

# **BULETIN TECHNO CREATIVE**

**Volume 3/2021**



# Kandungan

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**1**

INSTALLATION ANDROID  
STUDIO IDE AND CREATE MY  
FIRST APP PROJECT

**8**

NET NEUTRALITY

**10**

INTRODUCTION TO AMAZON  
WEB SERVICES (AWS)

**11**

EC2 IN MAZON WEB SERVICES  
(AWS)

**15**

FUNGSI AUTOSAVE DALAM  
WORD

**17**

EXTENDED REALITY (XR)  
TECHNOLOGY : AN OVERVIEW

**23**

CARA MUDAH  
MENGUNAKAN FUNGSI  
AKTIVITY WIZARD DALAM  
PACKET TRACER

**28**

KEK MARBLE GEBU

**29**

PLANNING MY COOKING  
THROUGH THE PANDEMIC

**31**

PDPR : CABARAN DAN SOLUSI  
(APLIKASI)

**34**

LAYAN DIRI ATAU SIKSA DIRI?

**36**

10 LANGKAH DAN TIPS  
PENGHASILAN E-BOOK  
UNTUK BEGINNERS

**38**

SMART CYBERSKILLS

**39**

MALAYSIA FIGHT AGAINST  
COVID-19

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# *Sidang Redaksi*

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*Penaung*

**EN. ABDUL MALEK BIN HASSAN**

*Penasihat 1*

**EN. NADZRI BIN CHE KHAMIS**

*Penasihat 2*

**PN. AZMIAH BINTI AZIZ**

*Ketua Editor*

**YUSLINA BINTI SALLEH**

*Editor*

**FARIHAN ELYANA BINTI ZAHARI**

**HAWARIYAH BINTI RAHIM**

**SITI NURDIANA BINTI ABU BAKAR**

*Susunatur*

**AZRAN BIN ABDUL RAZAK**

**HAZILA BINTI HASAN**

**MARHAKIM BIN MOHAMAD MOKHTAR**

**SITI MARIAM BINTI ZAINOL ABIDIN**

*Konsep & Grafik*

**MIME AZRINA BINTI JAAFAR**

**MUSHAHADAH BINTI MAGHRIBI**

**NOR NAEMATUL SAADAH BINTI ISMAIL**

**TUNKU KHAIRIYAH BINTI TUNKU NORIZAN**

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Hak Cipta Terpelihara. Mana-mana bahagian penerbitan ini tidak boleh dikeluarkan ulang, disimpan dalam sistem dapat kembali atau disiarkan dalam apa-apa jua cara, sama ada secara elektronik, fotokopi, mekanik, rakaman atau lain-lain, sebelum mendapat izin daripada penerbit.

Diterbitkan Oleh : Jabatan Teknologi Maklumat & Komunikasi,  
Politeknik Tuanku Syed Sirajuddin, Pauh Putra, 02600, Arau, Perlis



**Android Studio IDE :** Android Studio is the official IDE for Android development, and includes everything you need to build Android apps.

(<https://developer.android.com/studio/releases>)

## Learning Objective 1:

### Learning Objectives:

1. **Install Android Studio IDE**
2. Create an Android project
3. Create Virtual Device or Emulator
4. Edit activity\_main.xml file in My First App Project

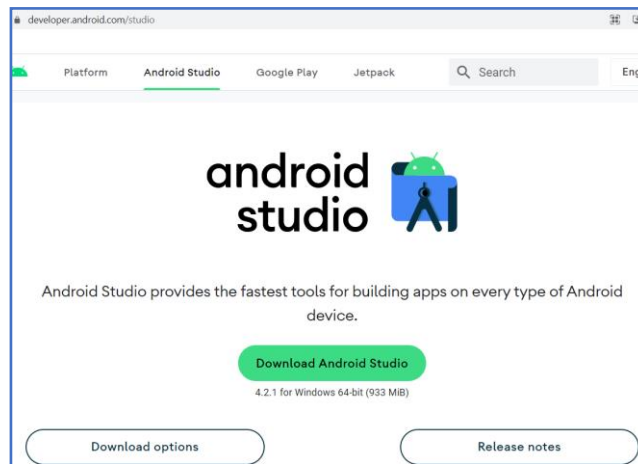
### Install Android Studio IDE

#### a. System requirements:

Minimum Specification to install Android Studio IDE for Windows :

- 64-bit Microsoft® Windows® 8/10
- x86\_64 CPU architecture; 2nd generation Intel Core or newer, or AMD CPU with support for a [Windows Hypervisor](#)
- 8 GB RAM or more
- 8 GB of available disk space minimum (IDE + Android SDK + Android Emulator)
- 1280 x 800 minimum screen resolution

#### b. Download Android Studio IDE from <https://developer.android.com/studio> as **Figure 1** below:



**Figure 1. Android Studio download screen.**

#### c. Choose **Download options** button and do the installation on your personal computer or laptop.

## Learning Objective 2

### Create an Android project

Figure 2 Welcome to Android Studio window, choose Create New Project as instruction below:

a. Click **Create New Project**.



Figure 2. Android Studio welcome screen.

b. Choose Empty Activity as in **Figure 3** below :

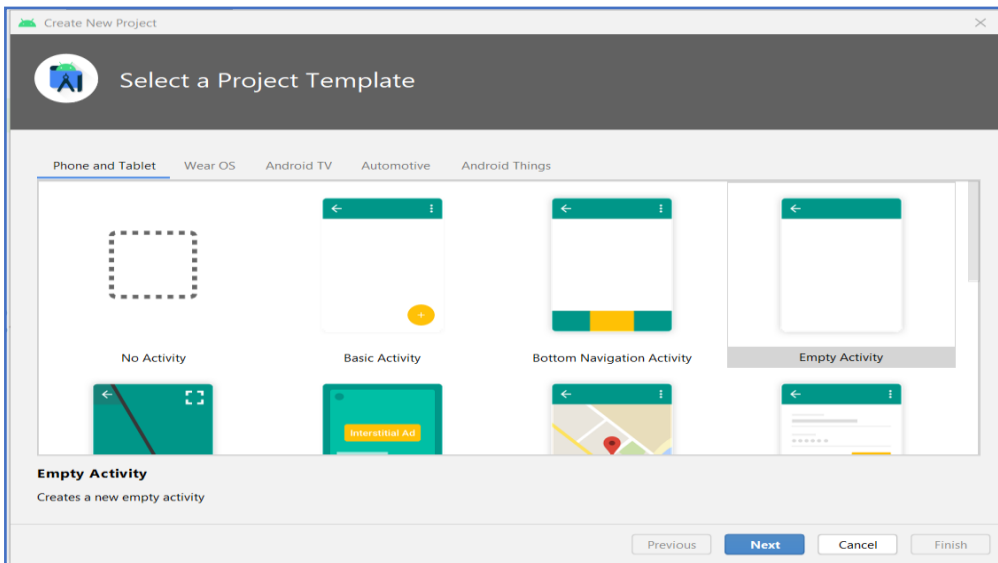
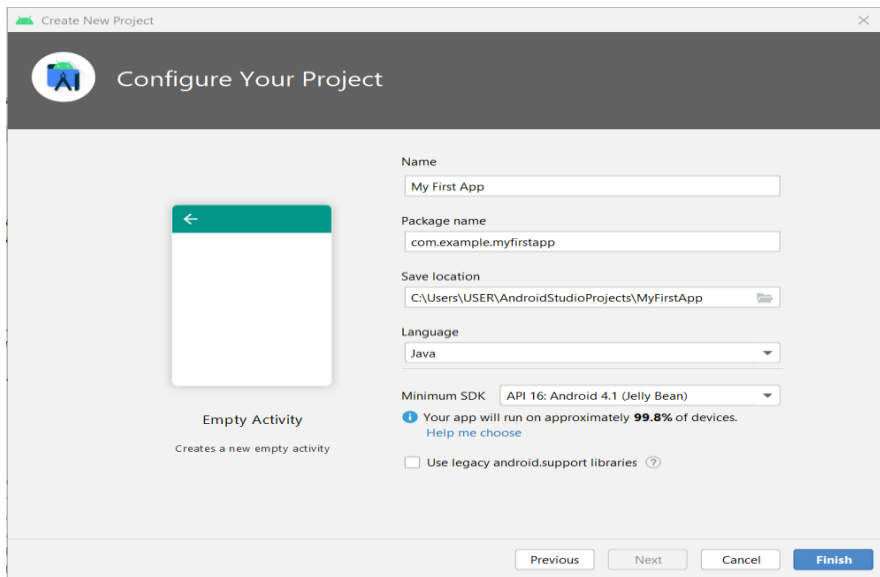


Figure 3. Android Studio Select a Project Template Screen.

### Learning Objectives:

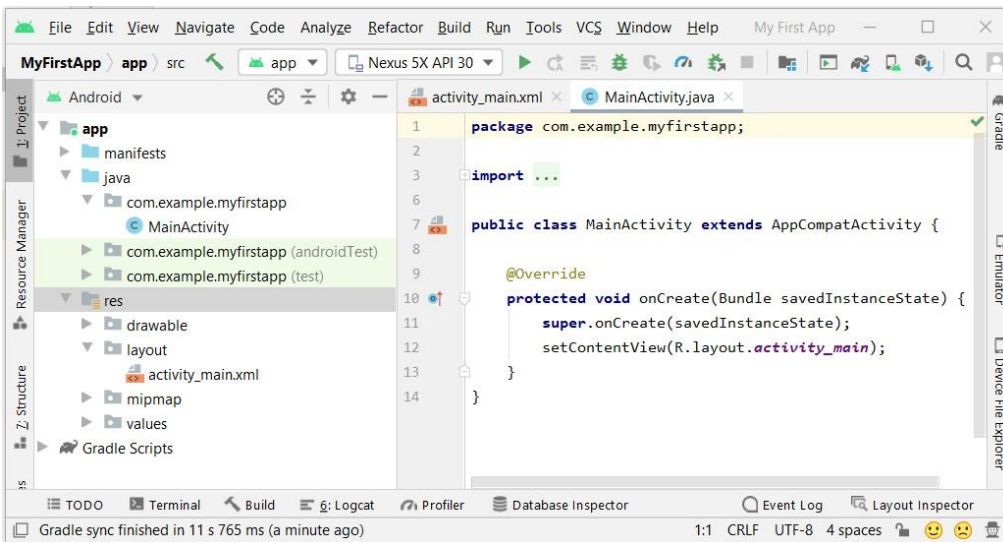
1. Install Android Studio IDE
2. **Create an Android project**
3. Create Virtual Device or Emulator
4. Edit activity\_main.xml file in My First App Project

c. Configure Project as **Figure 4** below, with Java language, set Minimum API level to nearly 100% (Your app will run on approximately 95%)



**Figure 4. Android Studio Select a Project Template Screen.**

After some processing time, the Android Studio main window appears as **Figure 5**.



**Figure 5. Android Studio main window screen.**

### Learning Objectives:

1. Install Android Studio IDE
2. **Create an Android project**
3. Create Virtual Device or Emulator
4. Edit activity main.xml file in My First App Project

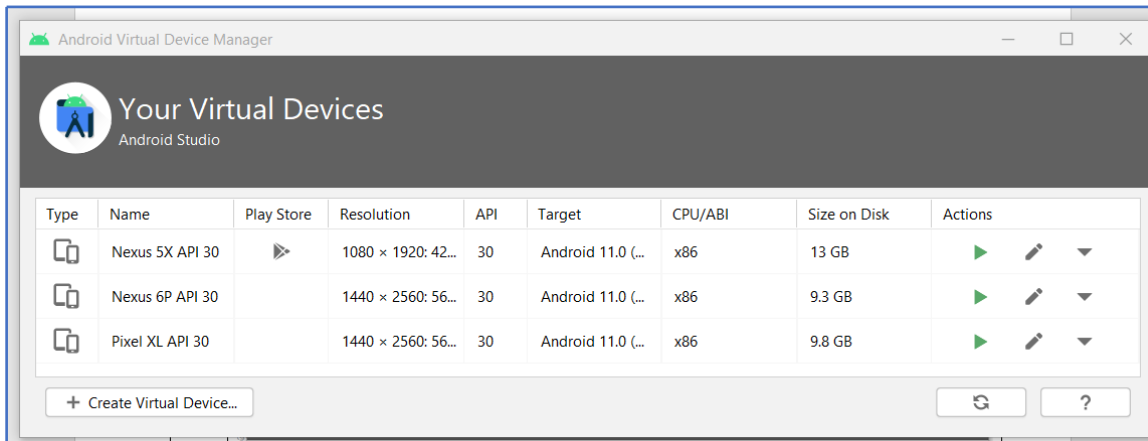
## Learning Objective 3

### Create Virtual Device or Emulator



a. Choose this icon → from navigation bar, **Figure 6**

will appear and you have to create virtual device.



**Figure 6. Your Virtual Device Screen**

b. Click Create Virtual Device Button, and chose Pixel XL API 30

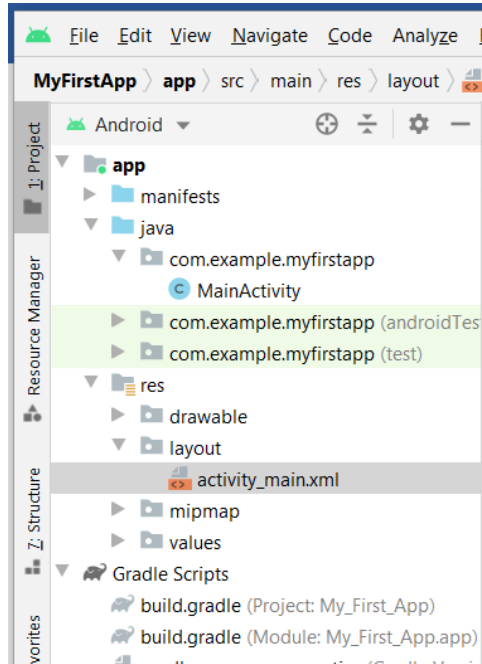
### Learning Objectives:

1. Install Android Studio IDE
2. Create an Android project
3. **Create Virtual Device or Emulator**
4. Edit activity\_main.xml file in My First App Project

## Learning Objective 4

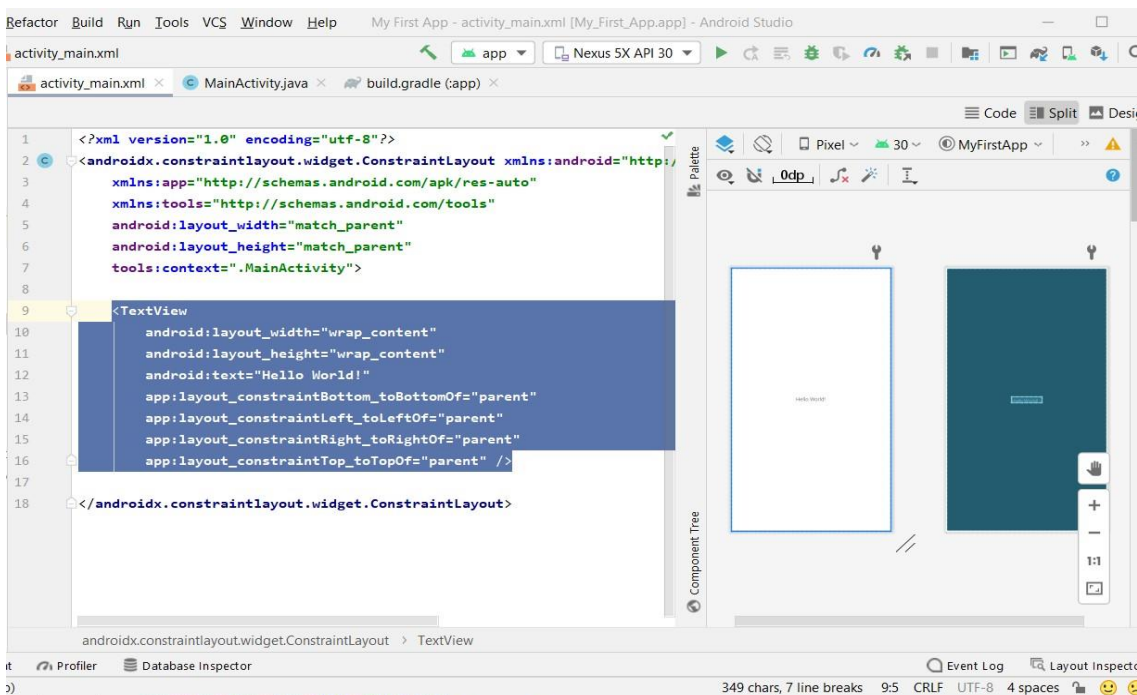
### Edit activity\_main.xml file in My First App Project

a. Click activity\_main.xml from project structure as **Figure 7**.



**Figure 7. Project Structure of MyFirstApp Screen**

b. Choose the split mode above editor window as **Figure 8** below. The editor window with split screen into Code mode and Design mode as below screen.



**Figure 8 : The editor window with Split screen (activity\_main.xml)**

### Learning Objectives:

1. Install Android Studio IDE
2. Create an Android project
3. Create Virtual Device or Emulator
4. Edit activity\_main.xml file in My First App Project



c. Replace the TextView attributes given with new TextView attributes.

```
<TextView
  android:layout_width="wrap_content"
  android:layout_height="wrap_content"
  android:text="Aplikasi Android Pertama Saya"
  android:textSize="25dp"
  android:textStyle="bold"
  android:textColor="@color/black"
  app:layout_constraintBottom_toBottomOf="parent"
  app:layout_constraintLeft_toLeftOf="parent"
  app:layout_constraintRight_toRightOf="parent"
  app:layout_constraintTop_toTopOf="parent" />
```

d. Add background colour by inserting this tag in constraintsLayout

```
android:background="#DD94CB"
```

The activity\_main.xml codes will look like below:

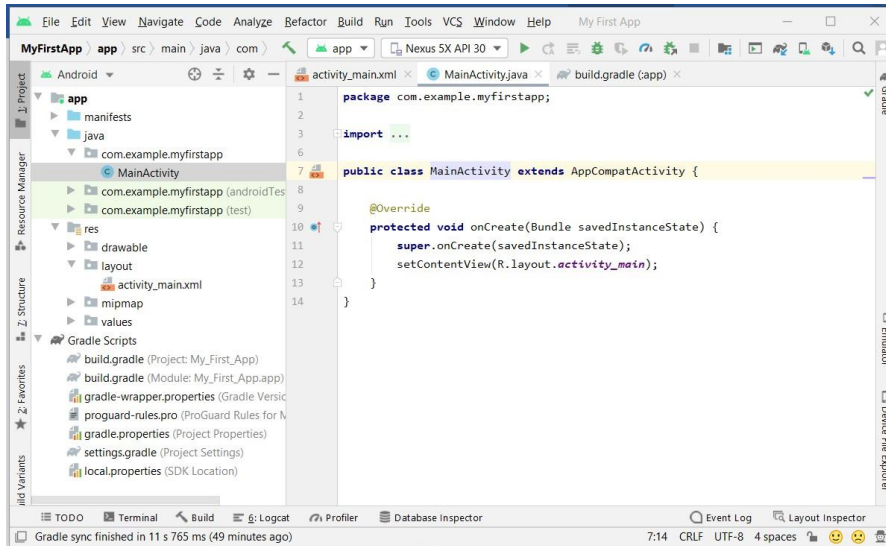
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:background="#DD94CB"
  android:layout_height="match_parent"
  tools:context=".MainActivity">

  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Aplikasi Android Pertama Saya"
    android:textSize="25dp"
    android:textStyle="bold"
    android:textColor="@color/black"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

#### Learning Objectives:

1. Install Android Studio IDE
2. Create an Android project
3. Create Virtual Device or Emulator
4. **Edit** **activity** **main.xml** **file in My** **First App** **Project**

e. Click the MainActivity.java from Project Structure as **Figure 9**.

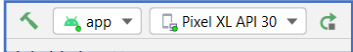


**Figure 9 : The editor window with MainActivity.java**

```
package com.azimah.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

The MainActivity will run and call onCreate() method above to activate activity\_main.xml.

f. Run app with Virtual Device or Emulator

Click icon Run 'app' →  from toolbar, and the virtual device emulator as Figure 10 will appear.



**Figure 10 : Run App with Virtual Device or Pixel XL API 30 Emulator**

### Learning Objectives:

1. Install Android Studio IDE
2. Create an Android project
3. Create Virtual Device or Emulator
4. Edit activity\_main.xml file in My First App Project

# NET NEUTRALITY

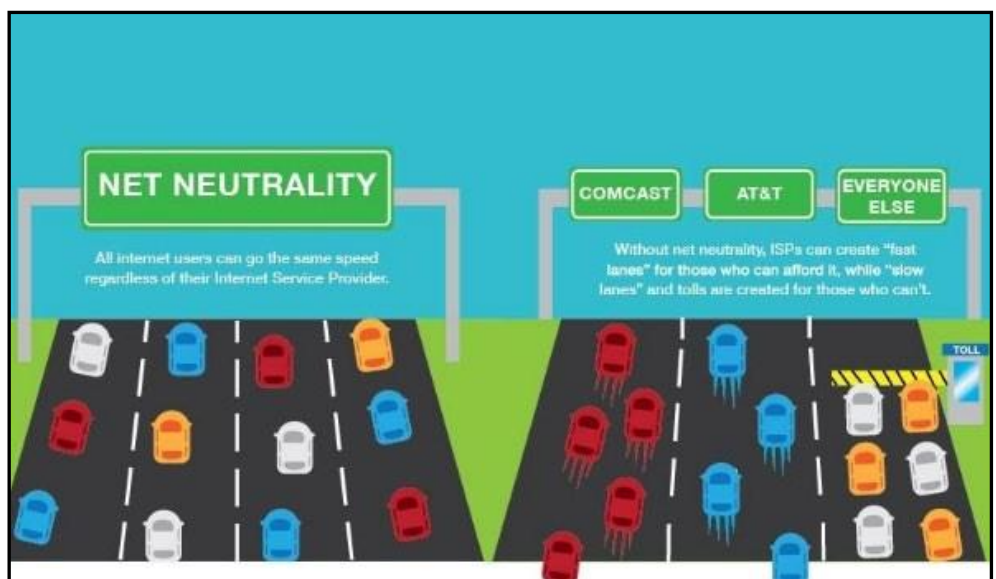
By: Siti Nurdiana Abu Bakar



Source: Net neutrality, explained (Romano, 2018)

Have you heard about net neutrality? On December 14, 2017, the FCC voted to repeal the strong net neutrality rules that were preserving an open, fair, and competitive internet for all users. Net neutrality is a principle that Internet Service Providers (ISPs) should not discriminate or charge differently based on the message source (the content provider), its destination (the user), or its content (Wu, 2003).

In the absence of net neutrality, companies can buy priority access to ISP customers. Larger, wealthier companies like Google or Facebook can pay ISPs to provide faster, more reliable access to their websites than to potential competitors. This could deter innovative start-up services that are unable to purchase priority access from the ISPs (Lewis, 2021).



There are 3 main principles in net neutrality:

- 1) Transparency: Operators must provide complete and accurate information on their network management practices, capacity, and the quality of their service to customers.
- 2) Access: Users should have [unrestricted] access to any [legal] content, service or application [with minimum quality of service guaranteed].
- 3) Non-Discrimination: Operators should make no discrimination [or only reasonable discrimination] of traffic based on origins and contents.

## Issues in net neutrality:

- 1) Hard to detect: Detecting Net neutrality violations to enforce the law is not an easy task (Abiteboul & Stoyanovich, 2018).
- 2) Human right: Endangering Internet openness could thereby impact fundamental freedom of expressions.
- 3) Zero rating services: Offering users free access to certain types of applications could generate demand for general Internet access.
- 4) Content delivery network: The emergence of a market for data centers and cloud providers allows the service of a CDN to be used by big content providers
- 5) Economic aspect: ISP now have their own products like IPTV services and VoIP services and the need to create better infrastructure. (Kurbalija, 2016)

In the USA, the Federal Communications Commission (FCC) adopted a set of rules in favour of net neutrality. Entered into force in June 2015, the rules allow the FCC to regulate broadband services as a utility and to prohibit wired and wireless broadband providers to introduce unreasonable practices.

At EU level, the Regulation on open Internet access, adopted in November 2015, sets out the obligation for providers of Internet access services to treat all traffic equally, when providing internet access services, without discrimination, restriction, or interference, and irrespective of the sender and receiver, the content accessed or distributed, the application or services used or provided, or the terminal equipment used. Some countries like Portugal, has no net neutrality rules and regulations.

In Malaysia, no net neutrality rules are implemented. But we do have the Communications and Multimedia Act 1998 to guarantee no censorship to the Internet. In Malaysia, there is no specific law or regulation that has been enacted in safeguarding the ISPs to ensure the rights of the users are protected. There are quite a number of problems faced by the users regarding the services offered by the ISPs. The problems faced are the loopholes and lacunae of the law. Malaysia needs to impose a law which upheld the rules of net neutrality in safeguarding the ISPs. This is so crucial to be brought forward as it is basically a matter of the users' rights.

"The Internet is made of its users. We are the ones that publish and post the websites and the information that people take information from. Therefore, we should be the ones to decide what we do and do not see from our computer screens. The government or anything else does not have the authority to choose whether or not to slow down a service or to charge the user"

### References:

- Abiteboul, S., & Stoyanovich, J. 2018. *Transparency, Fairness, Data Protection, Neutrality: Data Management Challenges in the Face of New Regulation*. France & USA.
- Kurbalija, J. (2016). *An Introduction to Internet Governance (7th ed.)*. Msida, Malta: Diplo Foundation.
- Lewis, Chris. (2021, February 22). *Net neutrality*. Public Knowledge. <https://www.publicknowledge.org/issues/net-neutrality/>.
- Tim Wu. 2003. *Network Neutrality, Broadband Discrimination*. Journal of Telecommunications and High Technology Law, Vol. 2, p. 141, 2003 (2003).



**Amazon Web Services (AWS) is a popular cloud computing platform provided by Amazon. It provides computing, storage, and networking services to their customers. Currently, it is on-demand delivery of IT resources and applications via the Internet with pay-as-you-use pricing.**

## A. Benefits of AWS

### 1. Easy to use-

The interface provided by AWS is user friendly. Users click on the provided button to perform the needed task.

### 2. Accessible through internet

The AWS services and account can be accessed anywhere in the world as long as the user is connected to the internet.

### 3. Pay as-you-use

Customers can choose the service and the limit that they want to use. They have to pay based on the service and features of the services that are based on their need.

### 4. Security

AWS provides great security for its customers. For the user's account, users are able to create different identity and access management through IAM features. Users are also able to create security groups and network access control lists (NACLs) for the networking.

### 5. Large server capacity

AWS provides large server capacity for users to acquire. Thus, it makes AWS dominate as a cloud provider that currently powers and runs hundreds of thousands of businesses, and is used by over a million entities globally.

## B. Drawbacks of AWS

### 1. Billing and payment are confusing

The bills that are being charged to the users are sometimes quite confusing. Users do not know what features or applications that they have used which requires them to pay the amount. The invoices generated do not detail out the features or services that they need to pay.

### 2. Limitation on services/applications

There are limitations on the features of the services/applications that user's choose. If the user has reached and goes beyond the limit, the users will have to pay the bills. For novice users, this will be cumbersome.

### 3. Internet is the main backbone

AWS requires a stable internet connection for users to access and to use its services. Without the stable internet connection, users will not be able to access their account and they will not be able to access any services provided by AWS.

## C. Services provided by AWS

1. Server - Amazon EC2 instances

2. Storage and Database – Amazon EBS, Amazon EFS, Amazon S3, Amazon RDS

3. Networking – VPC, ELB

4. Security – Security Groups, NACLs, AWS IAM

There are so many things that you can do with Amazon Web Services Try now and enjoy!!



# EC2 IN AMAZON WEB SERVICES (AWS)

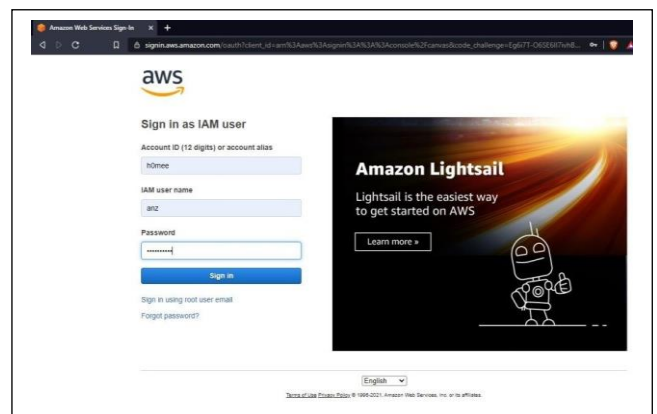
An EC2 instance is a virtual server in Amazon Web services that imitates a real server. It stands for Elastic Compute Cloud. This service can be accessed through AWS website. Users need to subscribe to an account to use EC2 service. Currently, users can sign up for a free account for 750 hours per month of AWS EC2 Cloud Computing Power. The usage beyond the limit requires users to pay some extra charge. AWS provides multiple instance types for different business needs and different users. Users can rent an instance based on their CPU and memory requirements. The instance can easily be terminated when it is no longer being used.



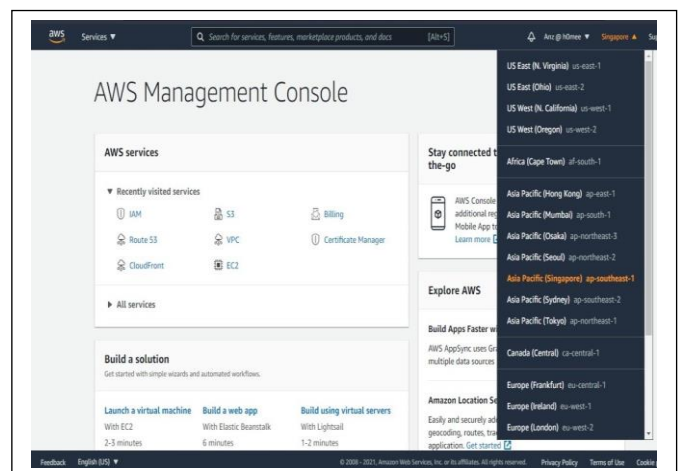
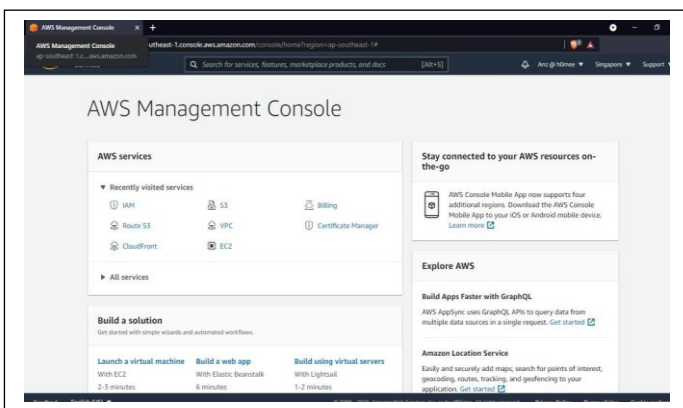
# amazon web services

## LETS CREATE EC2

1. Log in to AWS account. You are either the account owner (root user) or you are an AWS Identity and Access Management (IAM) user. The root user is created when the AWS account is created and IAM users are created by the root user or an IAM administrator for the account. In this example, we log in as an IAM users.

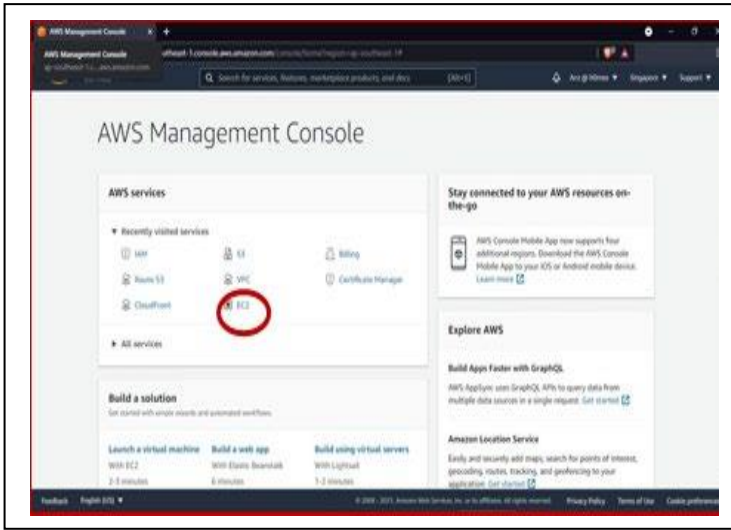


2. Then, you will be directed to AWS management console

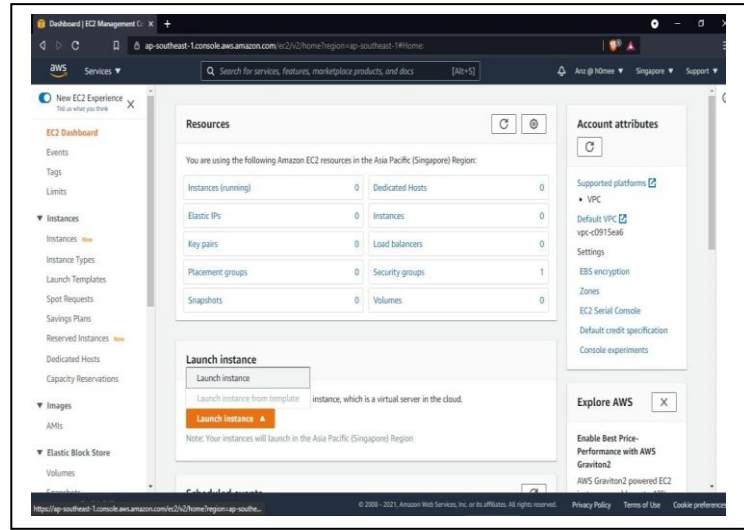


3. Then, you will be directed to AWS management console.

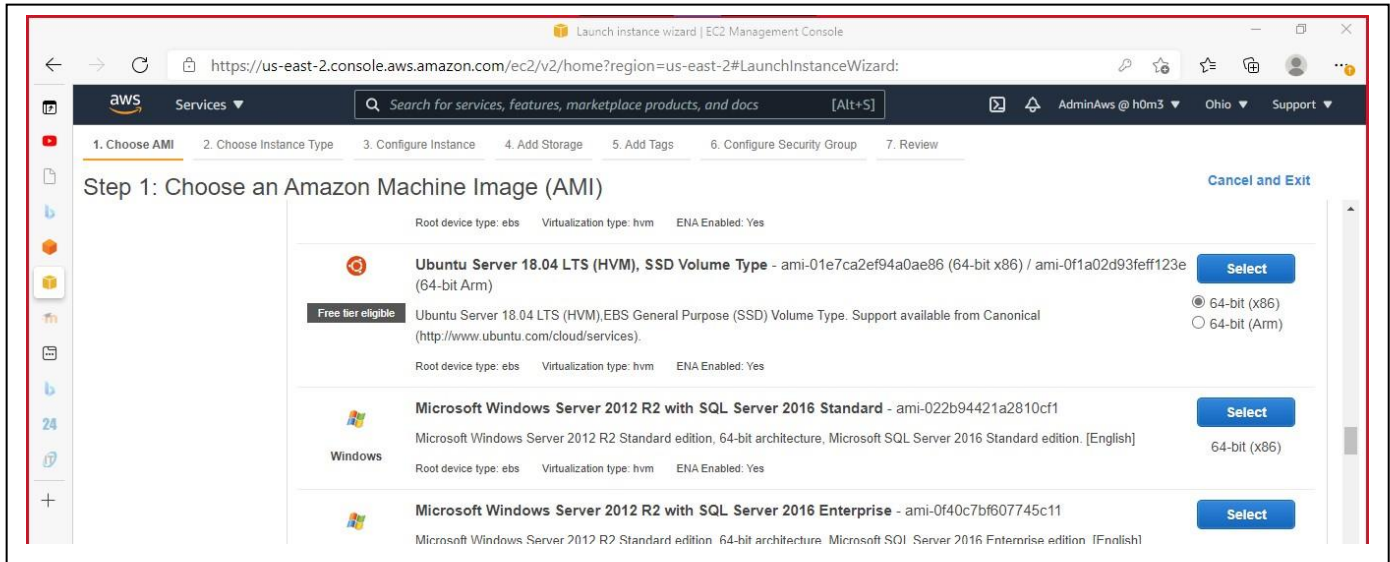
4. Click on EC2 on AWS services.



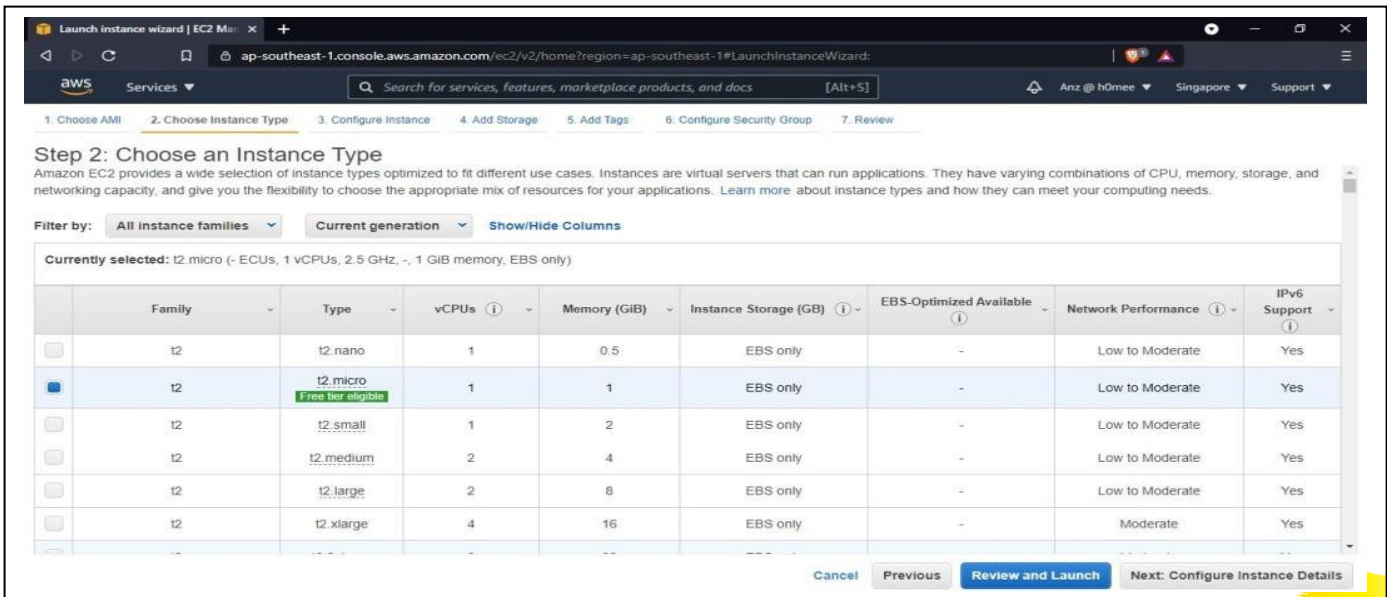
5. Click on Launch EC2 instance button.



6. Choose AMI. An Amazon Machine Image (AMI) is a template that contains a software configuration (for example, an operating system, an application server, and application). In this example, we choose Ubuntu Server AMI.



7. Choose EC2 Instance Types that are suitable for your need.



# CONT. CREATE EC2

## 8. Configure Instance

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1  Launch into Auto Scaling Group

Purchasing option:  Request Spot instances

Network: vpc-c0915ea6 | Default\_VPC (default)  Create new VPC

Subnet: No preference (default subnet in any Availability Zone)  Create new subnet

Auto-assign Public IP:  Use subnet setting (Enable)

Placement group:  Add instance to placement group

Capacity Reservation: Open

Domain join directory: No directory  Create new directory

IAM role: None  Create new IAM role

Shutdown behavior: Stop

Buttons: Cancel, Previous, Review and Launch, Next: Add Storage

## 9. Configure Instance

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-0f1492ba76f867da2	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypt

Buttons: Add New Volume, Cancel, Previous, Review and Launch, Next: Add Tags

## 10. Add Storage

Step 5: Add Tags

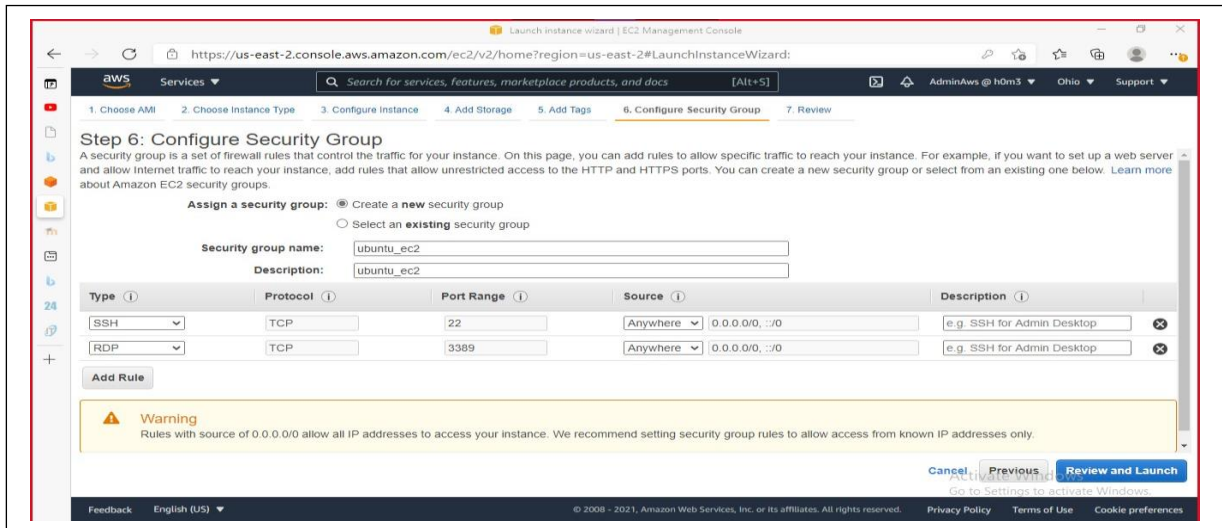
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes	Network Interfaces
ubuntu_ec2	ubuntu_ec2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

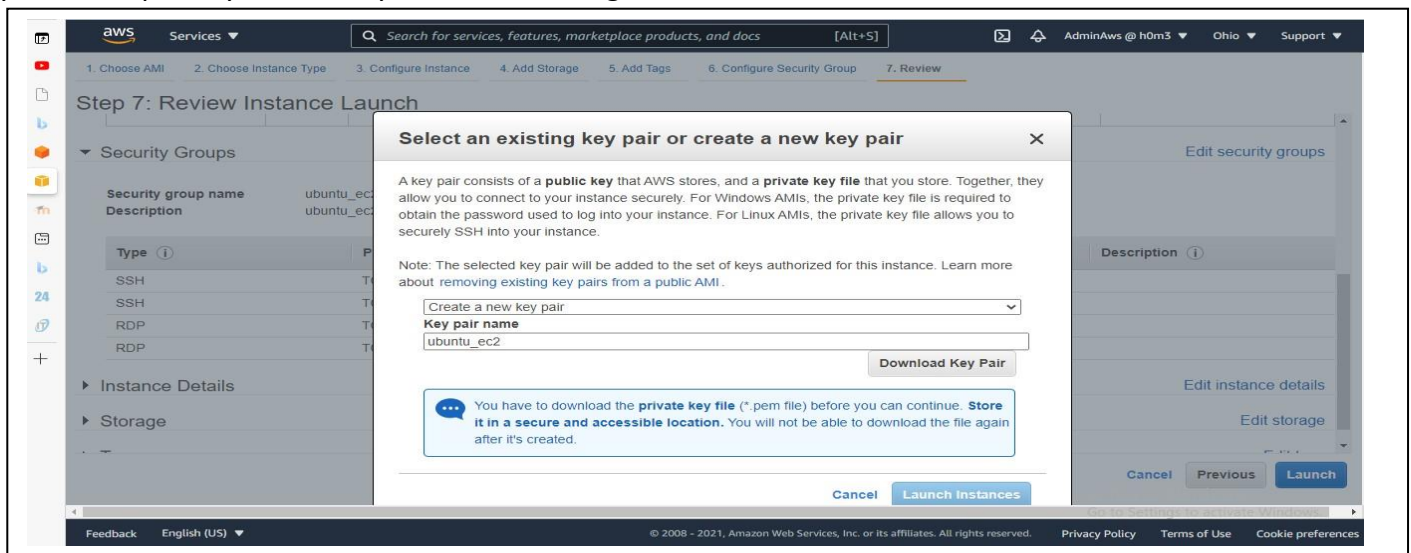
Buttons: Add another tag (Up to 50 tags maximum), Cancel, Previous, Review and Launch, Next: Configure Security Group



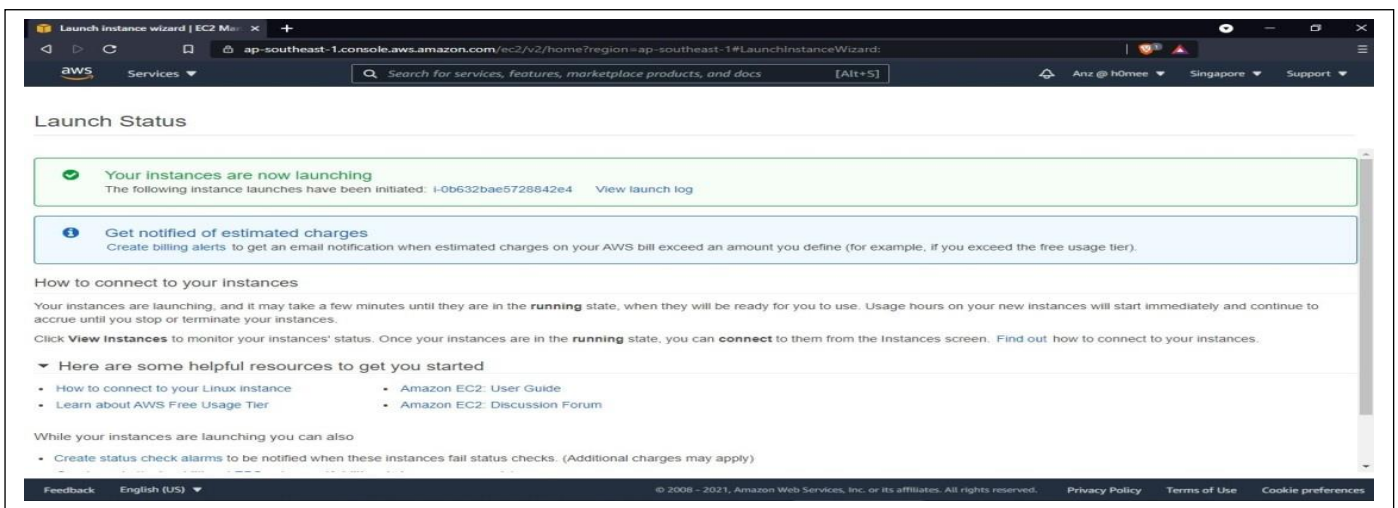
11. Configure Security Groups. In this example, we set the Security groups to be configured for SSH and RDP access (22 and 3389) and set the source to anywhere.



12. Create a key pair. A key pair, consisting of a public key and a private key, is a set of security credentials that you use to prove your identity when connecting to an Amazon EC2 instance.



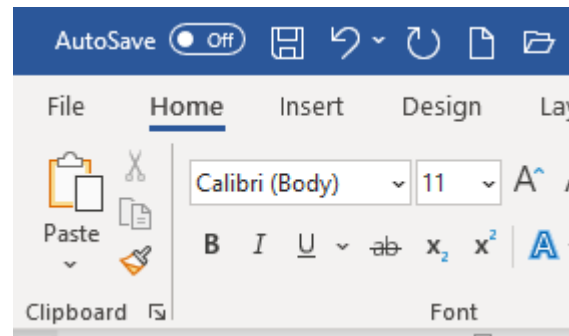
13. Launch the instance. Done! We have successfully created an EC2.





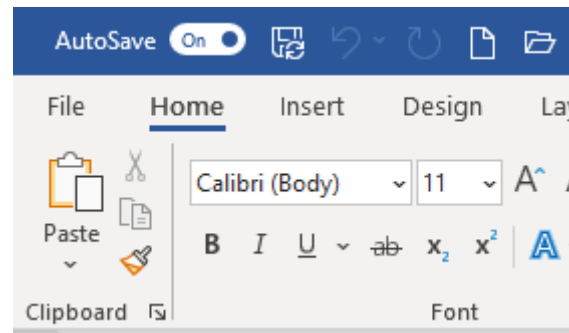
# FUNGSI AUTOSAVE DALAM WORD

Tulisan ini ditujukan kepada mereka yang ada akaun Microsoft. Jika belum ada, sila hubungi Unit Teknologi Maklumat di tempat kerja anda. Tanpa akaun Microsoft, kami tidak dapat membantu anda.



Pastikan dalam komputer anda telah ada Microsoft Word 365 dan OneDrive. Jika belum ada, jangan teruskan pembacaan ini. Sila sign-in dalam kedua-dua aplikasi tersebut, dan di dalam semua komputer anda misalnya komputer di pejabat dan laptop di rumah.

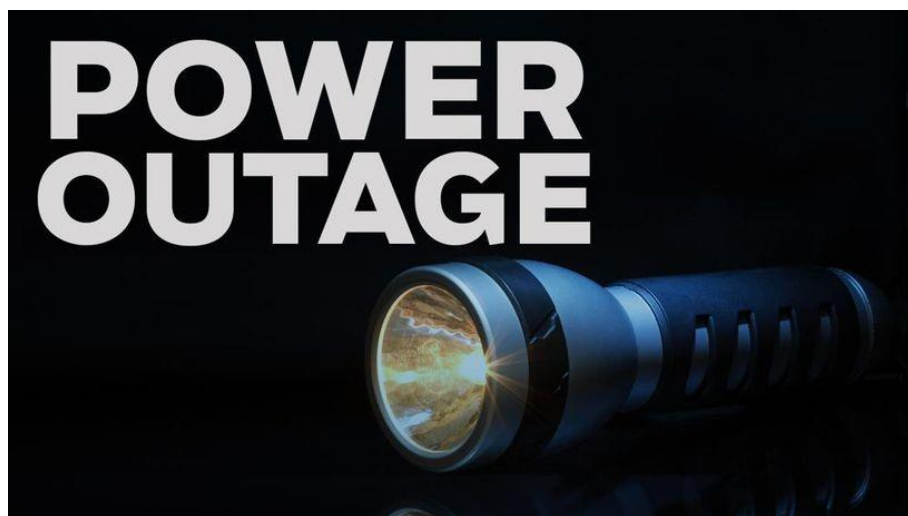
Buka satu fail baru dalam Microsoft Word. Perhatikan di sudut atas sebelah kanan, ada perkataan AutoSave, dan statusnya adalah off. Klik pada perkataan off tersebut untuk menukar statusnya kepada on. Sebaik saja anda klik, anda akan diarahkan untuk simpan tersebut. Simpanlah di dalam mana-mana folder di dalam OneDrive. Selepas itu, status AutoSave adalah on.



Sekiranya fail tersebut dipindahkan dari folder lain ke dalam OneDrive, status tersebut adalah on. Begitu juga jika fail baru yang dicipta di dalam folder OneDrive. Pendek kata, sebarang dokumen yang disimpan dalam folder OneDrive akan mempunyai status AutoSave on.

Semasa sedang menaip dokumen, tiba-tiba bekalan elektrik terputus hingga tamat waktu kerja, ataupun komputer anda rosak. Jangan bimbang, buka laptop anda.

Di dalam folder OneDrive anda, dokumen yang anda taip tadi ada di situ. Jika tidak ada, pastikan laptop anda ada sambungan internet dan tunggu sebentar.



Apakah sebenarnya yang sedang berlaku? Apabila status Autosave adalah on, Microsoft Word akan sentiasa menyimpan dokumen anda tanpa perlu menunggu arahan dari anda. Apa yang penting ialah nama dokumen tersebut telah ada dalam OneDrive.

OneDrive akan muatnaik semua fail yang di dalam foldernya. Sekiranya ada perubahan, proses kemaskini akan berlaku secara automatik. Fail yang anda baru masukkan ke dalam folder OneDrive akan disalin ke dalam folder anda di komputer pelayan OneDrive.

Apabila laptop dibuka, OneDrive di dalam laptop akan menyemak sekiranya ada perbezaan antara kandungan folder OneDrive dalam laptop dan kandungan folder anda di komputer pelayan OneDrive. Sekiranya berbeza, proses kemaskini akan dilakukan secara automatik. Kemaskini yang dilakukan hanyalah nama fail sahaja, tanpa isi fail tersebut. Sekiranya anda cuba membuka fail tersebut, barulah OneDrive akan muat turun isi fail tersebut.

Selepas itu, prosesnya adalah sama. Sebarang pindaan di dalam laptop, akan dikemaskini secara automatik tanpa perlu arahan simpan dan tanpa perlu arahan muatnaik ke komputer pelayan OneDrive.



OneDrive



Gambar dari microsoft.com

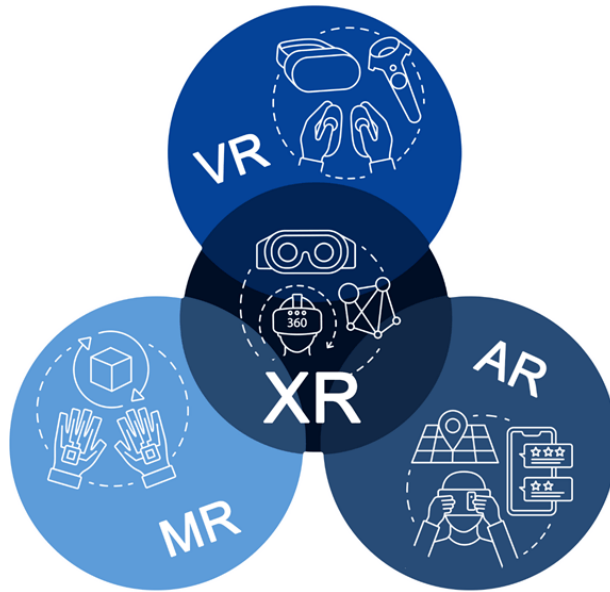
Selepas itu, prosesnya adalah sama. Sebarang pindaan di dalam laptop, akan dikemaskini secara automatik tanpa perlu arahan simpan dan tanpa perlu arahan muatnaik ke komputer pelayan OneDrive.



Office



Selain daripada Ms Word, fungsi AutoSave ini juga terdapat dalam Ms Excel dan Ms PowerPoint. Konsepnya adalah sama, jika fail tersebut disimpan dalam folder OneDrive, maka fail tersebut akan disimpan secara automatic dan salinannya dihantar ke komputer pelayan OneDrive secara automatik juga.



Can you imagine what it might be like to live and work in our world in 2030 and onwards? Perhaps, an advancements of technology such as extended reality (XR), an immersive technology that can merge the physical and virtual world that enable you to buy for a new home anywhere in the world as if you were actually on-site. By 2022, the XR market is expected to reach \$209 billion, which is eight times what it is today (Marr, 2019). The tremendous growth could mean the realities of our 2030 lives are beyond our imagination ability to clasp

Figure 1 : The genesis of extended reality.

**Extended reality or XR** is new, exciting and immersing technology. But what does XR mean?

have we used this technology yet? Well, we'll take a look at what XR is all about? how it's different from augmented reality (AR) and virtual reality (VR) and how to use or integrate it with our device? But the

# Extended Reality (XR) Technology : An Overview

most importance is how to adapt the technology in education?

In fact, I first heard the term XR while attending a webinar on the potential of extended reality in the entertainment industry and other industries recently. So I was quite interested in this technology and started reading and getting to know it.

**XR or extended reality**, is a catch all term for different type of technologies but related. It wraps together similar acronyms like virtual reality (VR), augmented reality (AR) and mixed reality (MR). XR stands for "Extended Reality", which is an umbrella term that covers VR, AR and MR. All XR technologies takes the human-to-PC screen interface and modifies it. It modifies by immersing you in the virtual environment (VR), adds to the user's surroundings (AR) or both of those (MR).

The term XR has been around for decades. It first popped up in the 1960s when Charles Wyckoff filed a patent for his silver-halide "XR" film, intended for photographing extremely bright light events, such as nuclear explosions (Gerencer, 2021).

Recently, the term XR has moved into the mainstream as device makers struggle to describe the different display upgrades they're working with. Some of the examples are immersing gamers into the action by

putting a screen (a smartphone display or headset) right in front of the eyes (VR) or adding game characters to real-world surroundings like in the popular game Pokemon Go (AR).

Since XR is a catchall term, there's really no question of "Is my laptop XR?" or "Can I buy an XR phone?"

That's because devices with AR, VR, or MR tech are all considered "XR devices". So if you've played a VR game like Astro Bot Rescue Mission or Half-Life: Alyx or used Google Maps to navigate, you've actually already used XR tech.

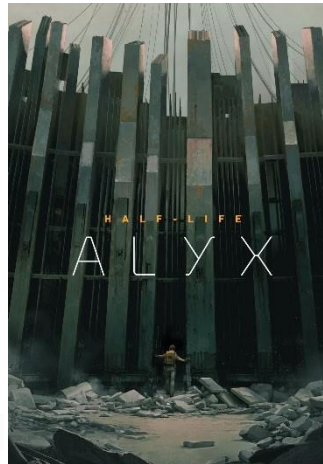


Figure 2 : Astro Bot Rescue Mission and Half-Life: Alyx game

### Augmented reality (AR)

is reality, virtual information, object and enhanced with interactive digital components. Virtual information and objects are overlaid on the real world. This experience enhances the real world with digital details such as images, text, and animation. The most commonly used AR applications these days rely on smartphones to highlight the digitally augmented world. Users can activate a smartphone's camera, view the real world around them on the screen, and rely on an AR application to enhance that world in any number of ways via digital overlays such as:



AR

We can access the experience through AR glasses

or via screens, tablets, and smartphones. This means users are not isolated from the real world and can still interact and see what's going on in front of them. The most well-known examples of AR are the Pokémon GO game that overlays digital creatures onto the real world. Other example is Snapchat filters that put digital objects such as hats or glasses onto our head.

- Inserting labels
- Changing colours
- Superimposing images
- Adding real-time directions
- Digital information and/or 3D models
- Altering the user or their environment's appearance via "filters" on Instagram, Snapchat, and other apps



Figure 3 : AR let customers see how furniture would look in their homes before they buy

So what is augmented reality used nowadays? In 2020, nearly every industry has found ways to apply AR technology to improve processes and outcomes like training and education, entertainment, gaming, selling, manufacturing, telecommunication and utilities (Houston, 2020).

### Virtual reality (VR)



Figure 4 : Interactive devices in VR

**Virtual reality** using computer modeling and simulation that enables a person to interact with an artificial three-dimensional (3D) visual or other sensory environment. VR applications immerse the user in a computer-generated environment that simulates reality through the use of interactive devices, which send and receive information and are worn as goggles, headsets, gloves, or body suits (Lowood, 2021).

In a virtual reality experience, users are fully immersed in a simulated digital environment in contrast to augmented reality. Individuals must put on a VR headset or head-mounted display to get a 360 degree view of an artificial world that fools their brain into believing they are, for example walking on the moon, swimming under the ocean or stepped into whatever new world the VR developers created. The gaming and entertainment industry were early adopters of this technology. Companies in several industries such as healthcare, construction, engineering, the military, and more are also finding VR to be very useful.

## Mixed reality (MR)



Figure 5 : Visualize a room that contains both real furniture and virtual objects such as a digital world globe

**Mixed reality** is a technology that blends physical reality and the digital world together. Digital and real world objects co-exist and can interact with one another in real time. This is the latest immersive technology and is sometimes referred to as hybrid reality. It requires an MR headset and a lot more processing power than VR or AR. Microsoft's HoloLens is a best example that allows us to place digital objects into the room we are standing in and give us the ability to spin it around or interact with the digital object in any way possible.



Figure 6 : HoloLens 2 allows students to learn-by-doing form anywhere with holographic instructions and assessments from real instructor

Companies are exploring ways they can put mixed reality to work to solve problems, support initiatives, and make their businesses better. Mixed reality enhances productivity with ready-enterprise applications in education, entertainment, healthcare, manufacturing etc.

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## XR Studio @ APU: first among higher education institutions in Malaysia

The Asia Pacific University of Technology & Innovation (APU) has set up its XR Studio facility among universities in Malaysia in order to develop talents for the AR/VR/MR ecosystem as well as provides students hands-on experience of Extended Reality.

Together with Ministry XR as developer partnership, the studio is equipped with state-of-the-art equipment and facilities including a 360-degree volumetric video capture zone, EDEX (extended education experience) station, VolCap propriety software, mixed reality smart glasses in the form of Microsoft HoloLens and high specification gaming standard workstations.

The EDEX Station serves as an XR/Spatial Computing laboratory, designed for shared and collaborative education experiences that excite, inspire and stimulate. This immersive space enables technological experiments, research and teaching developments within instructional design.



Figure 7 : The EDEX Station

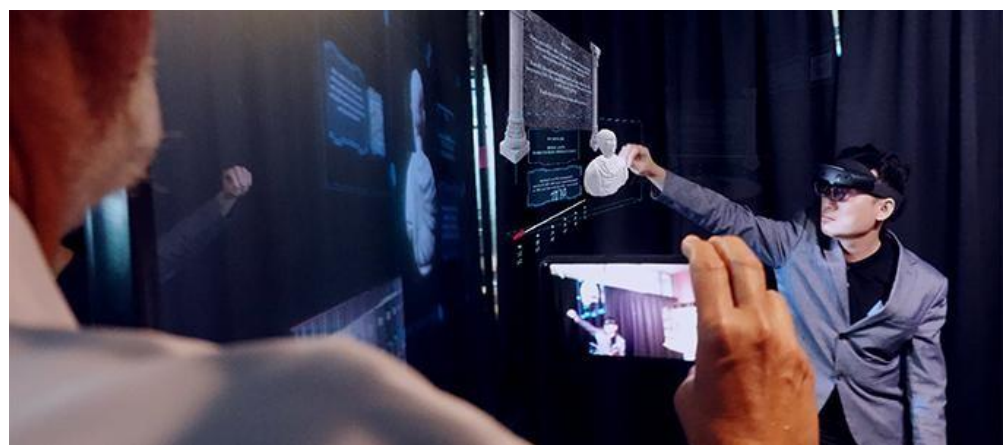


Figure 8 : The APU XR Studio



# Conclusion

There are many practical applications of XR in any industries such as in retailing, training, manufacturing, marketing, entertainment, remote working etc. XR gives customers the ability to try before they buy. Furniture company IKEA gives customers the ability to place furniture items into their home via their smartphone. XR also provides training tools that are hyper-realistic in life-and-death circumstances, as an example to help soldiers, healthcare professionals, pilots/astronauts, chemists and more figure out solutions to problems or learn how to respond to dangerous circumstances without putting their lives or anyone else's at risk. As an early adopter, the education field will continue to find new ways of utilizing this immersive technology. The application of XR technology should be embedded in the development of the final student project. Students should be encouraged to exploit this technology and apply this technology in the development of this final project. It will be an added value to their final project as well as improving student's potential.

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# CARA MUDAH MENGGUNAKAN FUNGSI ACTIVITY WIZARD DALAM PACKET TRACER



Ku Siti Aishah Binti Ku Ab Hamid

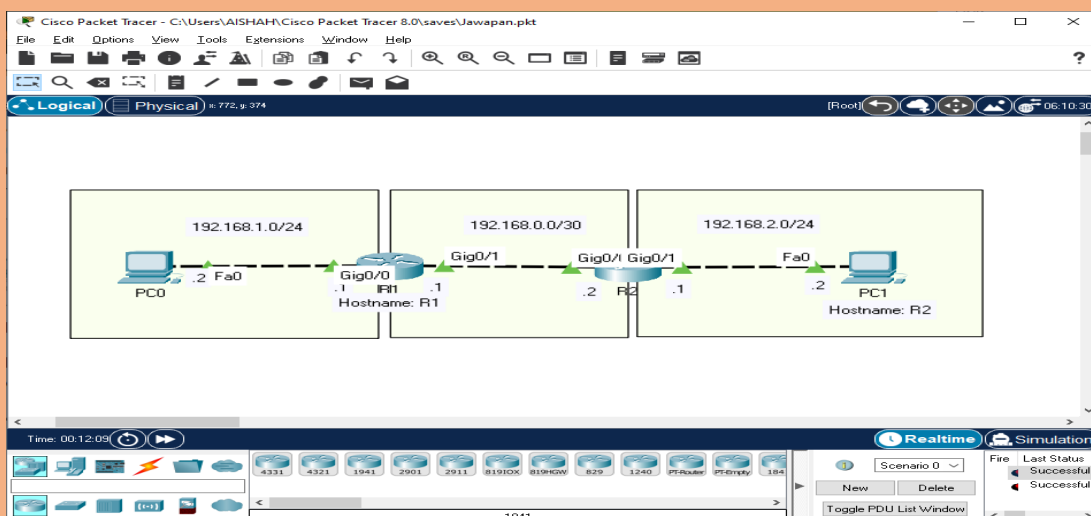
**Activity Wizard PT** direka untuk membantu meningkatkan proses pengajaran dan pembelajaran yang membolehkan pensyarah untuk mencipta senario penilaian diri pelajar dalam persekitaran yang berstruktur. Ia berfungsi untuk membuat simulasi dalam konfigurasi rangkaian dan dapat memberi penilaian terus terhadap konfigurasi tersebut. Dengan ciri-ciri yang ada ia dapat memberikan tugas latihan kepada sesiapa sahaja yang sedang mempelajari Cisco Packet Tracer. Ia mudah dan dapat menjimatkan waktu untuk semakan tugas. Pensyarah atau pelajar yang hendak menggunakan fungsi *Activity Wizard PT ini*, haruslah mempunyai asas kemahiran menggunakan packet tracer.

Packet tracer 8.0 akan digunakan untuk menerangkan Langkah-langkah untuk menggunakan fungsi *Activity Wizard PT ini*. Rajah 1 menunjukkan simbol *Activity Wizard*

yang ada pada toolbar packet tracer. Ia juga boleh didapati pada menu *Extensions* atau pun dengan tekan **Ctrl+W**.



Untuk menggunakan fungsi *Activity Wizard PT*, dua fail harus disediakan dalam format PKT untuk soalan dan jawapan. Seterusnya topologi yang hendak dikonfigurasi haruslah dicipta terlebih dahulu. Soalan yang dicipta menggunakan *Activity Wizard* hendaklah disimpan di dalam format.PKA. Rajah 2 di bawah merupakan contoh topologi untuk dikonfigurasi.



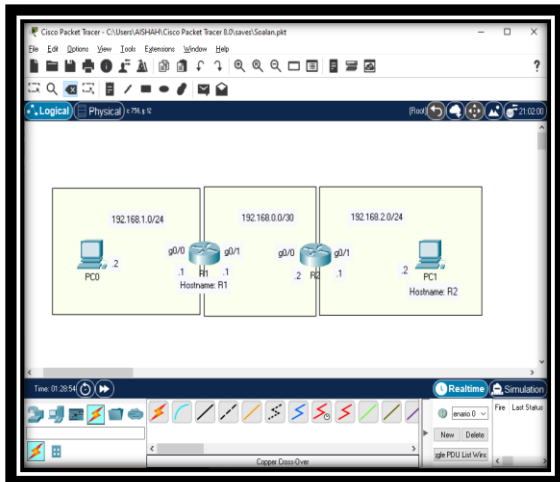
Rajah 2 : Contoh Topologi Untuk Dikonfigurasi

Berikut adalah langkah-langkah untuk membuat soal menggunakan Activity Wizard.

### Langkah pertama **1**

✓ **Mencipta topologi sebagai fail soalan**

Rajah 3 menunjukkan contoh topologi mudah untuk dikonfigurasi routing dinamik iaitu RIP melibatkan dua *router*. Topologi ini diperbesarkan mengikut keperluan soalan yang lebih kompleks. Fail ini akan disimpan sebagai Soalan.pkt



Rajah 3 : Contoh Topologi Untuk Dikonfigurasi Routing Dinamik RIP

### Langkah kedua **2**

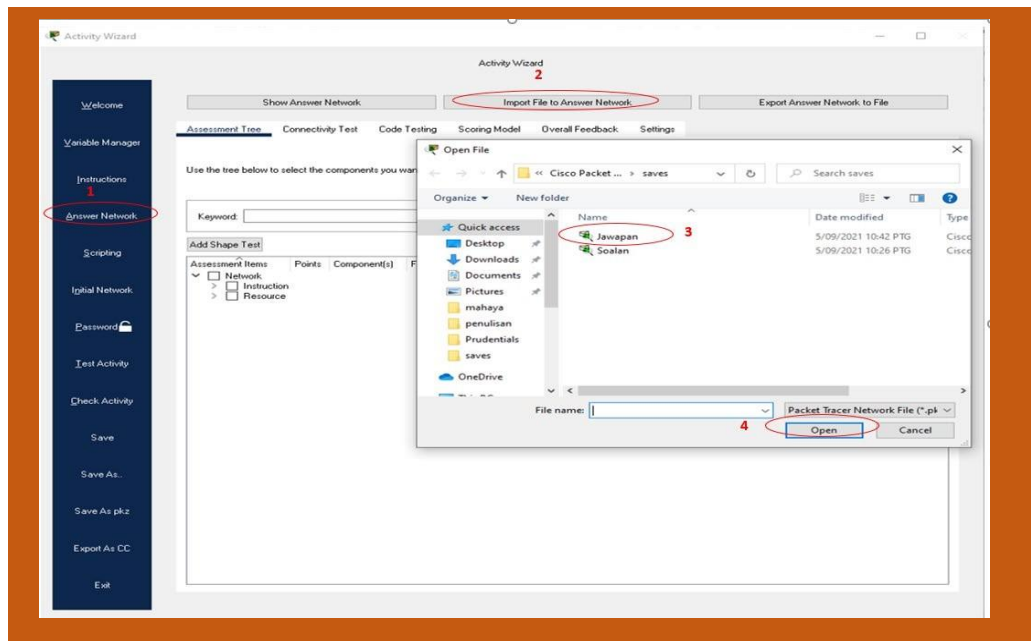
✓ **Mencipta topologi sebagai fail jawapan**

Langkah seterusnya adalah mengkonfigurasi protokol *routing*, alamat IP pada PC dan *router* serta penggunaan kabel yang betul. Pastikan setiap hubungan perlu di uji untuk memastikan rangkaian berjaya berhubung antara satu sama lain. Fail ini akan disimpan sebagai Jawapan.pkt.

### Langkah ketiga **3**

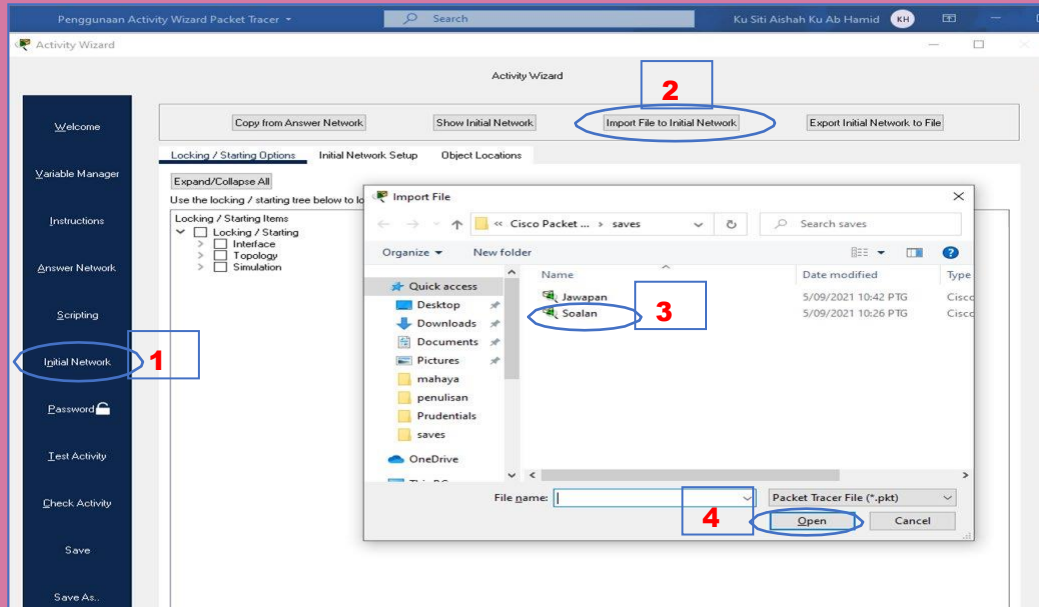
✓ **Menetapkan Activity Wizard**

Setelah membuat kedua-dua fail soalan dan jawapan, buka fail packet tracer baru dan klik pada butang active *Activity Wizard* pada *toolbar* dan menu *Extensions* atau pun dengan menekan Ctrl+W. (Rujuk Rajah 1). Kemudian, klik pada tab *Answer Network* dan pilih *Import Fail to Answer Network* seperti yang ditunjukkan di dalam Rajah 4 dan pilih fail Jawapan.pkt.



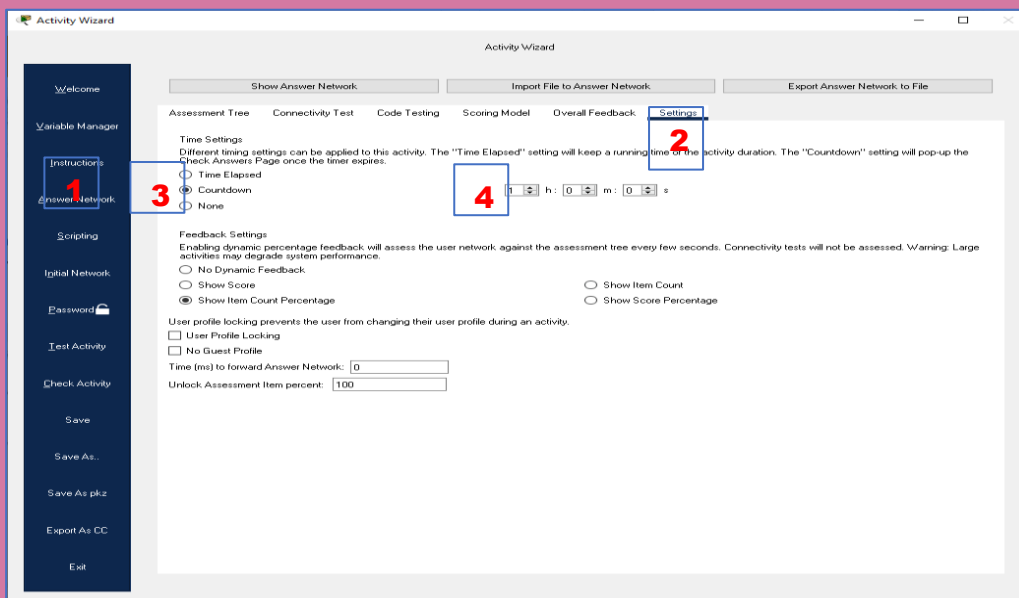
#### Rajah 4 : Menetapkan Activity Wizard

Kemudian klik pada tab *Initial Network*, pilih *Import fail to Initial Network* dan pilih Fail Soalan.pkt yang telah disediakan sebelumnya. Rujuk Rajah 5.



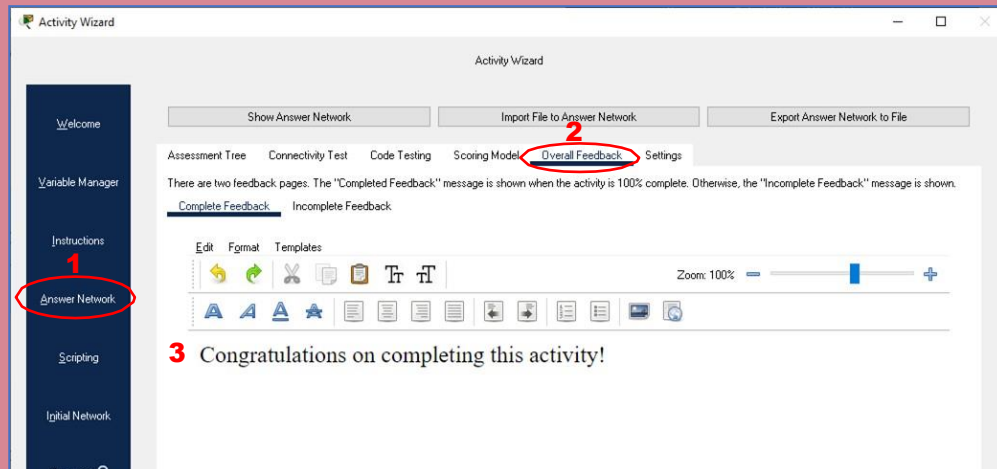
#### Rajah 5 : Pilih Fail Soalan.pkt

Untuk menetapkan masa, Kembali kepada tab *Answers Network* untuk menentukan masa menjawab soalan. Klik pada Menu *Setting* dan tentukan *Countdown* mengikut keperluan masing-masing merujuk kepada Rajah 6 dengan format jam:minit: saat (masa waktu menjawab).



#### Rajah 6 : Tentukan Countdown

Seterusnya adalah untuk memberi mesej *Complete* kepada hasil yang berjaya dilakukan, klik pada menu *Answer Network* dan klik pada *tab Overall Feedback*. Setelah itu, masukkanlah mesej yang hendak disampaikan jika berjaya menyiapkan tugas yang telah diberikan mengikut masa yang telah ditetapkan seperti Rajah 7.



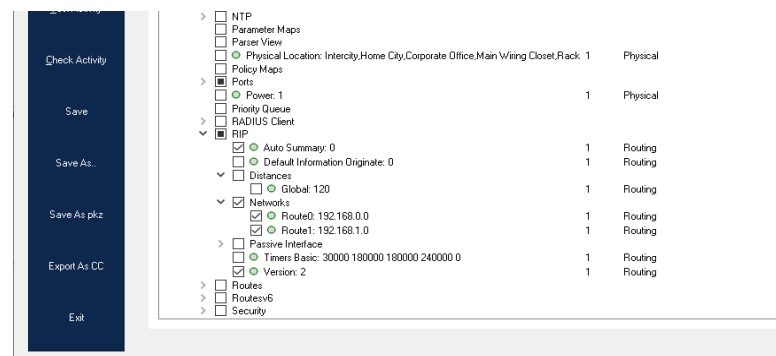
Rajah 7 : Masukkan Mesej

#### Langkah keempat **4**

##### ✓ Menentukan Markah

Ini adalah langkah terakhir untuk menentukan jumlah markah yang diperolehi oleh pelajar hasil daripada konfigurasi yang telah mereka lakukan. Masih lagi di dalam Tab *Answer Network*, klik pada menu *Assessment Tree* dan pilih senarai semak untuk R1 dan R2. Contoh apa yang harus dipilih untuk *router* adalah:

1. Hostname: R1 dan R2
2. Port: Port : GigabitEthernet0/0 dan GigabitEthernet0/1
  - Subnet Mask
  - IP Address
  - Link to Hostname : Router B klik bahagian Connects
3. Routes
  - Routing dinamik menggunakan RIPv2 seperti Rajah 8

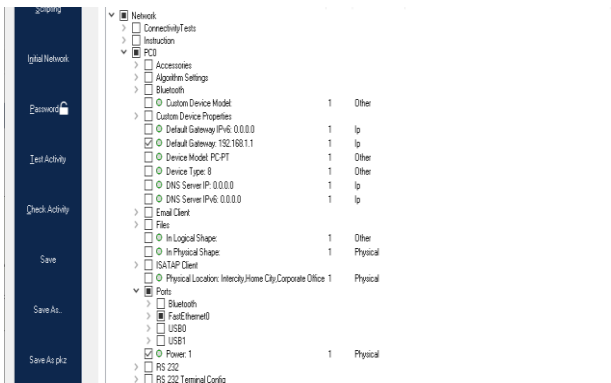


Rajah 8 : Routing Dinamik Menggunakan RIPv2

Setelah selesai pilih senarai semak di dalam *Router*, pilih jugak senarai semak untuk PC seperti di Rajah 9. Untuk senarai semak PC pula adalah:

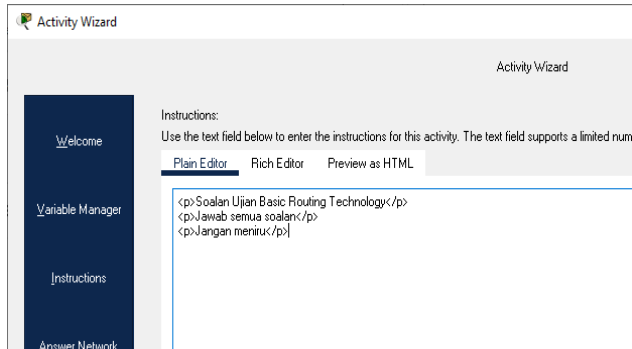
1. Power
2. Port FastEthernet
  - Subnet Mask
  - Link to hostname
3. Default Gateway





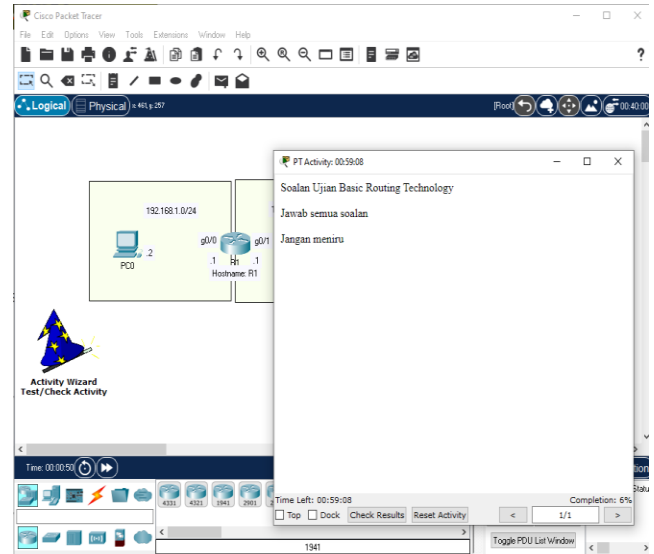
Rajah 9 : Senarai Semak Untuk PC

Jika semua sudah selesai, boleh terus ke tab Instructions untuk memasukkan arahan-arahan berkaitan dengan tugas supaya jelas dengan apa yang harus dilakukan. Arahan ini hendaklah menggunakan format HTML. HTML editor percuma boleh digunakan untuk menukar teks kepada format HTML. Contohnya <https://wordtohtml.net/>, <https://onlinehtmleditor.dev/> dan sebagainya. Rajah 10 menunjukkan penggunaan format HTML yang digunakan.



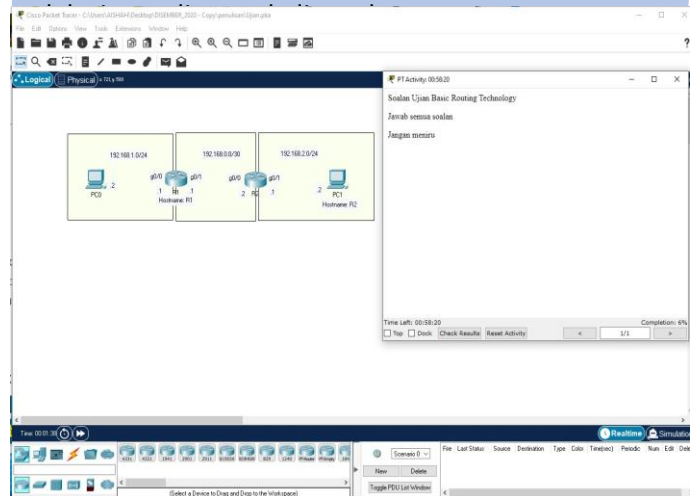
Rajah 10 : Penggunaan format HTML

Setelah itu, boleh klik pada tab *Test Activity* bagi melihat hasil yang telah dibuat dan hasilnya boleh dilihat pada Rajah 11.



Rajah 11 : Hasil Test Activity

Langkah terakhir adalah untuk menyimpan fail tersebut dengan menggunakan tab *Save as* dengan nama fail Ujian.pk. Setelah selesai semuanya, maka fail ujian tersebut boleh diedarkan kepada pelajar untuk membuat ujian konfigurasi. Rajah 12 menunjukkan fail yang



Rajah 12 : Fail Yang Telah Siap Sedia Untuk Digunakan

Dengan menggunakan *Activity Wizard* ini, pensyarah hanya perlu untuk membuat soalan dan diberikan kepada pelajar untuk menjawab. Pelajar dan pensyarah dapat melihat peratus pemarkahan dan juga dapat menyemak butiran maklumat yang sudah dan belum dikonfigurasi lagi.

**Selamat mencuba.**



**PENULIS: Noor Halawati binti Che Meh**

# RESEPI KEK MARBLE gebu

## Bahan-bahan:

- ✓ 6 biji telur
- ✓ 1 cawan gula
- ✓ 1 sudu besar ovalette
- ✓ 4 sudu besar susu pekat
- ✓ 1 sudu kecil esen vanilla
- ✓ 1/4 cawan susu segar
- ✓ 2 cawan tepung naik sendiri
- ✓ 1 cawan mentega/marjerin cair
- ✓ Loyang bersaiz 9'X9'X3'
- ✓ Kertas pembakar (*Baking paper*)



## Cara Memasak:

1. Masukkan semua bahan ke dalam pengadun (mixer).
2. Adun sehingga gebu (anggaran 10 minit sehingga adunan bertukar menjadi warna putih).
3. Sementara itu, cairkan mentega/marjerin dan sukat sebanyak 1 cawan.
4. Apabila cairan mentega/marjerin tadi telah suam/sejuk, masukkan ke dalam adunan yang telah diadun tadi dan kacau sebati dengan kelajuan cepat.
5. Bahagikan adunan mengikut warna yang disukai.
6. Susun warna adunan di dalam loyang yang telah dialas dengan kertas penaik.
7. Lorekkan adunan mengikut corak yang disukai.
8. Bakar menggunakan oven pada suhu 130 darjah celsius (gunakan rak di bawah sekali).
9. Setkan masa selama 60 minit bergantung kepada jenis oven masing-masing (resepi ini menggunakan oven 42L).
10. Apabila kek telah masak, sisipkan tepi kek dan terbalikkan di atas redai petak-petak. Biarkan sejuk selama 3 hingga 4 jam untuk dapatkan corak yang lebih menarik.

## Tips:

- Gunakan telur Nutriplus untuk menghasilkan kek yang lebih tebal dan gebu.
- Mentega/marjerin yang dicairkan, hendaklah digunakan semasa suam-suam untuk mendapatkan hasil kek yang lebih lembap.



## Planning my cooking through the pandemic

My mum had always cooked her delicious meal without failed during my childhood. There will always be homecooked meals for breakfast, lunch and dinner and I will always have delicious meals as my packed lunch during school days.

As I have grown up, I have realized the tedious chores involved in making the meal as my mum has done for the past years. I am more grateful and impressed with her. My mum must have been pre-panning our family meal and indeed homecooked meal prepared by her was the best meal I have ever had.

As much as I have tried, I realize meal planning has never been my style. I am usually good at having stocked in my pantry and fridge, but always a missing ingredient makes me rushed to the nearest mart to complete the recipe.

When the coronavirus pandemic swept the nation last year, I, like so many others, began limiting my trips out of the house. Grocery visits a couple of times per week were slashed to once every two weeks, which presented a challenge because of my inability to consistently plan meals. My meal prep had always incorporated a loose plan, but without regular access to a store, I felt a sudden push to nail down specifics to ensure we had what we needed for each meal. Further, I didn't want any food to go to waste.

With so much time at home, there was no excuse for me to not get a plan together.



## Free Printables

# KITCHEN inventory set

Pantry Inventory		Fridge Inventory	
Item	Qty	Item	Qty
Freezer Inventory			

### 1. Listing my stock

I started by going through my pantry and fridge and making a note of everything we had, from spices to canned goods. As I went, I made a list of items that needed to be replaced.

### 2. Branching out my ingredients

Limited availability of certain products also allowed me to try recipes I wouldn't otherwise gravitate toward, and it frequently let me use up what we had in a creative, yet tasty, way. Admittedly, I made more nasi goreng concoctions with a combination of random leftover vegetables than I care to admit, but in any other scenario, I would have likely run to the store to get more of a certain ingredient to cook something specific.



### 3. Planning a weekly menu

Before any trip to the grocery store, I'd make a menu for our week. I liked to pick recipes that made more than two people could eat so I could eat leftovers for lunch at least one day.

### 5. Organizing my ingredients

I would create a list of every ingredient I wanted based on location in the store. Time was critical during the pandemic, so I grouped produce, dairy, frozen foods, canned goods, and home supplies in their categories. This made it easy to look at my list in the store and easily identify if I was done in one area before moving to the next.

### 6. Prep and pack

Before the pandemic, I had purchased plastic containers, but I began utilizing them to create a refrigerator system of pre-chopped vegetables or thawed meats. With my pre-made menu, dinnertime was less of a headache, and I didn't feel like I was scrambling. Better yet, I always had what I needed ready to go.

### Weekly Menu Planner

	Breakfast	Lunch	Dinner	Snacks	Prep
Mon	Masala Bhujia, Palak Pesto & Vegetable Sandwich	Tomato Sear, Salad (pack masala bhujia for lunch box)	Egg Curry, Rice, Salad	Masala Cookies, Banana	Make the cookies on Sunday & store in airtight container
Tue	Brown Chilli with Veggie, Green Chutney (pack)	Curry (pack)	Pulao, Curd, Chutney (pack)	Granola Bars, Apple	Make the chutney on Sunday & store in fridge
Wed	Egg Koithu Parantha (pack)	Horse Gram Curry, Brown Rice, Salad	Cholia ke Banana, Roti, Salad	Masala Cookies, Cheese Slice	You can make parantha on Tuesday night and store
Thu	Scrambled Eggs, Sauteed Spinach, Toast	Pressure Cooker Pasta (pack pasta for lunch box), salad	Salad	Nuts, Grapes, Masala Cookies	
Fri	Burkhaat Parathas (pack)	Gajar Methi Sabzi (Capsicum Ginger lunch box)	Rajma Curry, Rice, Dahi, Salad	Chocolate, Nuts	Make the apple compote if eating in the night
Sat	Poha, Boiled Egg	Rajma Chawal, Rice, Salad	Flex/Fasting Out		
Sun	Luchi, Cholar (Indulgence of the week)	Flex/Fasting	Watermelon & Prawn Salad		

Shopping List	
Grapes	Banana
Poha	Apples
Granola	Zucchini
King Fish	Onion
Capsicum	Eggs
Brown Rice	Tomato
	Carrot
	Cholia
	Horse Gram
	Cucumber
	Garlic
	Ginger
	Prawn
	Cheese



As the weeks went on, I realized that taking time to plan our meals not only made grocery trips easier, it reduced our grocery bill and eliminated food waste. I felt more inspired to keep going, and in doing so, I got better at meal planning.

Even as the world begins to re-emerge and life returns to some semblance of normalcy, I haven't forgotten all that I've learned. I plan to keep my system in place. You will hear zero complaints from me about fewer grocery runs, and if I'm being honest, less stress around mealtime compels me to cook more frequently. And indeed, I planning to keep it that way.





**PENULIS:** Hawariyah binti Rahim

### *PdPR: Cabaran dan Solusi (Aplikasi)*

Hampir 2 tahun penduduk di seluruh dunia bertarung dengan virus Covid-19. Pandemik ini telah melumpuhkan sektor ekonomi, sektor sosial, sektor pendidikan, sektor pelancongan dan lain-lain lagi. Negara Malaysia juga tidak terkecuali. Dalam bidang pendidikan, Malaysia seperti negara-negara yang lain mengamalkan pendekatan pengajaran dan pengajaran secara bersemuka waima di peringkat sekolah mahupun peringkat institusi pengajian tinggi. Akibat serangan pandemik ini, pendekatan konvensional ini tidak lagi relevan kerana ia berpotensi meningkatkan kadar jangkitan virus di kalangan pelajar.

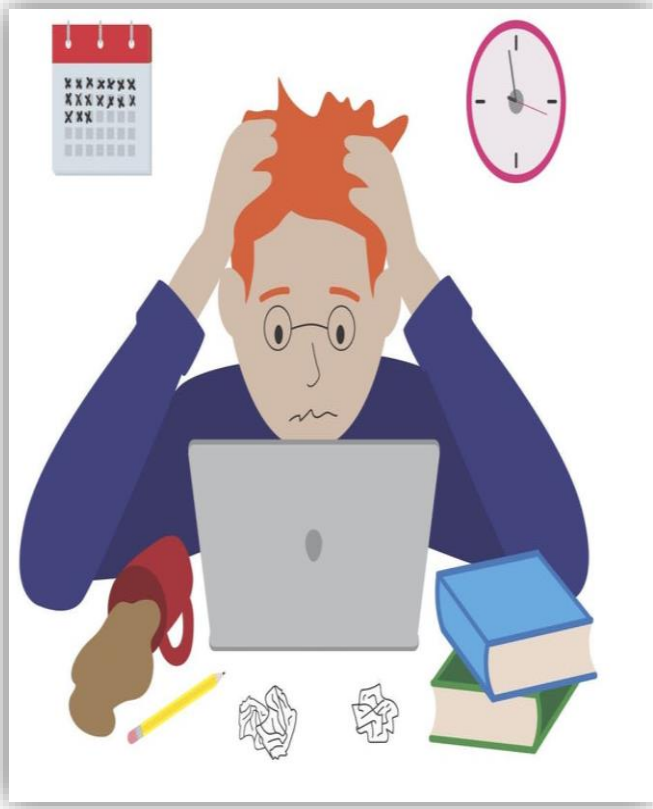


*“usaha dan sinergi semua pihak iaitu pihak sekolah, guru, ibu bapa dan pelajar amat diperlukan bagi memastikan pelajar tidak ketinggalan dan mampu melalui kurikulum Kurikulum Standard Sekolah Rendah (KSSR) dan Kurikulum Standard Sekolah Menengah (KSSM) dengan jayanya”*

Prof. Dr. Mohd Aderi Che Noh, Fakulti Sains  
Kemanusiaan, UPSI  
Berita Harian, 28 April 2021



Justeru, KPM dan KPT mengambil inisiatif untuk menggunakan pendekatan pengajaran dan pembelajaran di rumah (PdPR) dalam talian di mana pelajar meneruskan pembelajaran di rumah menggunakan telefon pintar, tablet, komputer peribadi secara “video conferencing” bersama guru atau pensyarah. Terdapat pelbagai platform “video conferencing” yang ada di internet yang digunakan untuk tujuan ini seperti aplikasi Zoom, Google Meet, Microsoft Teams dan CISCO Webex. Pendekatan ini menjadi norma baharu kepada bidang pendidikan di Malaysia terutamanya kepada guru, pensyarah, pelajar sekolah dan pelajar IPT. Namun begitu, pendekatan ini masih lagi baru, maka terdapat banyak cabaran yang perlu diatasi oleh tenaga pengajar dan pelajar bagi memastikan kedua-dua belah pihak dapat mencapai objektif pembelajaran yang dirancang.



Antara cabaran-cabaran yang dapat dikenalpasti adalah:

### 1. Kekangan Peralatan Pintar

Umum diketahui, tahap sosio ekonomi di kalangan penduduk Malaysia adalah berbeza-beza. Untuk menyediakan peralatan pintar bagi keperluan PdPR anak-anak, memerlukan para ibu bapa untuk melaburkan sejumlah wang yang agak banyak kerana harga peralatan-peralatan ini tidak murah. Hal ini menjadi beban bertambah bagi keluarga dari golongan B40 yang mempunyai bilangan anak yang ramai.

### 2. Gangguan di Rumah

Apabila berada di rumah, sudah semestinya banyak perkara atau keadaan yang boleh menjadi gangguan semasa sesi PdPR. Contohnya seperti pelajar diminta melakukan kerja-kerja membersihkan rumah, menjaga adik-beradik yang masih kecil, bunyi-bunyi bising di persekitaran rumah dan pelbagai lagi gangguan yang lain.

### 3. Keterbatasan Kemudahan Internet

Bagi negara yang sedang membangun seperti Malaysia, kemudahan capaian internet masih belum menyeluruh di setiap kawasan. Di bandar atau kota metropolitan, mungkin masalah ini tidak berlaku. Namun, bagi kawasan pedalaman atau separa pedalaman, pelajar perlu mencari inisiatif lain untuk mendapatkan kemudahan capaian internet yang baik supaya mereka tidak ketinggalan dalam sesi pembelajaran.

### 4. Pemantauan PdP

Bagi ibu bapa yang terpaksa bekerja sepenuh masa sepanjang pandemik Covid-19, pemantauan pembelajaran anak-anak secara dalam talian tidak dapat dilakukan. Masalah ini merupakan cabaran besar lebih-lebih lagi bagi pelajar sekolah Tahap 1 yang mana mereka masih memerlukan bantuan semasa sesi pembelajaran berlangsung seperti yang berlaku di sekolah sebelum ini. Ketiadaan ibu bapa atau penjaga semasa pembelajaran boleh menyebabkan fokus terhadap guru terganggu dan seterusnya fokus itu akan berubah kepada perkara lain yang menarik minat mereka.

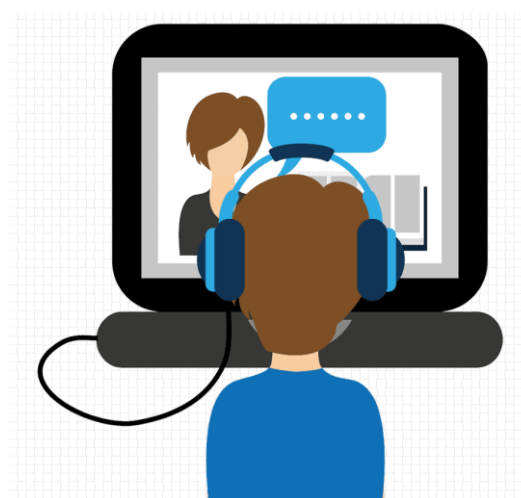
### 5. Penipuan dalam Pentaksiran

Cabaran ini memang tidak dapat dielakkan dalam pendekatan norma baharu ini. Jika sebelum ini, pentaksiran seperti peperiksaan dilakukan dengan pengawasan dari pengawas peperiksaan di dalam kelas atau dewan peperiksaan. Namun perkara ini tidak berlaku dalam pentaksiran dalam talian. Penipuan, peniruan dan plagiarisme boleh berlaku jika pelajar tiada integriti dan tidak amanah. Hal ini sukar dibuktikan kerana bukti kesalahan yang kukuh tidak dapat diperolehi seperti kaedah pentaksiran konvensional.

Di sebalik cabaran-cabaran ini, muncul atau timbul pelbagai platform atau aplikasi yang tumbuh bagai cendawan selepas hujan. Hal ini tidak lain dan tidak bukan adalah untuk membantu para guru atau tenaga pengajar untuk mencipta suasana pembelajaran yang lebih kreatif dan dapat menarik minat pelajar untuk meneruskan sesi pengajaran dan pembelajaran.

Beberapa aplikasi yang dapat membantu merealisasikan idea ini disenaraikan di dalam jadual di bawah.

Aplikasi Pembinaan Slaid	Aplikasi Kuiz/Permainan dalam Talian	Aplikasi Media Pembelajaran dalam Talian	Aplikasi Pengeditan Video
<ul style="list-style-type: none"> <li>• Canva</li> <li>• Emaze</li> <li>• Slidesgo</li> <li>• Slide mania</li> <li>• Prezi</li> <li>• Visme</li> <li>• Powtoon</li> <li>• Crello</li> <li>• Google Slides</li> <li>• Myviewboard</li> </ul>	<ul style="list-style-type: none"> <li>• Kahoot</li> <li>• Quizlet</li> <li>• Quizziz</li> <li>• Mentimeter</li> <li>• Edpuzzle</li> <li>• Word Wall</li> <li>• Plickers</li> <li>• Tarsia</li> <li>• Blended play</li> <li>• Gamilab</li> <li>• Nearpod</li> <li>• Whiteboard.fi</li> <li>• Bamboozle</li> <li>• Blooket</li> <li>• Jigsawplanet.com</li> <li>• Jeopardy</li> <li>• Genial.ly</li> <li>• Gimkit</li> <li>• Classpoint</li> <li>• Seesaw</li> <li>• Edpuzzle</li> <li>• wow.boomlearning.com</li> </ul>	<ul style="list-style-type: none"> <li>• Padlet</li> <li>• Google Sites</li> <li>• Whiteboard.Chat</li> <li>• Google Jamboard</li> <li>• Wizer.me</li> <li>• Blend space</li> </ul>	<ul style="list-style-type: none"> <li>• Filmora</li> <li>• Adobe Premiere Pro</li> <li>• Wevideo</li> <li>• Inshot</li> <li>• Capcut</li> <li>• Platagon</li> <li>• Kinemaster</li> <li>• Quik</li> <li>• VN</li> </ul>



Sebagai kesimpulannya, walaupun terpaksa berhadapan dengan pelbagai cabaran, para guru atau tenaga pengajar tidak boleh berputus asa dalam tanggungjawab untuk mendidik anak bangsa. Justeru itu, semua pihak termasuk ibu bapa, tenaga pengajar dan pelajar perlu bekerjasama untuk hidup dalam norma baharu ini dan memainkan peranan masing-masing bagi memastikan kelangsungan pendidikan di negara ini. Tenaga pengajar perlu lebih kreatif dan mengambil inisiatif untuk mencuba aplikasi-aplikasi baharu supaya dapat menghasilkan bahan pengajaran yang kreatif dan dapat menarik minat pelajar.



**PENULIS: Sabri Bin Saep**

Saya teringat kepada seorang kawan, Syed Rofli. Semasa muda, dia belikan telefon bimbit untuk ayahnya, sebagai hadiah harijadi. Pada ketika itu, sewa sebulan adalah RM60, dan dibayar olehnya setiap bulan. Cerita tersebut berlaku 30 tahun yang lalu. Pada 15 tahun yang lalu, ada seorang kawan bernama Ah Kee. Dia berkata, "Apabila kita teringin sesuatu, misalnya telefon baru, kita akan berkata, aku patut hadiahkan sesuatu kepada diri sendiri".

Pada hari ini, antara beli sesuatu untuk diri sendiri dengan beli sesuatu untuk orang lain, yang mana lebih kerap dilakukan?

Beli makanan atau minuman termasuk dalam konteks beli sesuatu.

Bila beli kek, kuih atau air, walaupun untuk dimakan oleh keluarga, faktor utama pemilihan adalah atas citarasa anda sendiri. Jika makanan tersebut memang untuk anda makan, maka anda sedang melayan kehendak diri sendiri.

Apabila anda membeli makanan atau minuman yang manis dan lazat, anda rasakan anda telah melayan diri anda dengan baik. Apabila anda menahan diri anda dari mendapatkannya, anda terasa seperti menyiksa diri sendiri.



**T**ahukah anda bahawa gula putih adalah racun. Terdapat berbagai jenis penyakit sedang menanti anda. Semakin tinggi kandungan gula dalam makanan anda, semakin cepatlah penyakit tersebut menghampiri anda.

Ketika anda sedang rancak berbincang tentang kedai yang menjual minuman yang lazat, anda terlupa bahawa kaki anda pernah sakit dan anda sukar untuk berjalan. Berbulan-bulan anda menderita dan berbelanja banyak demi menyembuhkannya.

Hari ini, anda menyertai pelbagai group kurus di media sosial. Anda membeli buku-buku panduan kurus. Anda menonton pelbagai video senaman untuk menguruskan badan. Namun, anda terus menerus melayan diri anda dengan pelbagai makanan dan minuman yang manis dan lazat.

**Sedarlah, anda sedang menyiksa diri sendiri. Kesakitannya akan tiba tidak berapa lama lagi. Pada ketika itu, janganlah menyesal kerana yang menyiksa diri anda adalah anda sendiri.**

Untuk berubah, selain dari menjauhkan diri dari gula putih, amalkan 16:8. Ia sejenis amalan di mana anda hanya makan dalam tempoh 8 jam sahaja setiap hari. Jangan makan dalam tempoh 16 jam, tetapi hanya minum air. Pastikan air tersebut tidak mengandungi gula putih.

Kalau rasa 16:8 adalah membebankan, mulakan dengan 12:12. Anda hanya boleh makan dari pukul 8 pagi hingga pukul 8 malam saja. Selepas berjaya membiasakan diri, bertukarlah kepada 16:8 iaitu makan selepas pukul 12 tengahari dan jangan makan selepas pukul 8 malam.

Memang tidak dapat dinafikan, gula putih masih tersembunyi dalam makanan harian anda. Namun, jika anda berusaha untuk melarikan diri dari gula putih, maka kandungan gula putih yang masuk ke dalam badan anda adalah rendah. Inilah cara yang betul untuk melayan diri anda, agar kekal sihat setiap hari.

**Ingatlah, gula putih adalah racun.  
Setiap kali anda teringinkan sesuatu yang  
lazat, pastikan tiada racun di dalamnya. Jika  
ada, jangan masukkan ke dalam mulut anda.  
Berhentilah dari menyiksa diri sendiri.**

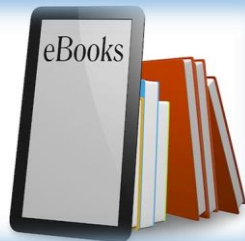


# 10 Langkah dan tips penghasilan eBook untuk *Beginners*

SITI MARIAM BINTI ZAINOL ABIDIN



- 1** Pilih *platform* penulisan eBook, seperti Microsoft Word, Microsoft Powerpoint, Canva atau lain-lain.



- 3** Sediakan deraf format penulisan eBook seperti berikut:
- tajuk dan sub-tajuk (*heading and sub-heading*).
  - warna tema, *font style* dan *font size*.

- 2** Rancang topik eBook, bahasa pilihan, penulis dan tempoh masa.
- Tips: pilih topik yang ringkas dan mudah terlebih dahulu. Untuk topik seterusnya boleh dihasilkan di dalam siri 2 dan seterusnya.
  - Penulis samada secara individu atau berkumpulan.
  - Tempoh masa boleh ditetapkan melalui Carta Gantt.

- 4** Mulakan penulisan eBook.
- Tips 1:** Tulis sahaja semua idea, abaikan sebarang kesalahan dulu (jika ada) dan dibuat semakan kemudian.
  - Tips 2:** Di dalam satu (1) mukasurat, tulis penerangan secara ringkas, elakkan teks yang terlalu panjang dan masukkan 1 gambar yang bersesuaian.
  - Tips 3:** Elak menggunakan bahasa rojak dan tetapkan samada hendak menggunakan Bahasa Melayu atau English.
  - Tips 4:** Sekiranya menggunakan Microsoft Word, digalakkan menggunakan fungsi *Navigation Pane* di *menu View*. Tujuannya adalah untuk memudahkan pengurusan mukasurat dan penghasilan isi kandungan (*Table of Contents*).
  - Tips 5:** Sekiranya ada video atau audio yang perlu dimasukkan ke dalam eBook, anda boleh meletakkan kod QR untuk capaian fail tersebut dari Google Drive, YouTube atau lain-lain media.
  - Kandungan eBook yang disarankan:
    - Muka depan
    - Hak cipta
    - Penafian
    - Prakata
    - Isi Kandungan
    - Penulis (letakkan gambar penulis)
    - Dedikasi
    - Pengenalan
    - Bab 1
    - .
    - .
    - .
    - Penutup
    - Rujukan (mengikut piawaian)

**5** Buat semakan keatas penulisan anda (*proofread*). Penyemak samada dikalangan ahli kumpulan atau panel luar.

**6** Simpan fail di dalam format pdf.



**7** Disarankan supaya saiz fail dimampatkan (*compress*). Sekiranya saiz pdf terlalu besar, ia akan mengakibatkan bilangan mukasurat eBook menjadi banyak.

Tips: boleh gunakan web <https://smallpdf.com> atau aplikasi yang lain untuk memampatkan saiz fail.

**8** Penulis juga boleh menggunakan web <http://flippingbook.com> untuk efek buku yang lebih menarik.

**9** Membuat permohonan eISBN dari Perpustakaan Negara Malaysia di laman web <http://depositori.pnm.gov.my> untuk melindungi karya anda.

Tips: Setelah mendapatkan eISBN, anda boleh menghasilkan kod bar (*Barcode*) dan diletakkan di muka belakang eBook anda.

**10** Tahniah! Anda telah berjaya menyiapkan eBook anda, seterusnya eBook bolehlah dimuatnaik ke mana-mana media sosial atau ke dalam platform penjualan eBook seperti [payhip.com](http://payhip.com) <https://kdp.amazon.com> atau lain-lain.

Dapatkan maklumat:

Webinar: **Tips Mudah Tukar Nota ke eBook**

Penceramah: **Dr. Siti Mistima Maat, UKM**





# SMART Cyber Skills



**NOR NAEMATUL SAADAH BINTI ISMAIL**

**S**

## **STAY SAFE**

Don't give your private information.

**M**

## **MEETING UP**

Don't meet with anyone you don't know alone.

**A**

## **ACCEPTING FILES**

Be careful of the attached file's type.

**R**

## **RELIABLE INFORMATION**

Confirm the information before spreading.

**T**

## **TELL SOMEONE**

Tell someone if you feel uncomfortable.



# MALAYSIA FIGHT AGAINST COVID-19



**Mime Azrina Jaafar and Ruziana Mohamad Rasli**

The Covid-19 pandemic has been affecting Malaysia since March 2020. Each day, the number of affected persons grows tremendously out of control. As what had been be informed by the Ministry of Health, on 17 August 2021, an accumulation of 1,444,270 COVID-19 cases has been recorded with over 250,000 active cases, and over 13,000 deaths (Ministry of Health, 2021).

Table 1: Covid-19 Cases Summary

<b>Total cases (Cumulative)</b> 1,444,270	<b>New case:</b> +19,631 <b>Import case:</b> 7 <b>Local case:</b> 19,624 <b>Local:</b> 16,677 <b>Non-local:</b> 2,947	<b>Total recovered case (Discharge)</b> 1,179,046 +16,468	<b>Active case</b> 252,147		<b>Total number of deaths</b> 13,077 +193
		81.6% from the total cases	<b>ICU</b> 1,054	<b>On respirator assistance</b> 525	

(Updated until 17<sup>th</sup> August 2021, 12.00P.M)

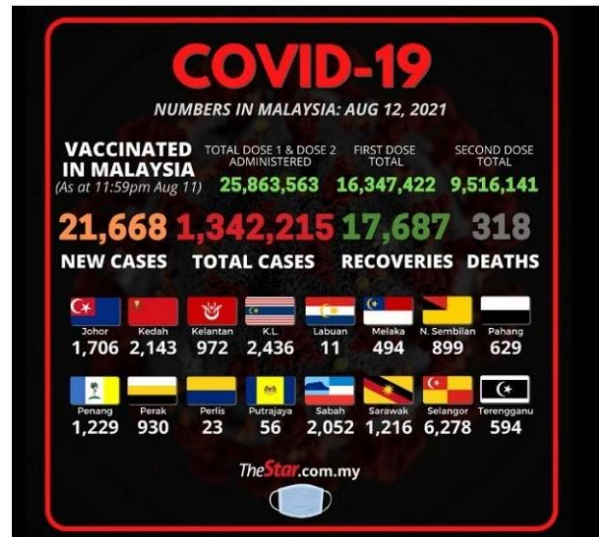


So many mechanisms and approaches were taken by the government to control this pandemic spread. The awareness campaigns like 3 W's (Wash, Wear, Warn) and 3 C's (Crowded Places, Confined Spaces, Close Conversation) via social media and electronic media plays a major platform to educate Malaysian on this pandemic issue.



Figure 1: Advertisement on Covid-19 awareness

In March 2020, the Malaysian government led by the Prime Minister Muhyiddin Yassin introduced the Movement Control Order (MCO) to the country. During this phase, Malaysian citizens were asked to stay at home and their movement was being restricted. Majority of the industries and economy factors were forced to close as well. Then, the number of cases shows some decreases, hence, the second stage of MCO which is Conditional Movement Control Order (CMCO) was announced by the government. In CMCO phase, the business sectors were allowed to be reopened with strict standard operating procedures (SOP). The MCO strategies were proven successful as the daily local case dropped to zero (0) on 8th July 2020 (Berita Harian, 2020, Ministry of Health, 2020) during the third phase of MCO which is Recovery Movement Control Order (RMCO). However, on September 2020, the third wave of this pandemic attacked Malaysia, resulting from Sabah state election (Wikipedia, 2021). From this third wave until now, the case is increasing, resulting from mutation on the virus which keeps on evolving from time to time.



Viruses can be evolved from one form to another via mutation process (CDC, 2021). The new form of virus is being called as a variant. For COVID-19 virus, four dominant variants have been recognized- Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), and Delta (B.1.617.2). Some variant may spread easily and faster than the other variant (CDC, 2021) and sometimes they are more dangerous. Table 1 summarized the features of these four variants based on article from CDC (2021) and WebMD (2021):



Table 2: Types of Covid-19 Variants

Variant	First Identified	Spread	Severe Illness & Death	Vaccine	Treatments
Alpha	England	Spreads much faster than other variants and may lead to higher risk of death	May potentially cause more people to get sicker and to die	Currently authorized vaccines do work against this variant. Some breakthrough infections in fully vaccinated people are expected but remain rare.	Treatments are effective against this variant

<b>Beta</b>	South Africa and Nigeria	Spread faster than original virus	Does seem to cause severe illness or death than other variants	Currently authorized vaccines do work against this variant. Some breakthrough infections in fully vaccinated people are expected but remain rare.	Certain monoclonal antibody treatments are less effective against this variant
<b>Gamma</b>	Brazil and Japan	Spreads much faster than other variants	Current data do not indicate more severe illness or death than other variants. Yet, it may be able to infect people who've already had COVID-19	Currently authorized vaccines do work against this variant. Some breakthrough infections in fully vaccinated people are expected but remain rare.	Certain monoclonal antibody treatments are less effective against this variant
<b>Delta</b>	India	Spreads much faster than other variants	May cause more severe cases than the other variants. It's causing more cases of COVID-19 in young people.	Infections happen in only a small proportion of people who are fully vaccinated, even with the Delta variant. Some breakthrough infections are expected, but remain rare. However, preliminary evidence suggests that fully vaccinated people who do become infected with the Delta variant can spread the virus to others.	Certain monoclonal antibody treatments are less effective against this variant

Before this, a person can be affected if he/she has close contact with COVID-19 patient, however, this new variant can be spread through mechanism called sporadic which not

require a person to have any contact with the COVID-19 cluster. The Star (2021) reported based on the Health Ministry, early of June 2021, the COVID-19 cases caused by the sporadic already reached 84.3%.

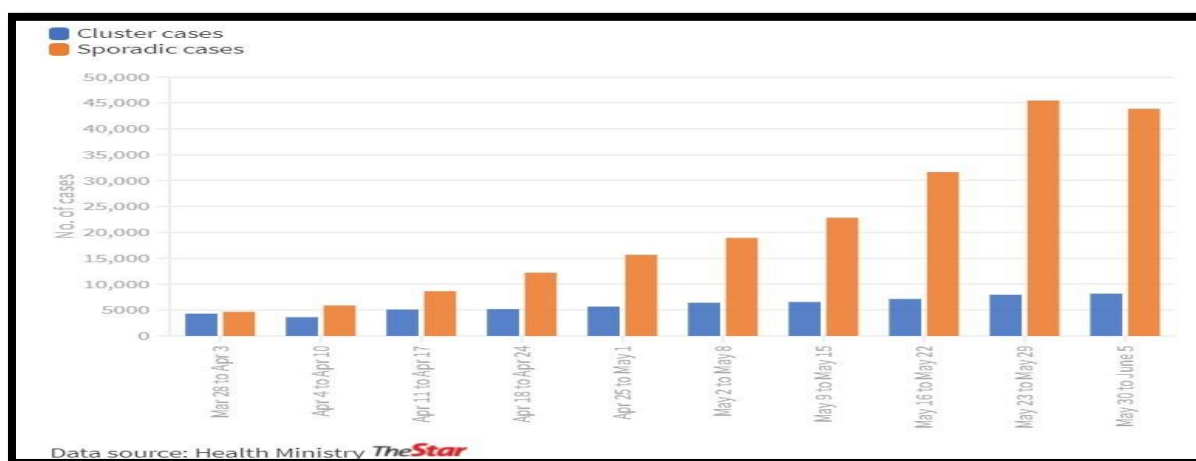


Figure 3: Types of cases in Malaysia

To overcome this spread, one important major step that the government can make is by enhancing immunisation programme to Malaysian resident. The following section will discuss on the National COVID-19 Immunisation programme that had been implemented.

### National COVID-19 Immunisation Programme

According to the former Prime Minister of Malaysia, YAB Tan Sri Muhyiddin Yassin, the vaccine will be provided free to all Malaysian citizens and non-citizen. This is to ensure that once the vaccine rollout is completed, it is hoped that the national economy will be recovered and citizen and non-citizen lives of Malaysia will be improved.

In order to ensure the National COVID-19 Immunisation Programmes runs smoothly, the government had introduced a governance structure to manage and monitor the immunisation process. Figure 4 shows that governance structure as adopted from National COVID-19 Immunisation Programmes booklet.

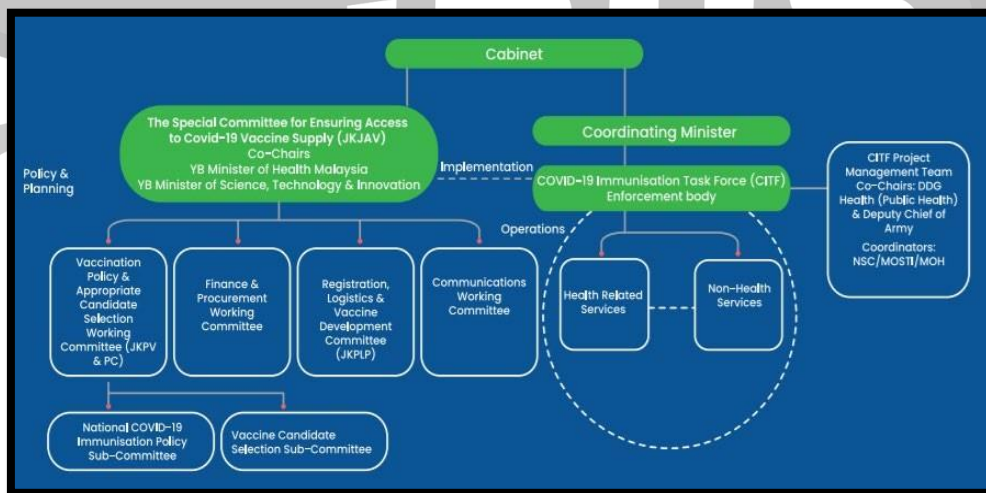


Figure 4: Governance structure of the National COVID-19 Immunisation Programme

Vaccines are one of the methods used to prevent the COVID-19 virus from being spread and help to curb the pandemic. Vaccines contains antigens that can stimulate body's immune system and for immunity for specific infectious diseases. To date, in Malaysia, there are 11 types of vaccines to prevent 13 types of vaccine-preventable diseases which is given to children. Such diseases are tuberculosis, Hepatitis B, Diphtheria, Tetanus, Whooping cough (Pertussis), Polio, Haemophilus Influenza Type B (Hib), Measles, Rubella, Mumps, Pneumococcal, Japanese Encephalitis (JE) and Human Papillomavirus (HPV).

In order to have a safe and effective vaccine, clinical trials must be made. In COVID-19 case,

the volunteers that involved in the clinical trial are 10 times the usual number of volunteers. Due to this, as in February 2021, Malaysia has secured 66.7 million doses of COVID-19 vaccines through COVAX facility and advance purchases from five vaccine manufacturers. From these five vaccine manufacturers, as of 8th January 2021, one of these five vaccines which is Pfizer-Biontech vaccine has obtained conditional approval from the Drug Control Authority (DCA) and the National Pharmaceutical Regulatory Agency (NPRO) while the other four is still pending approval from NPRO. Figure 5 shows the supply of COVID-19 vaccines that have been acquired by Malaysia.

Vaccine		 (Including COVAX Facility purchases)			
Type of Vaccines	mRNA	Viral vector	Inactivated virus	Viral vector	Viral vector
Manufacturer's Country	The United States of America	United Kingdom	China	China	Russia
Number of doses	2	2	2	1	2
Efficacy	95%	62% - 90%	50.4% - 91.25%	65.7%	91.6%
Storage Temperature	-75°C	2-8°C	2-8°C	2-8°C	-20°C
Number of doses (Million)	32	12.8	12	3.5	6.4
% of Populations	50%	20%	18.75%	10.9%	10%
Countries that have used the vaccine	United States of America, Singapore, UK, Bahrain, Canada, Mexico, Switzerland, the European Union	UK, South Africa, Ukraine, Brazil, the European Union, Canada, India	China, Indonesia, Turkey, Chile, Hong Kong, Brazil, Cambodia	China; Mexico; Pakistan	Russia, Argentina, Brazil, South Korea, Belarus





\* The vaccine supply is subject to periodic negotiations  
 \* This information is valid as of 16 February 2021 and will be updated from time to time

Source: JKJAV

Overall number of doses:  
**66.7 million** covering  
**109.65%** of those in  
 the country

Figure 5: Covid-19 vaccine supplies that acquired by Malaysia

The efficacy of these five types of vaccines differs in its ability to protect individuals from the Covid-19 symptoms through vaccinations. The clinical studies will analyse the vaccine based on the way the vaccine being studied, the types of vaccine being used, the risk of disease in the volunteers, and other factors as well. From Figure xx, it can be seen that Pfizer vaccine has the highest efficacy with 95% followed by Sputnik V with 91.6% efficacy, Sinovac with 50.4-92.25% efficacy, AstraZeneca with 62-90% efficacy and lastly CanSinoBio vaccine with 65.7% efficacy. WHO has set that the minimum level of efficacy of Covid-19 vaccine is 50%. Figure 6 shows the detailed explanation on the types of vaccines used in Malaysia.

What are the types of vaccines?			
Types of vaccines	mRNA	Viral vector	Inactivated virus
<b>Primary content and how it reacts</b> 	mRNA sequence which enters the individual cell to produce the specific virus protein	Contains modified (vector) virus to transport the antigen genetic code. The human cell will produce the targeted protein	Virus that have been killed using high heat, chemical or radiation
<b>Function</b> 	Uses the mRNA molecule to stimulate the immunity in order to recognise the targeted virus protein	A safe viral vector is used to deliver the genetic material of the targeted virus and stimulating the human immune response	Virus that has been killed and used to stimulate the human immune response
<b>Advantages</b> 	<ul style="list-style-type: none"> <li>Simple and quick to produce</li> <li>Does not require living component and synthetically produced.</li> <li>Triggers an adaptive immune response</li> </ul>	<ul style="list-style-type: none"> <li>Proven technology</li> <li>Triggers an adaptive reaction for a more effective immune response</li> </ul>	<ul style="list-style-type: none"> <li>Proven technology</li> <li>Suitable for those who have a weak immune system</li> <li>Easy to produce</li> </ul>
<b>Challenges</b> 	<ul style="list-style-type: none"> <li>Some mRNA vaccines require extremely cold storage conditions</li> <li>Used as a vaccine for the first time in medical history</li> </ul>	<ul style="list-style-type: none"> <li>Complex manufacturing process</li> <li>Important to ensure the virus vector is safe to be used</li> </ul>	<ul style="list-style-type: none"> <li>High manufacturing cost</li> </ul>
<b>Example</b>	None	Ebola, Vaccines for livestock	Polio, Japanese Encephalitis & Rabies
<b>Vaccine candidate</b>	<ul style="list-style-type: none"> <li>Moderna</li> <li>Pfizer/BioNTech</li> </ul>	<ul style="list-style-type: none"> <li>AstraZeneca</li> <li>CanSino Biologics</li> <li>Johnson &amp; Johnson</li> <li>Sputnik V</li> </ul>	<ul style="list-style-type: none"> <li>Sinovac</li> </ul>

Analysis & compilation: The Academy of Sciences Malaysia

Figure 6: Detailed explanation on the five types of vaccines used in Malaysia

From Figures 6, it can be seen that Pfizer-Biontech uses mRNA, while AstraZeneca, CanSino Biologics and Sputnik V uses viral vector and Sinovac vaccines uses inactivated virus. Each of these vaccines have its own advantages and disadvantages which can be seen in Figure 6.

All of these vaccines will be provided free of charge to all those living in Malaysia whether they are citizens or non-citizens. The age limits to receive vaccines is 18 years and above which will be evaluated from time to time. Currently, each vaccine requires two doses based on the interval time between the first and the second dose as stated below:

- a) The Pfizer and Sputnik V vaccine – 21 days
- b) The AstraZeneca vaccine – 28 days
- c) The Sinovac vaccine – 14 days

In Malaysia, there are three strategies in the distribution of the vaccines. The first strategy is to vaccinate all the frontliners especially those in the health sector in order to make sure they are protected from Covid-19 virus. Second strategy is to reduce the burden of disease in high-risk groups which can reduce the load of Malaysian public health system. Lastly, high areas will be selected based on strategy two and three which will control the spread of the disease.

Vaccination registration and appointments started on the 1<sup>st</sup> March 2021 based on

majorly through the MySejahtera application. However, there are several other methods such as using Hotline, outreach programme for rural and interior areas, using [www.vaksincovid.gov.my](http://www.vaksincovid.gov.my) websites and lastly registration at public and private health facilities.

Although vaccines can prevent the spread of Covid-19 virus, however, the side effects of the Covid-19 vaccine can be commonly reported as:

- Pain/swelling/redness at the injection.
- Fever.
- Site.
- Nausea.
- Tiredness.
- Feeling unwell.
- Chills.
- Swelling of the lymph nodes.
- Joint pain.
- Other side effects that may be reported from time to time.



Figure 7 shows the vaccine registration and Figure 8 the doses that had been given in Malaysia as of 22 August 2021.

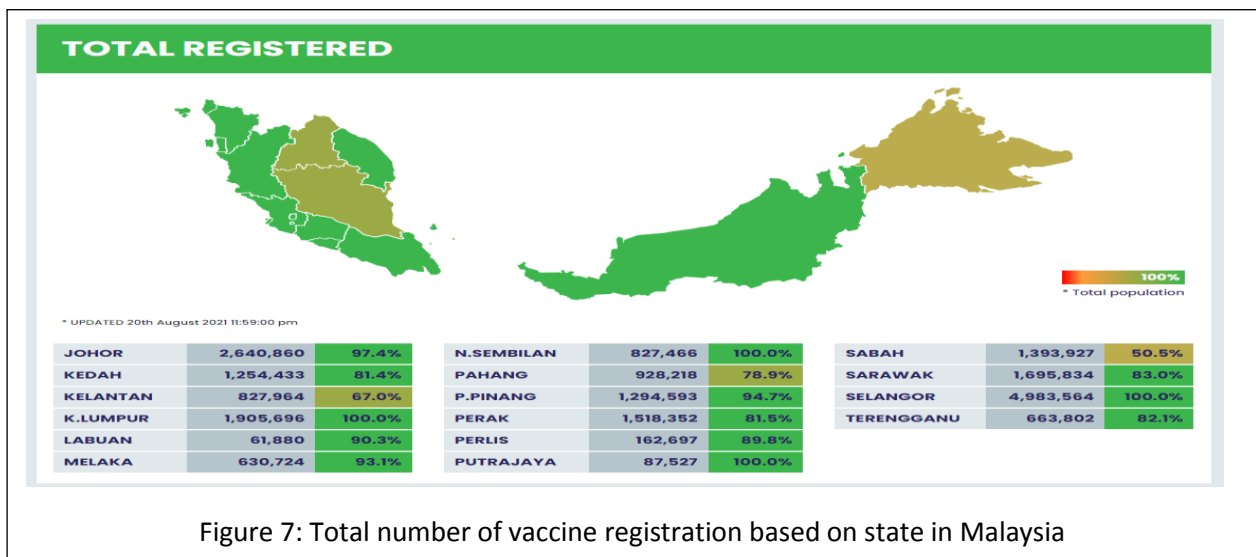


Figure 7: Total number of vaccine registration based on state in Malaysia

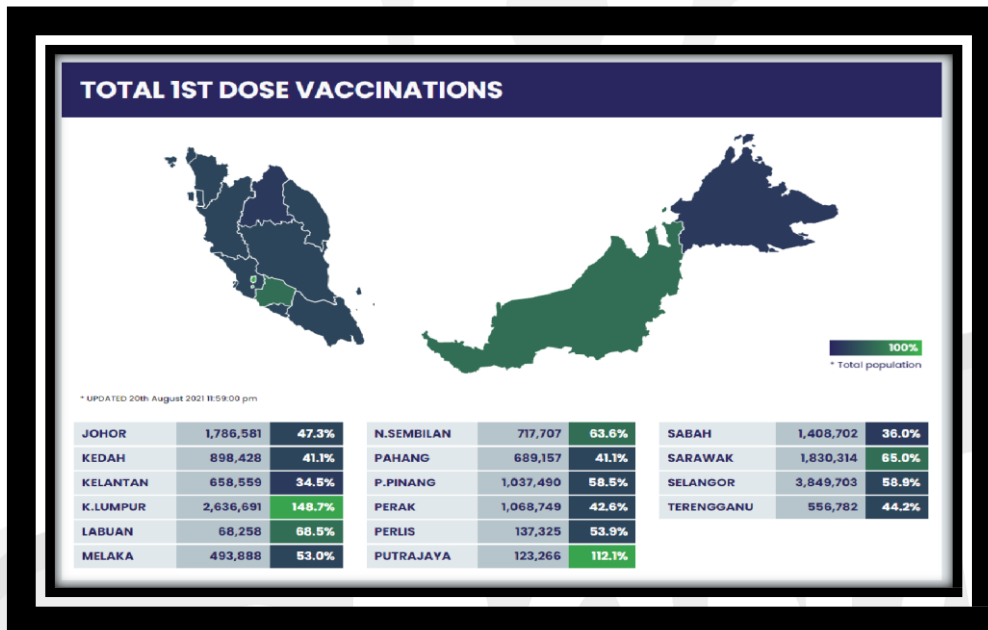


Figure 8: Total 1st dose registration based on the state in Malaysia

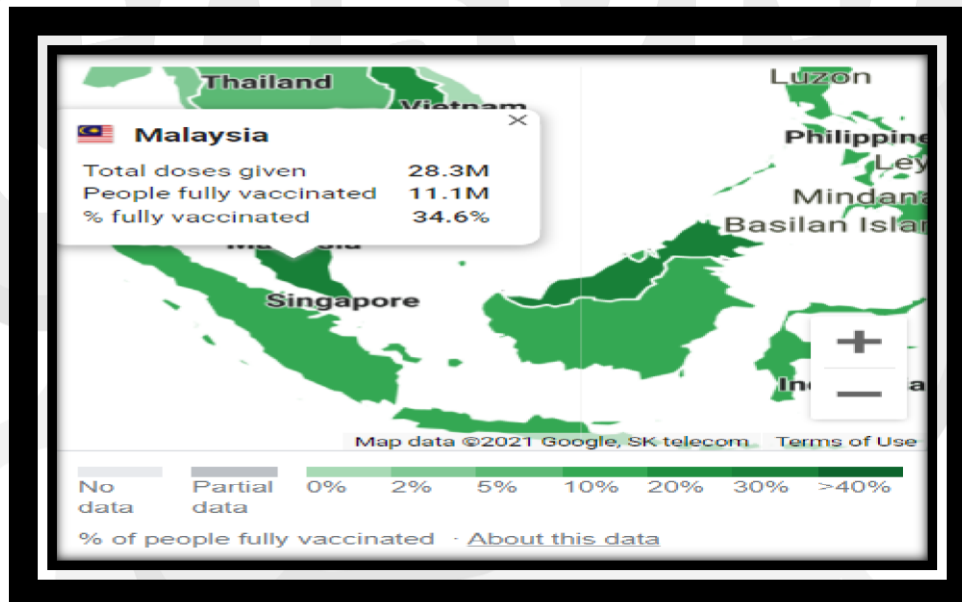


Figure 9: Number of vaccine doses given

Since majority of Malaysian are Muslim, there are an issue in the vaccine which is whether the vaccine is permissible in Islam or not. Based on the Special Muzakarah (discussion) of National Council for the Islamic Religious Affairs, it is decided that the use of Covid-19 vaccine is **permissible** (harus). Besides Malaysia, other world fatwa institutions also decreed the need for vaccine use and among them are the leading institutions of Al-Azhar Al-Sharif, Fatwa council of the United Arab Emirates Government and Majma 'Fuqaha' al-Shari'ah United States.



## Conclusion

Like any other pharmaceutical products, vaccines are being monitored from time to time in terms of its safety, quality and effectiveness. Therefore, to achieve a successful vaccination program and fulfil a herd immunity, there is a need in vaccine acceptance and uptake rate. The herd immunity is calculated based on the immunity threshold. Immunity threshold for SARS-CoV2 is in the range between 50-67% in the absence of any interventions (Mohamed et al., 2021). Although the Ministry of Health has scaled up the vaccine promotional programmes using social media and mass media, still, public needs an awareness of the advantages of Covid-19 vaccine because till now, there is still misinformation being spread by irresponsible parties. As a conclusion, public needs to get vaccination early to ensure their safety and health.

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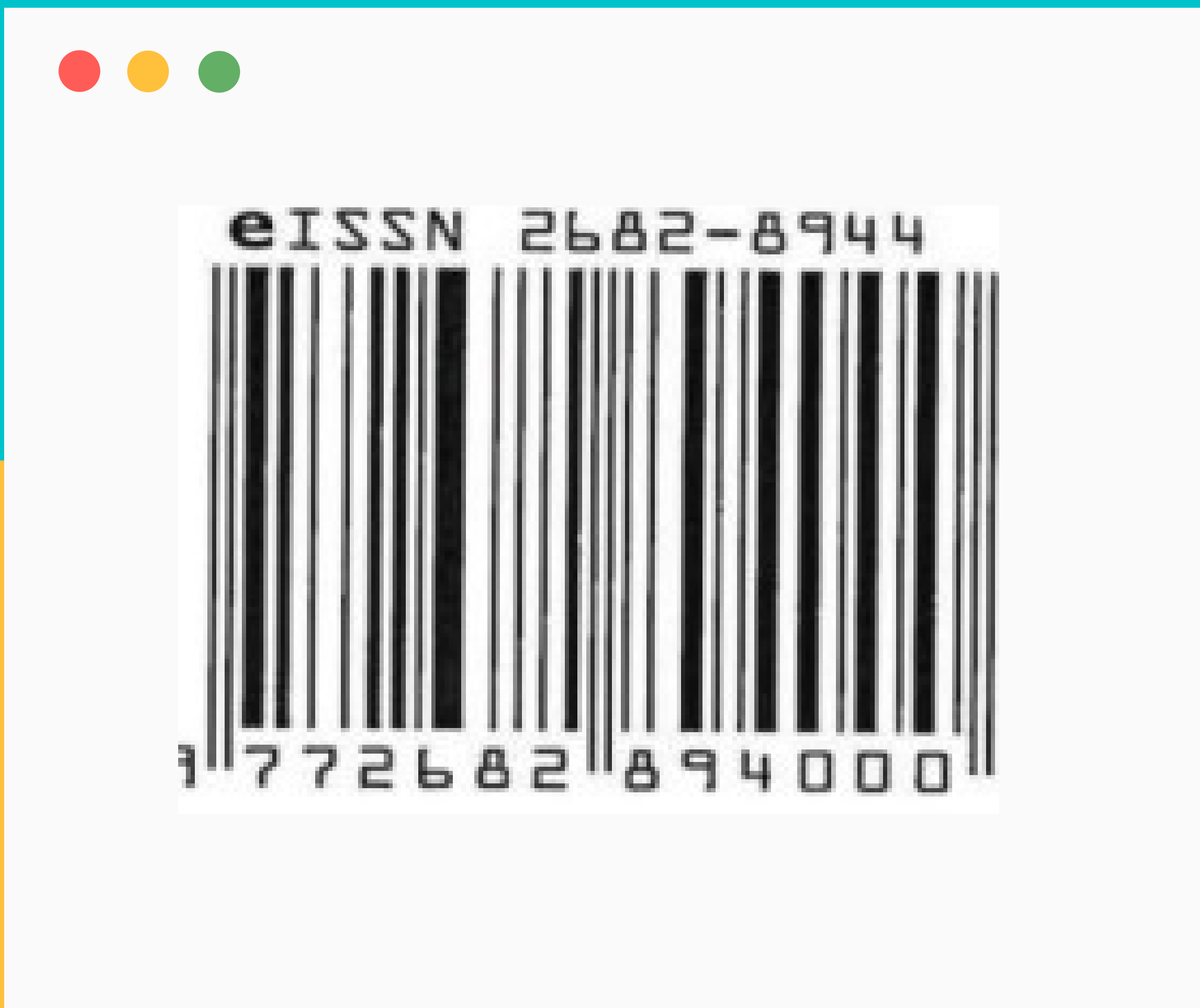
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**“TECHNOLOGY IS BEST WHEN IT  
BRINGS PEOPLE TOGETHER.”**

Matt Mullenweg, Social Media Entrepreneur