Cloud Computing

—

an introduction

me@**adityaputra**.com
https://github.com/adityaputra/praktisimengajar-cloudcomputing

Pinned   Customize your pins

server-utilities Public   **telegram-locate-me** Public

miscelaneous useful scrips for server-related works   Forked from yukuku/telebot

                                                      Telegram Finder Bot. Useful to find nearby places using Telegram Bot
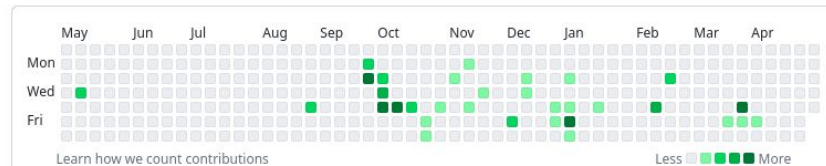   Platform.

● Shell ☆ 1 ⑂ 1   ● Python ☆ 2

advanced-chat Public   **business-directory** Public

Forked from ditaoktaria/advanced-chat   Business directory site, built with codeigniter

● JavaScript ☆ 1   ● JavaScript ☆ 1 ⑂ 5

html-dead-pixel-check Public

A simple HTML, CSS, and Javascript tool to check any dead pixels on
your screen.

● HTML ☆ 1

Aditya Putra
adityaputra

DevOps & cloud engineer - AWS
certified. Based in TW & ID.

Edit profile

👥 **4** followers · **9** following

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Achievements

Beta Send feedback

Highlights

⚙ Developer Program Member

Organizations

59 contributions in the last year   Contribution settings ▾

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Mon												
Wed												
Fri												

Learn how we count contributions   Less ▢▢▢▢▢ More

🖼 **@AstralWebTW**

Activity overview   2%
                                                         Code review
🖥 Contributed to
   adityaputra/pemrograman-web,
   AstralWebTW/cht-edm,
   AstralWebTW/feetfirst-linode
   and 10 other repositories   89%   4%
                                       Commits   Issues

2023
2022
2021
2020
2019
2018
2017
2016
2015
2014

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Praktisi Mengajar

instagram.com/praktisimengajar

Our plan

6 classes with lecture, demo, and workshop, 2h each

- Introduction of IT industry and cloud computing

- Cloud technologies (part 1)

- Cloud technologies (part 2)

- Cloud technologies (part 3)

- Cloud technologies (part 4)

- Project presentation

Our today's discussion

- Introduction about IT industry (and whether it's <u>really</u> related to your study)

- Introduction about cloud computing

- IT and Cloud Computing in Environmental Science

- Future trends

Why
do you
study this subject?

Academia

Industry
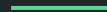
Opportunities in IT-related fields

- Global opportunities
- Evolving rapidly - requiring continuous learning
- Not limited to traditional IT engineering jobs
- New fields of work keeps coming
  - Cloud
  - AI
  - Automation
  - Data science / analytics
  - Academics work

Getting started and advancing in IT career

- Self-paced learning, and keep learning
  - Invest time in learning - even when you're working
- Allocate time for life, work, and study
- Learn from experts
- Join communities
- Start building your CV right NOW
- Start working / freelancing, when possible
- Don't be afraid of black and white consoles. Terminal is your friend.
- English is a must
- Enjoy the process, don't worry about the pay!
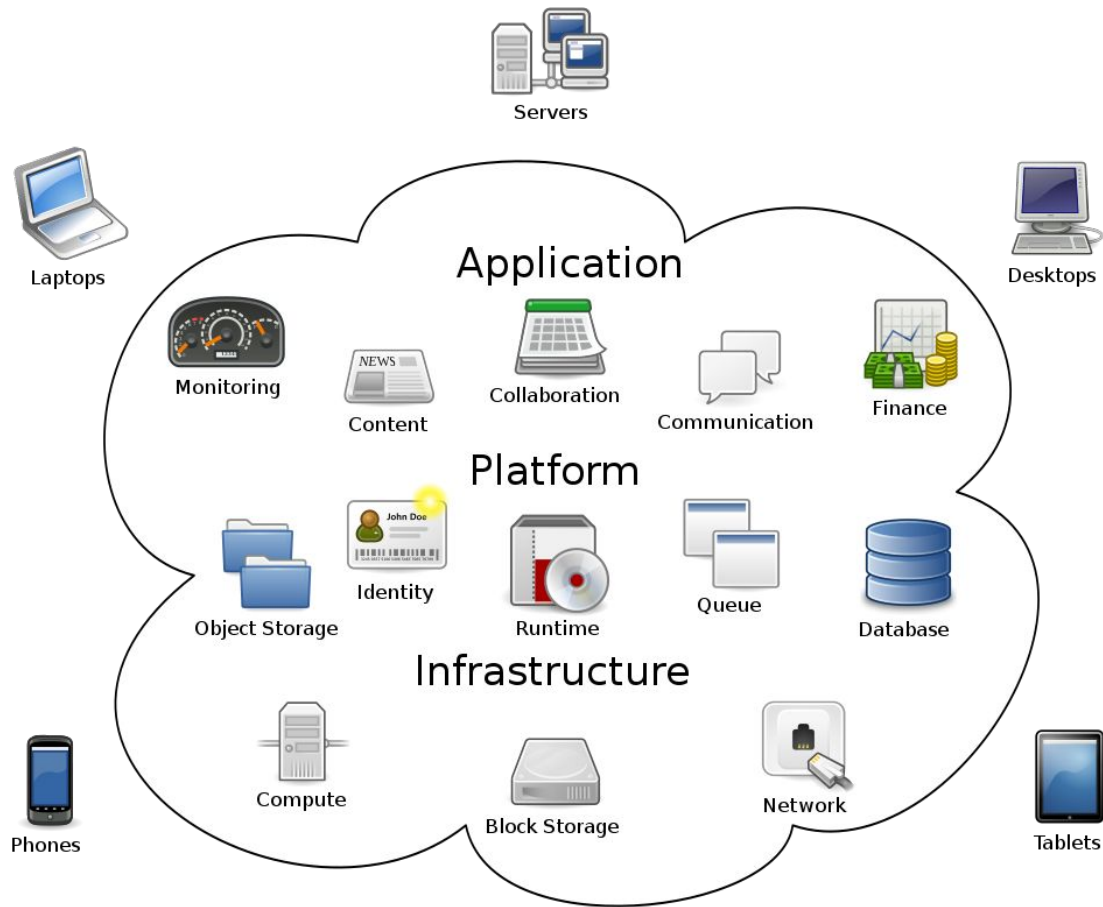
What do you think about cloud computing?

Cloud computing is . . .

the <u>on-demand availability</u> of computer system resources,
especially data storage (cloud storage) and computing power,
without direct active management by the user.

Servers

Laptops

Desktops

Application

Monitoring

Content

Collaboration

Communication

Finance

Platform

Object Storage

Identity — John Doe

Runtime

Queue

Database

Infrastructure

Compute

Block Storage

Network

Phones

Tablets

On-Premises	Infrastructure as a Service	Platform as a Service	Software as a Service
Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking

You Manage

Other Manages

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IaaS vs. PaaS vs. SaaS Examples

IaaS	PaaS	SaaS
Amazon Web Services	Google App Engine	HubSpot
Google Cloud	Red Hat OpenShift	JIRA
Microsoft Azure	Heroku	Dropbox
IBM Cloud	Apprenda	DocuSign
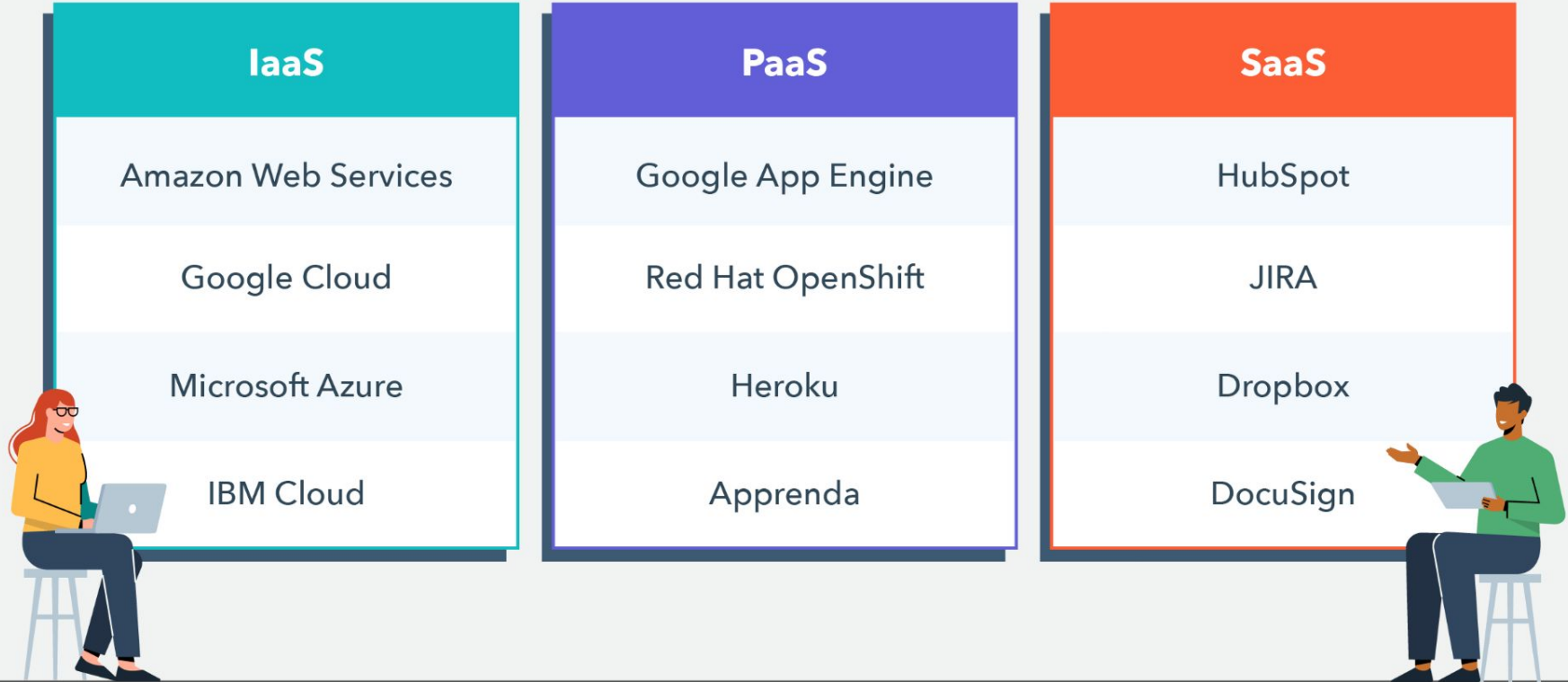
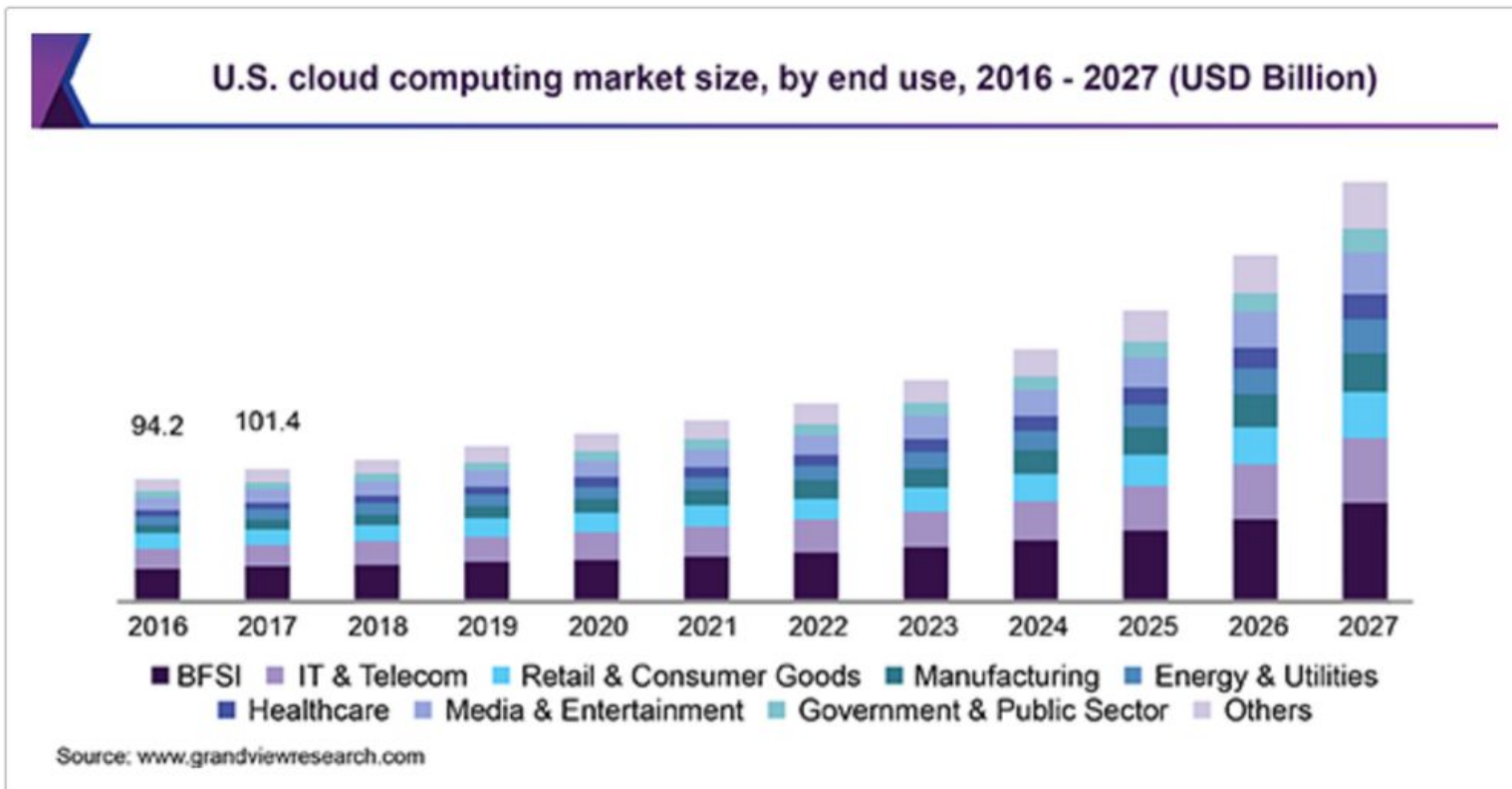# Characteristics of cloud

Agility

Elasticity

Cost savings

Deploy globally in minutes

Use cases of cloud

- IaaS and PaaS
- SaaS
- Hybrid cloud and multi-cloud
- Test and development
- Big data analytics
- Cloud storage
- Disaster recovery and data backup
- Highly available application deployment

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Cloud potentials

U.S. cloud computing market size, by end use, 2016 - 2027 (USD Billion)

94.2 101.4

2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

■ BFSI ■ IT & Telecom ■ Retail & Consumer Goods ■ Manufacturing ■ Energy & Utilities
■ Healthcare ■ Media & Entertainment ■ Government & Public Sector ■ Others

Source: www.grandviewresearch.com

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Average cloud computing career salaries

Role	Salary
Cloud architect	$138,212
Cloud data scientist	$134,580
Cloud consultant	$131,678
Cloud engineer	$130,086
Cloud automation engineer	$122,826
Cloud software engineer	$117,250
Cloud network engineer	$93,591
Cloud security analyst	$91,959
Cloud support engineer	$90,812
Cloud administrator	$72,809

IT and Cloud Computing in **Environmental Science**

Technologies related to environment protection

Renewable Energy Sources

Electric Vehicles (EVs)

Smart Grids

Wastewater Treatment Technologies

Air Quality Monitoring

Remote Sensing and GIS

Ocean Cleanup Technologies

Carbon Capture and Storage (CCS)

Precision Agriculture

Water Purification Technologies

Green Building Materials

E-Waste Recycling
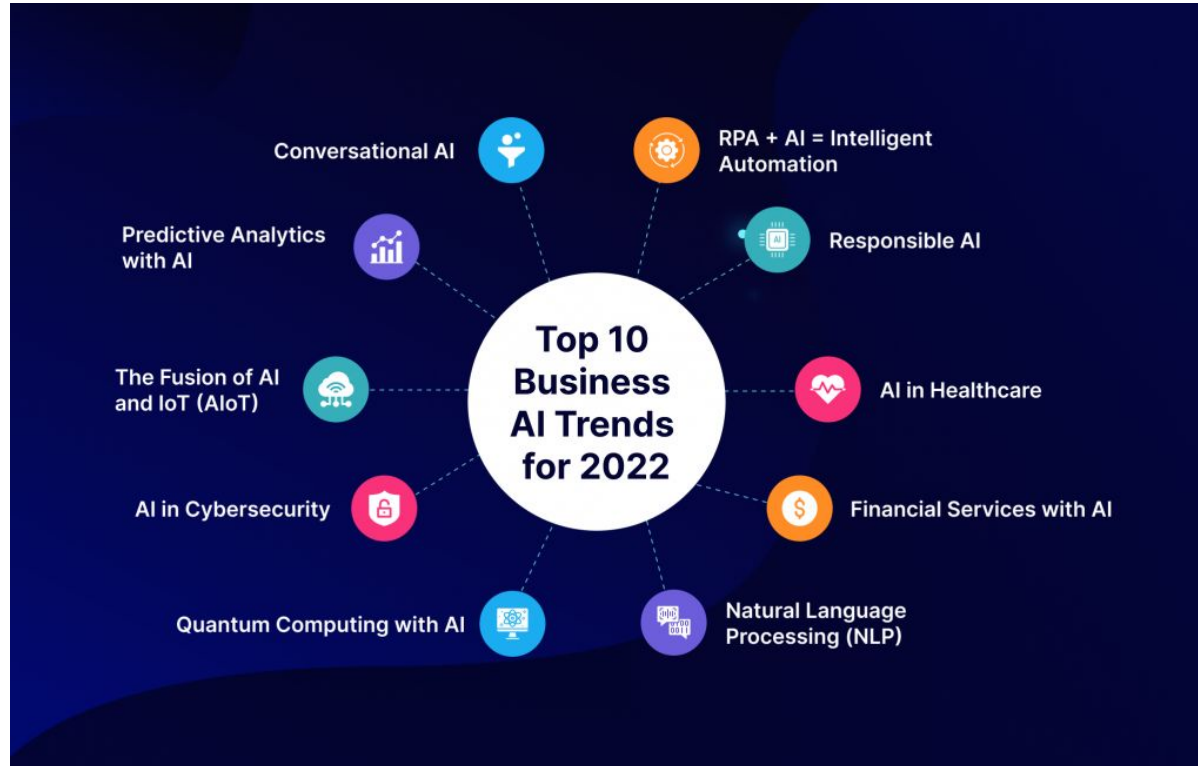
Biodegradable Plastics

Conservation Drones

Please mention any idea of utilizing IT and cloud computing
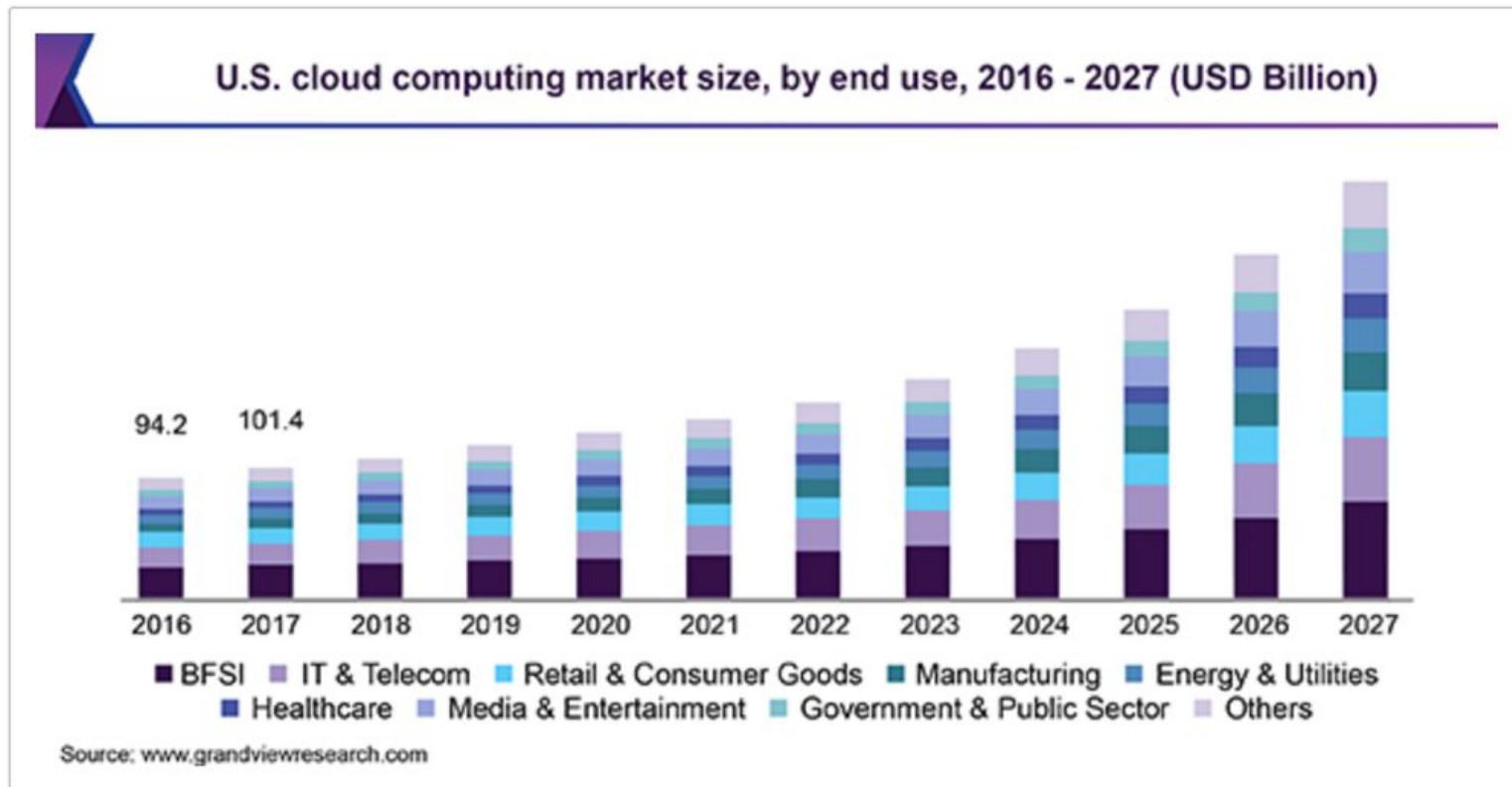for environmental conservation purposes

Submission link: https://forms.gle/Pjk9ZyrctTEbP3xq6

Future trends

Artificial intelligence

Cloud computing & automation

U.S. cloud computing market size, by end use, 2016 - 2027 (USD Billion)

94.2   101.4

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■ Healthcare   ■ Media & Entertainment   ■ Government & Public Sector   ■ Others

Source: www.grandviewresearch.com

Cloud will keep growing and flowing

Public cloud providers

Market share numbers for the top cloud providers as of Q4 2021, according to Synergy Research Group:

- **Amazon Web Services (AWS) - 32%**
- Microsoft Azure - 20%
- Google Cloud Platform (GCP) - 9%
- Alibaba Cloud - 6%
- IBM Cloud - 4%
- Tencent Cloud - 2%
- Oracle Cloud Infrastructure (OCI) - 2%
- Salesforce Cloud - 2%
- VMware Cloud - 1%
- DigitalOcean - 1%

Overview of cloud infrastructure and services

Main division of cloud infrastructure and services:

- Compute
- Storage
- Networking
- Database
- Security
- Machine learning
- Others

Demo

- On-premise (proxmox, traditional servers)
- Smaller cloud providers: Linode, DigitalOcean, etc.
- AWS & GCP

Thank you

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