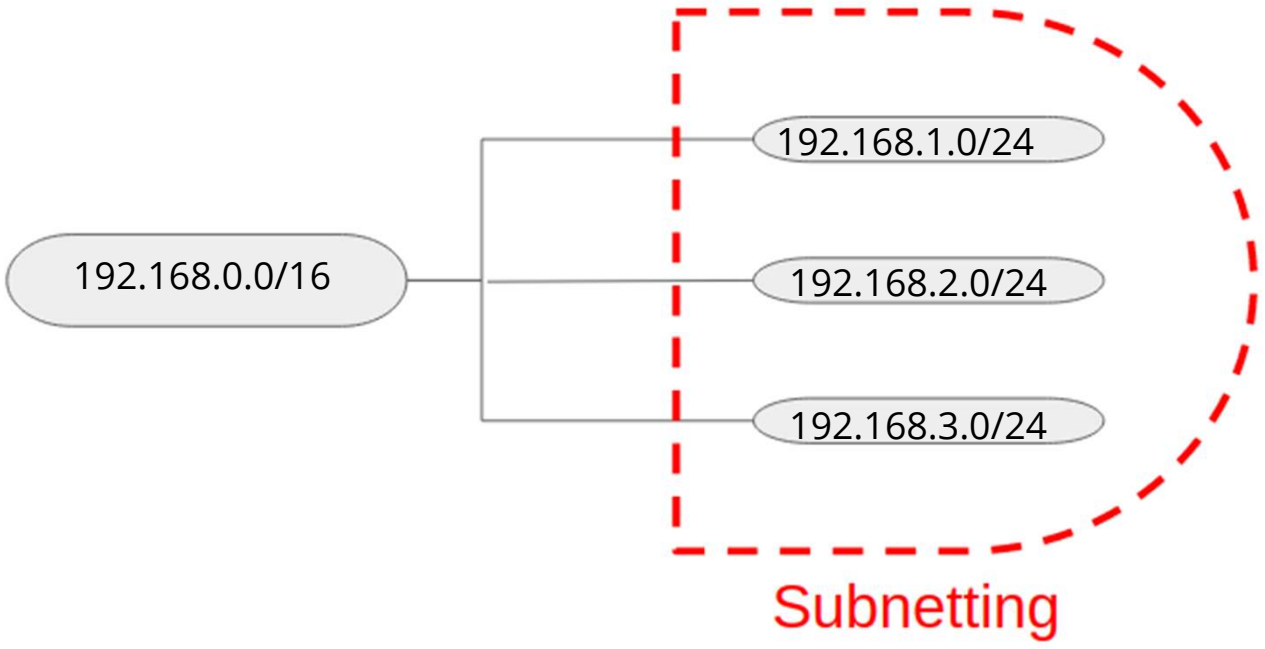
Default Subnet Mask

Class A	255.0.0.0
Class B	255.255.0.0
Class C	255.255.255.0

Sub-network IP Address

Subnetting adalah membagi jaringan yang lebih besar menjadi jaringan yang lebih kecil.




192.168.0.0/16
192.168.1.0/24
192.168.2.0/24
192.168.3.0/24
Subnetting

Sekilas Cloud Computing

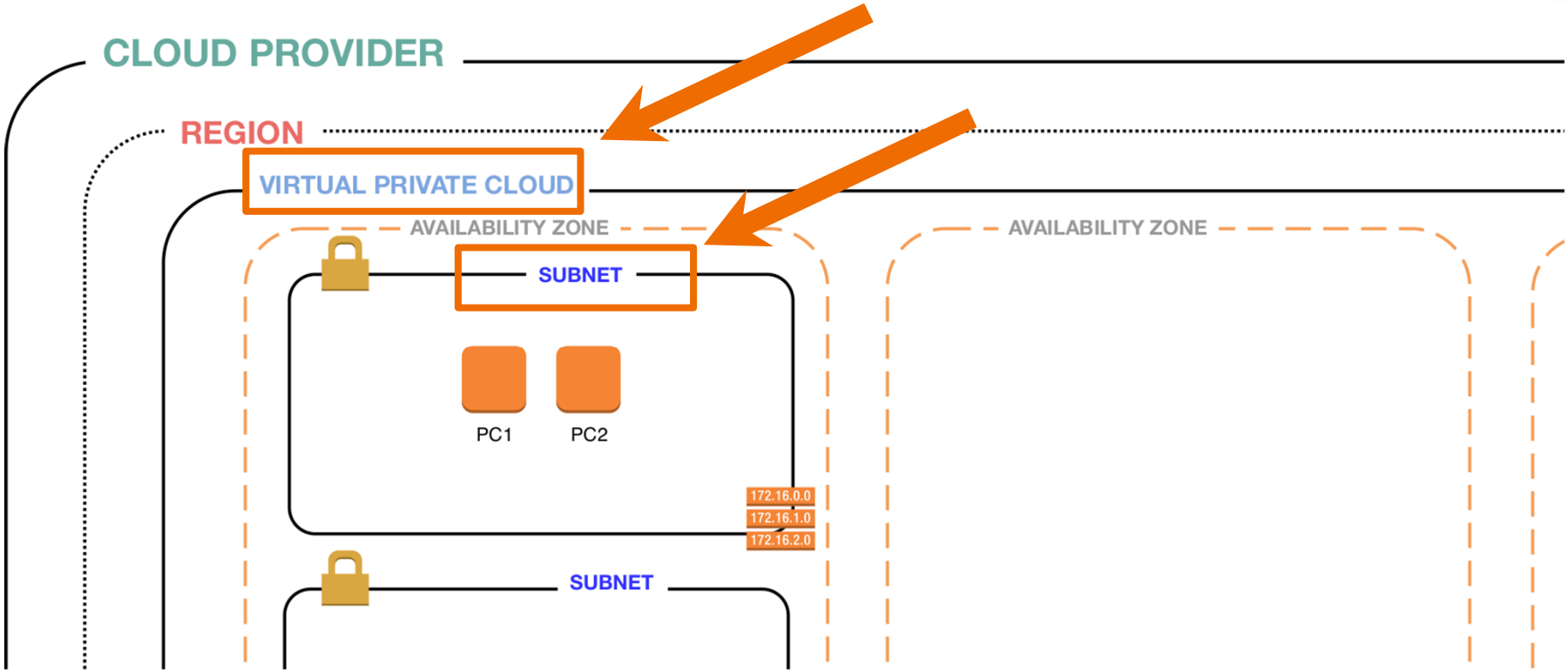
Cloud Computing

Cloud computing: **on-demand** delivery of **IT resources dan applications** via the **internet**, with **pay-as-you-go** pricing.

Gartner
Magic Quadrant

Figure 1. Magic Quadrant for Cloud Infrastructure and Platform Services

Diagram Cloud secara Umum

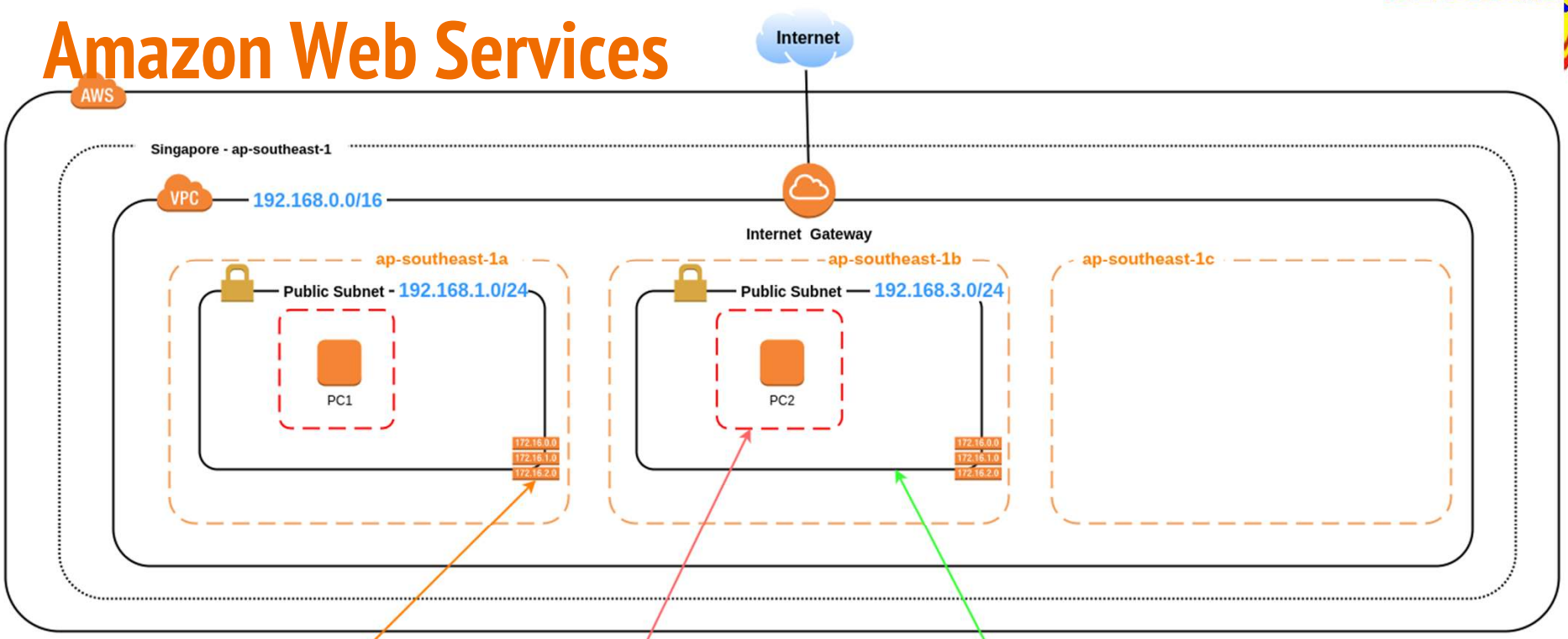


Cara Menggunakan Cloud Computing

1. Login
2. Masuk ke web console
3. Gunakan layanan yang diperlukan

Praktek Pengalamatan dalam Jaringan

Amazon Web Services



Route Table

Destination	Target
0.0.0.0/0	igw
192.168.0.0/16	Local

Security Group

Type	Protocol	Ports	Source
SSH	TCP	22	0.0.0.0/0
HTTPS	TCP	80	0.0.0.0/0
All ICMP - IPv4	ICMP	All	0.0.0.0/0

Network Access Control List

Rule #	Type	Protocol	Ports	Source	Allow/Deny
100	All Traffic	All	All	0.0.0.0/0	Allow
*	All Traffic	All	All	0.0.0.0/0	Deny

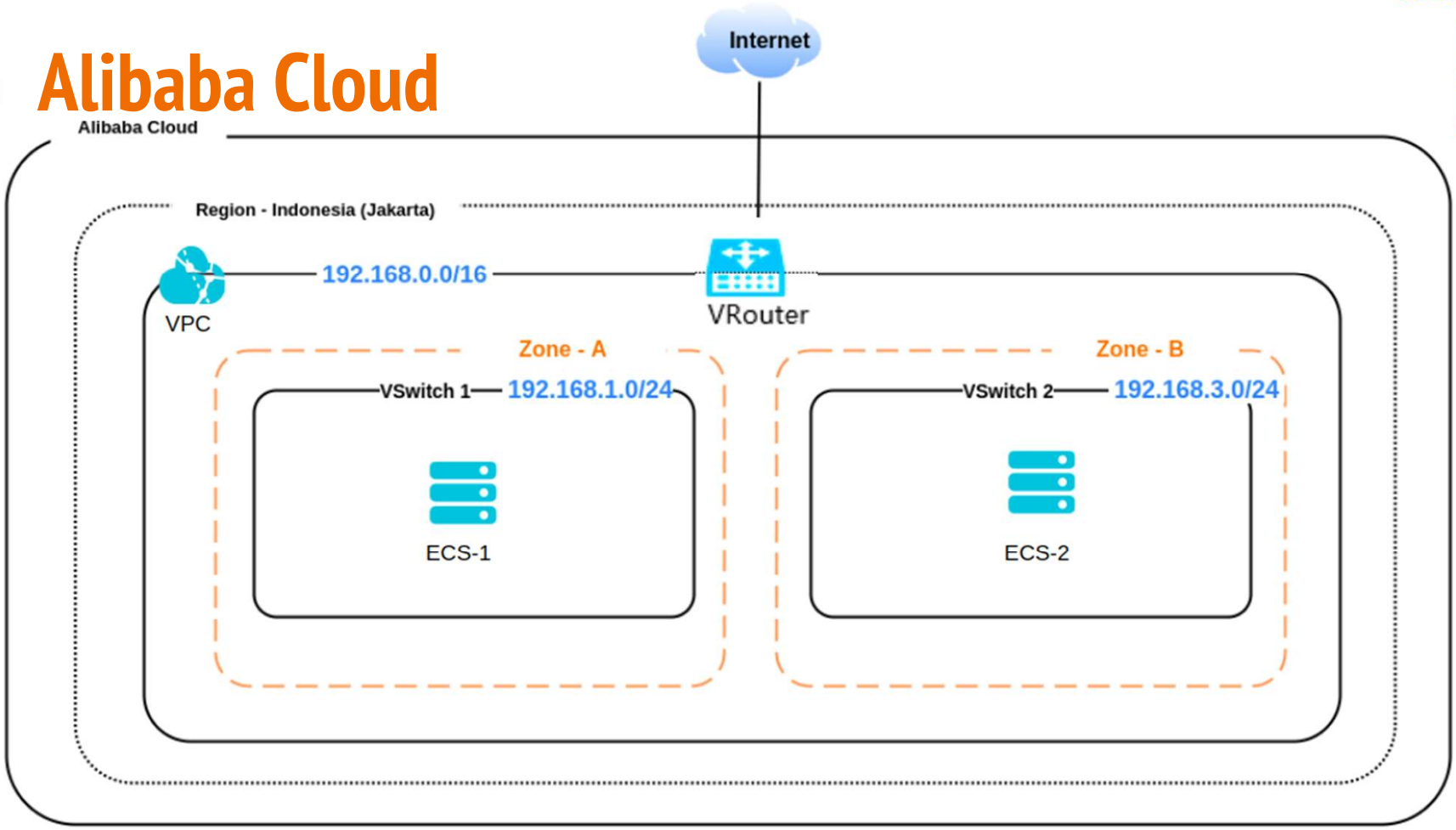
Networking di AWS

- VPC
- Subnet
- Availability zone
- Route table
- Security Group
- Network Access Control List
- Internet gateway

Free Access AWS - Khusus Webinar

https://github.com/cordiaz/webinar-ri40

Alibaba Cloud



Networking di Alibaba Cloud

- Virtual Private Cloud
- VSwitch
- Zone
- Routing Table
- Security Group

Free Access Alibaba Cloud - Khusus Webinar

https://github.com/cordiaz/webinar-ri40

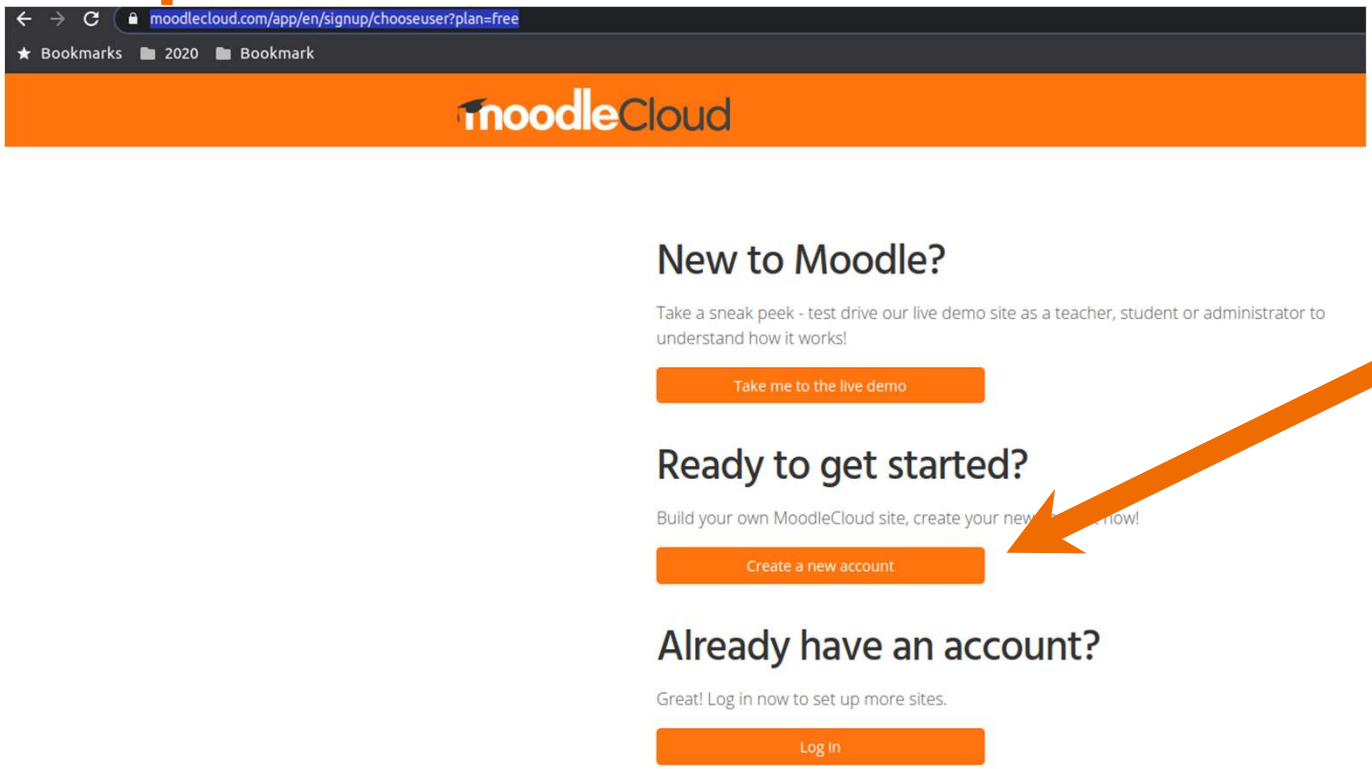
Kesimpulan dan Saran

- Tugas pendidik adalah mengantarkan peserta didik ke masa depan, bukan dengan pengalaman-pengalaman masa lalu pendidik
- Peserta didik secara mandiri dapat mencari informasi, menentukan apa yang akan dipelajari, menentukan jadwal pembelajaran sendiri
- Peserta didik tidak harus mendaftarkan pada satu sumber belajar saja, dunia serba terbuka, kolaboratif dan tanpa batas
- Sikap mental / mindset pendidik dan peserta didik yang harus terbentuk berkembang, kegairahan mencari hal-hal baru, suka tantangan, tidak takut gagal, berani mencoba dan belajar terus, tidak takut kritik apapun penilaian orang, meyakini pentingnya usaha meskipun belum tentu berhasil

Sumber:

- Savitri, Astrid. Peluang dan tantangan Pendidikan jarak jauh di era Revolusi Industri 4.0. Yogyakarta, Penerbit Genesis, 2019
- Kasali, Rhenald. The Great Shifting. Jakarta, Penerbit Gramedia Pustaka Utama, 2018
- Wahyuningsih, Dian dan Makmur, Rahmat. E-learning: Teori dan Aplikasi. Bandung. Penerbit Informatika, 2017
- Sofana, Iwan. Cisco CCNP dan Jaringan Komputer, Bandung, Penerbit Informatika, 2012
- Wijaya, Hendra, Belajar Sendiri Cisco Router, Jakarta. Elexmedia Komputindo, 2002
- https://www.cordiaz.com/simco/ dan https://www.cordiaz.com/simco2/
- https://roadmap.sh
- https://aws.training
- https://edu.alicloud.com
- AWS Named as a Cloud Leader for the 10th Consecutive Year in Gartner's Infrastructure & Platform Services Magic Quadrant
- https://aws.amazon.com/id/education/awseducate/
- https://edu.alibabacloud.com/certification/university-cloudnative
- https://aws.amazon.com/blogs/apn/amazon-vpc-for-on-premises-network-engineers-part-one/
- https://moodlecloud.com/app/en/signup/chooseuser?plan=free
- https://forbil.org/id/article/159/cyber-physical-system-remote-control-era-revolusi-industri-40
- http://fkip.ums.ac.id/wp-content/uploads/sites/43/2018/12/Revolusi-Industri-4.0-dan-Dampaknya-terhadap-Pendidikan-di-Indonesia-Dr.-Sukartono.doc

https://moodlecloud.com/ - MoodleCloud



https://moodlecloud.com/app/en/signup/chooseuser?plan=free

Terima kasih