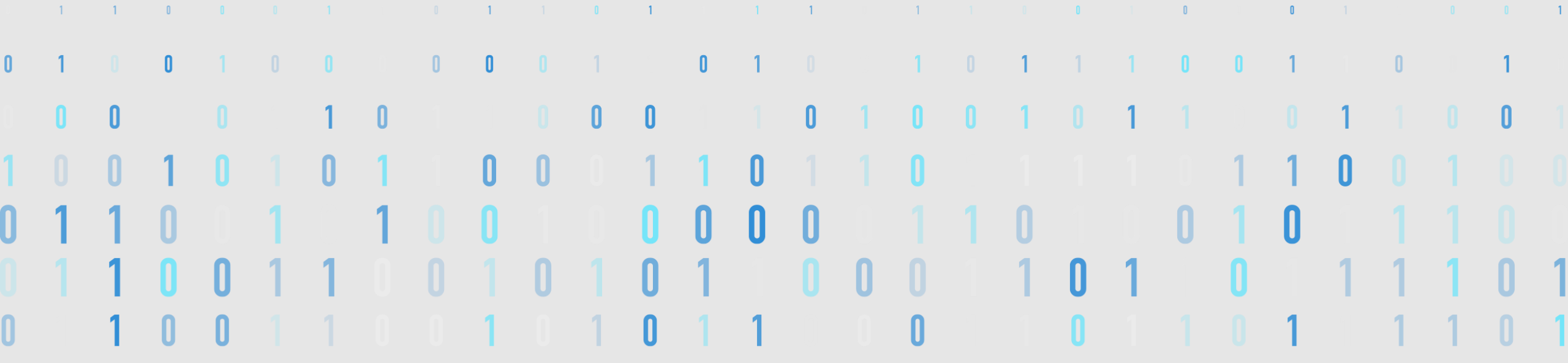
Introduction to Backend Development and Deployment

Via NodeJS and Azure

Session 4 on 20/04/20

Microsoft Student Partners

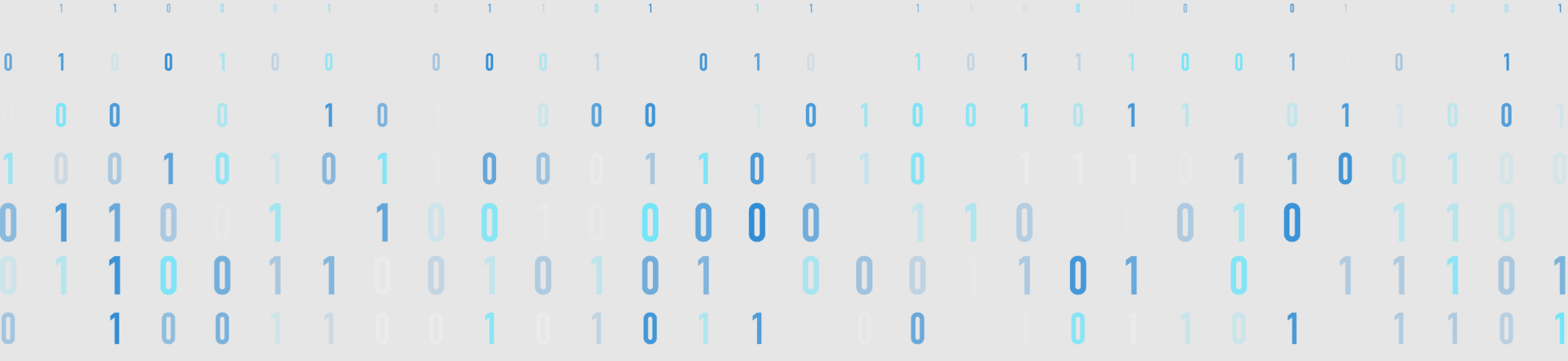
About this Session



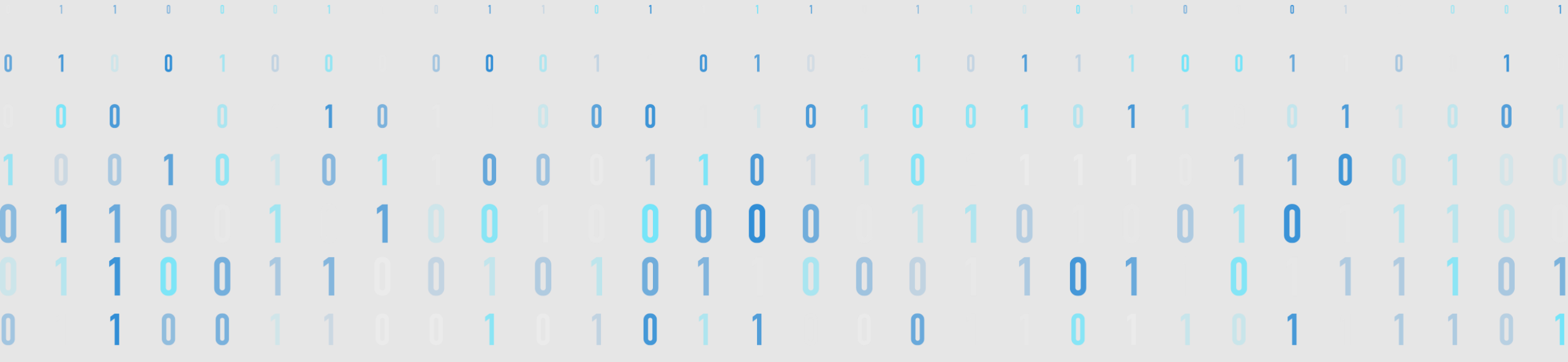
Topic to be covered

- Use Case for REST API
- What's Cloud
- Introduction to Azure
- Azure App Service
  - Introduction
  - Deploying NodeJS App
- Azure VM
  - Introduction
  - Deploying various services on VM

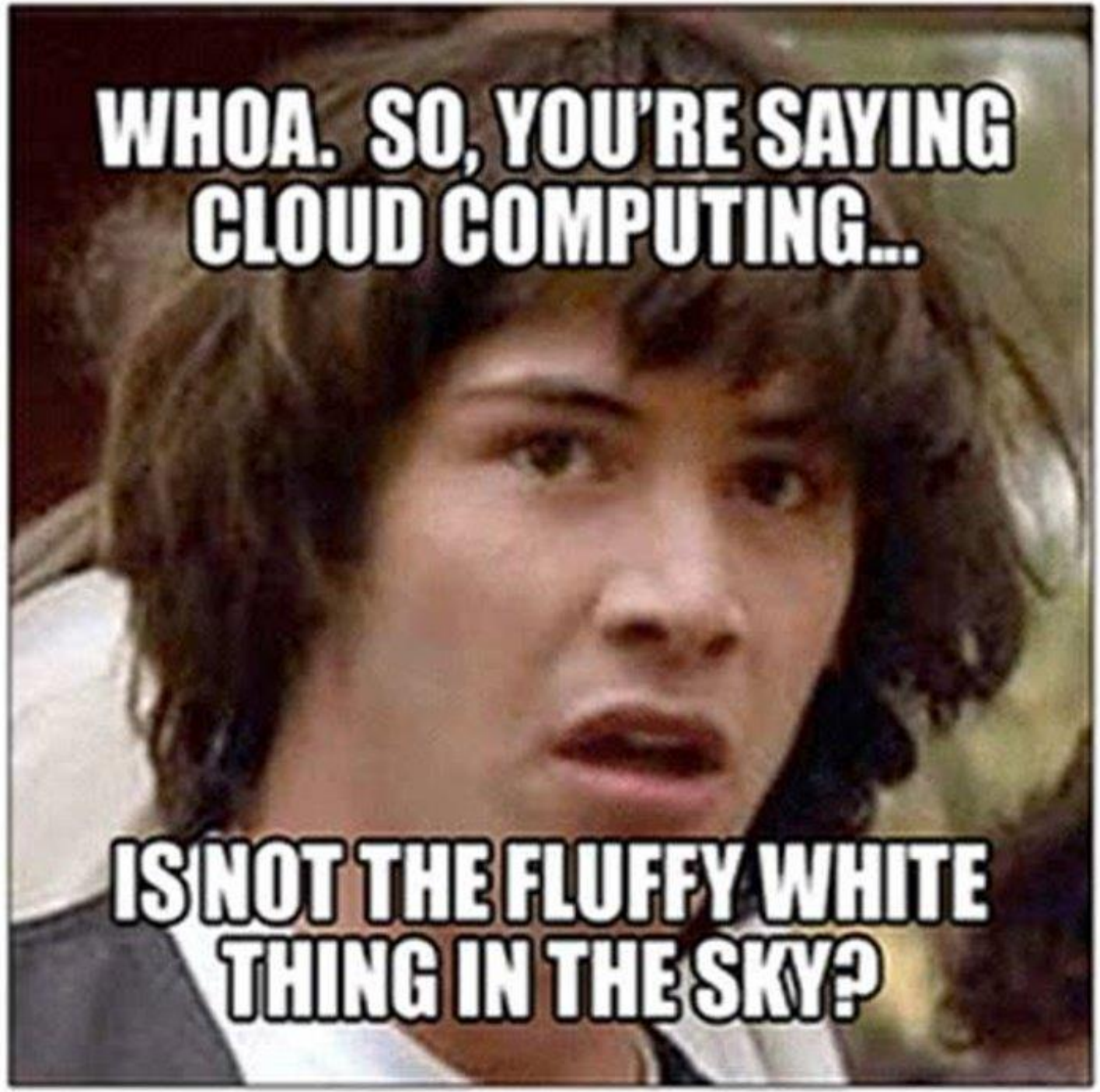
Use Case of REST API



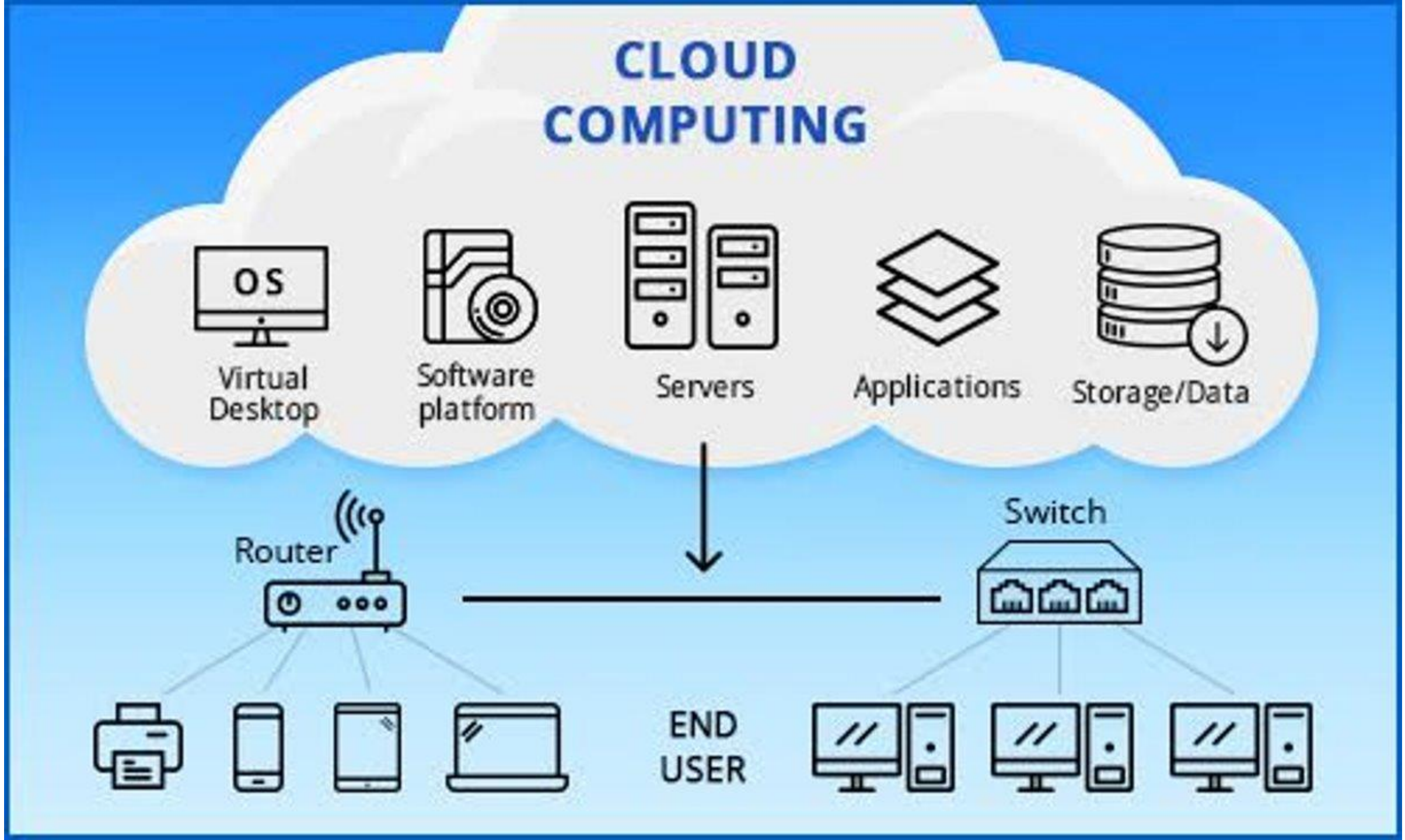
What is cloud?



Cloud Computing?
Computers can fly now?


WHOA. SO, YOU'RE SAYING CLOUD COMPUTING...
IS NOT THE FLUFFY WHITE THING IN THE SKY?

THERE IS NO CLOUD
ONLY SOMEONE ELSES COMPUTER
makeameme.org


CLOUD
COMPUTING
OS
Virtual
Desktop
Software
platform
Servers
Applications
Storage/Data
Router
Switch
END
USER

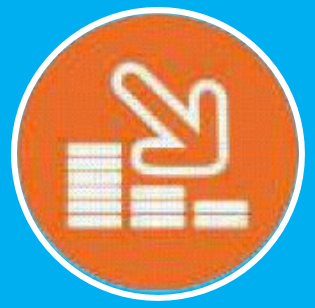
Why Use Cloud?

Speed

- Faster than Traditional Application Development

Scale

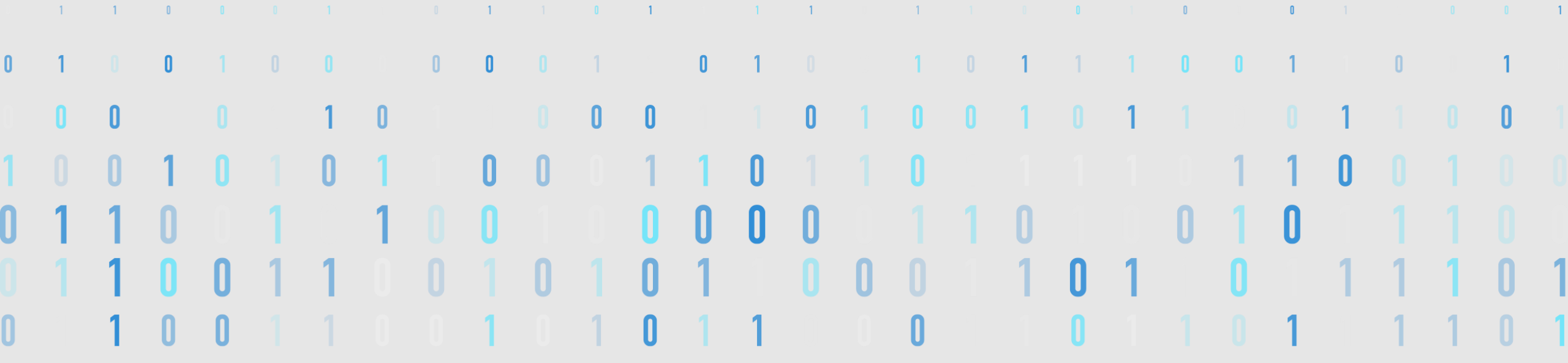
- Scale out Quickly
- Provide Global Scale



Economics

- Lower Cost

Microsoft Azure



What is Azure?

- A complete cloud platform
  - Host existing applications/services
  - Host new applications/services
  - Enhance On-Premise applications/services
- Easy to Scale
- High availability
- Easily manageable services
  - Many ways to manage Azure Services
  - Including the Azure Portal, CLI, REST APIs etc.

Types of Azure Services

Customer Managed

Infrastructure as a Service
(IaaS)

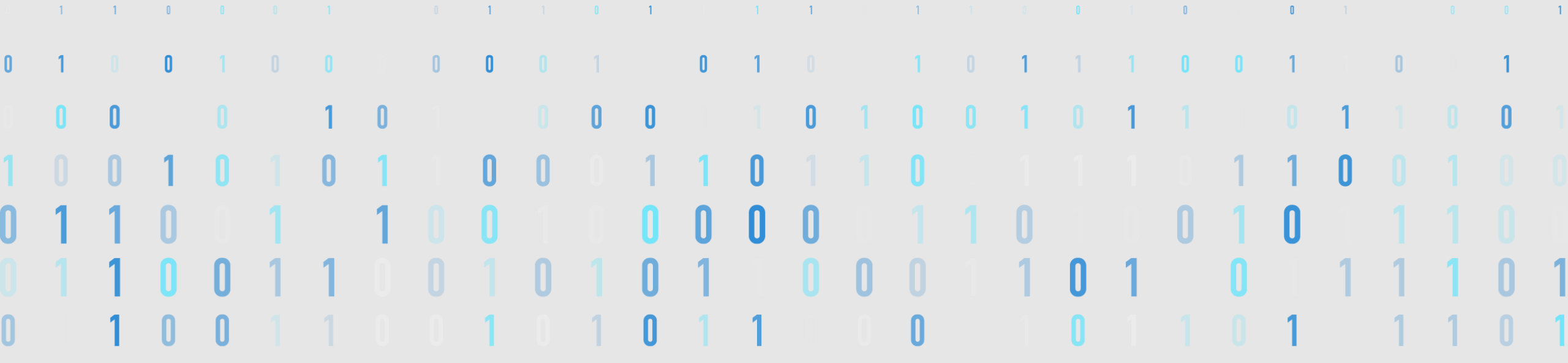
Platform Managed

Platform as a Service
(PaaS)

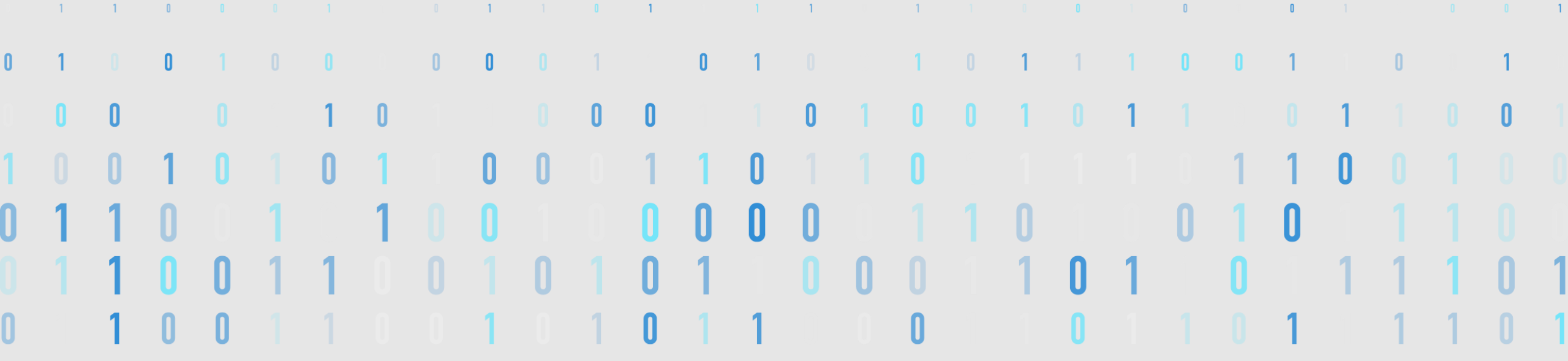
Code Only

Serverless

Demo: Azure Online Portal



App Service

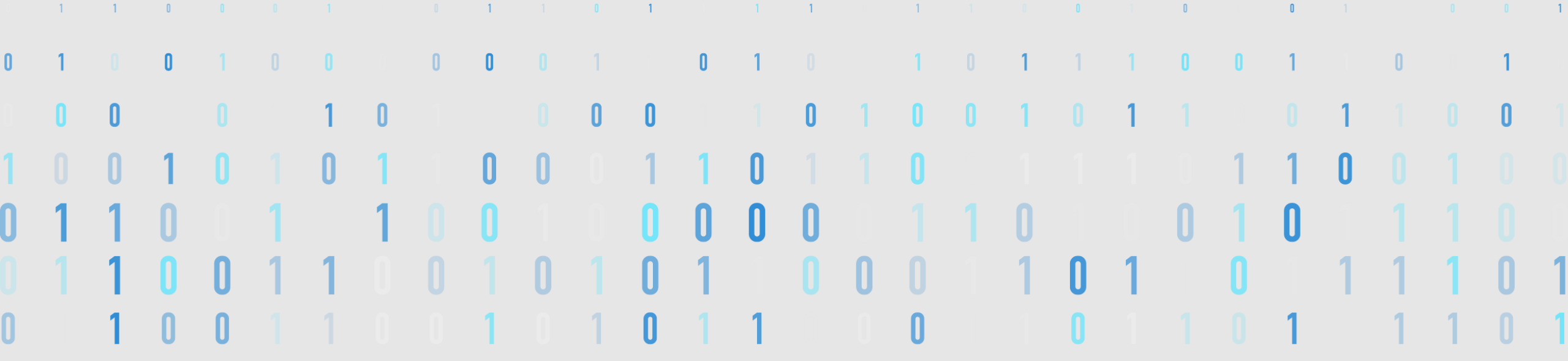


Azure App Service - Web Apps

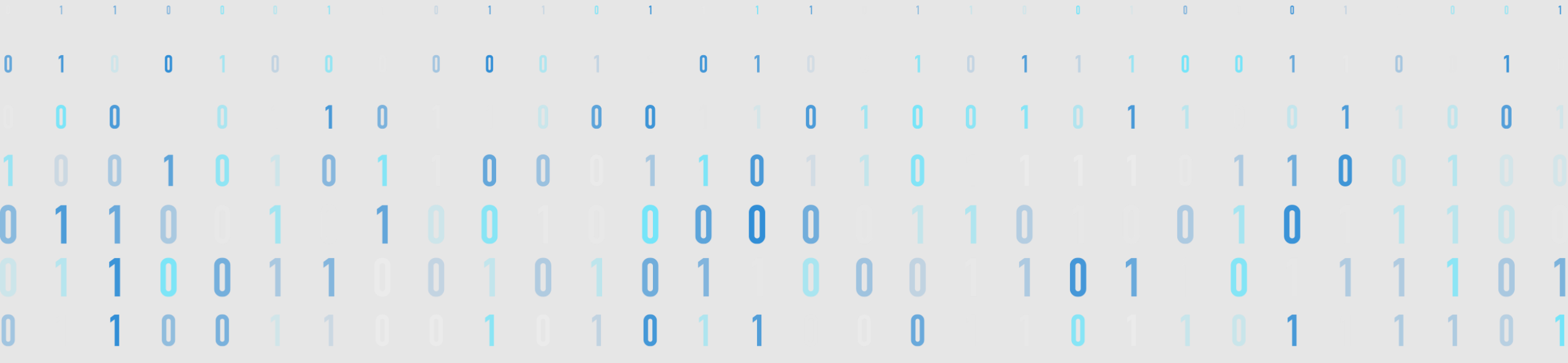
- Service for hosting apps
  - Web Apps, APIs, Mobile backends
- Supports many languages
  - .Net, .Net Core, Java, Ruby, Node.js, PHP, Python
- Run on Linux or Windows
- Easily Scalable
- Add DevOps capabilities
  - CD using VSTS, GitHub, BitBucket etc.

Demo: Deploying NodeJS App on Azure App Service

Repo: https://github.com/ieeeditu/NodeJS-Azure-Deployment



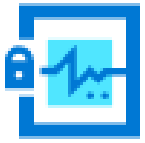
Virtual Machine



- Deploy virtual machines featuring up to 416 vCPUs and 12 TB of memory. Get up to 3.7 million local storage IOPS per VM. Take advantage of up to 30 Gbps Ethernet and cloud's first deployment of 200 Gbps InfiniBand.

Keep your budget in check with low-cost, per-second billing. You only pay for the compute time you use

Scale from one to thousands of VM instances in minutes with VM Scale Sets

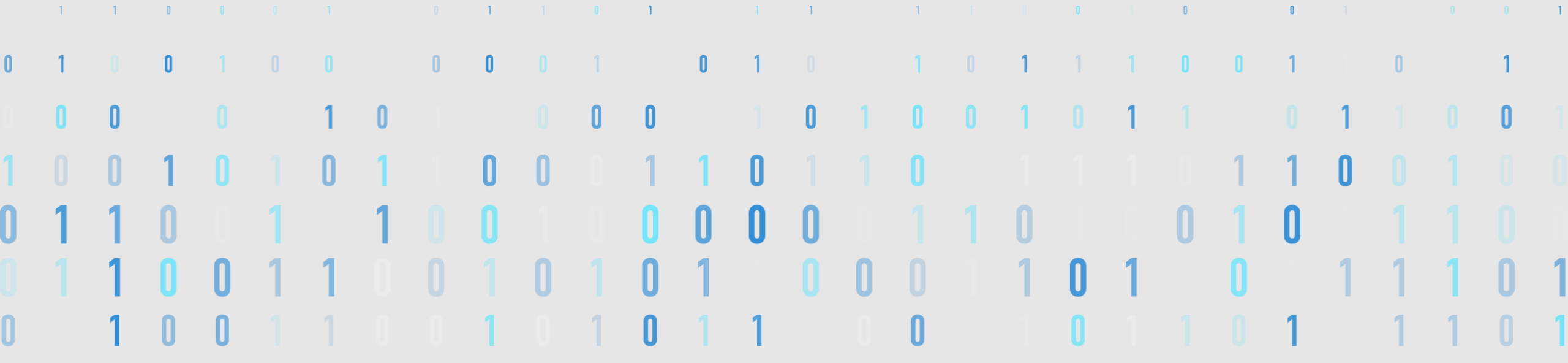


Encrypt sensitive data, protect VMs from malicious threats, secure network traffic and meet regulatory and compliance requirements

Choose Linux or Windows. Deploy your own VM image or download images from the Azure Marketplace

Demo: Deploying NodeJS App on Azure VM

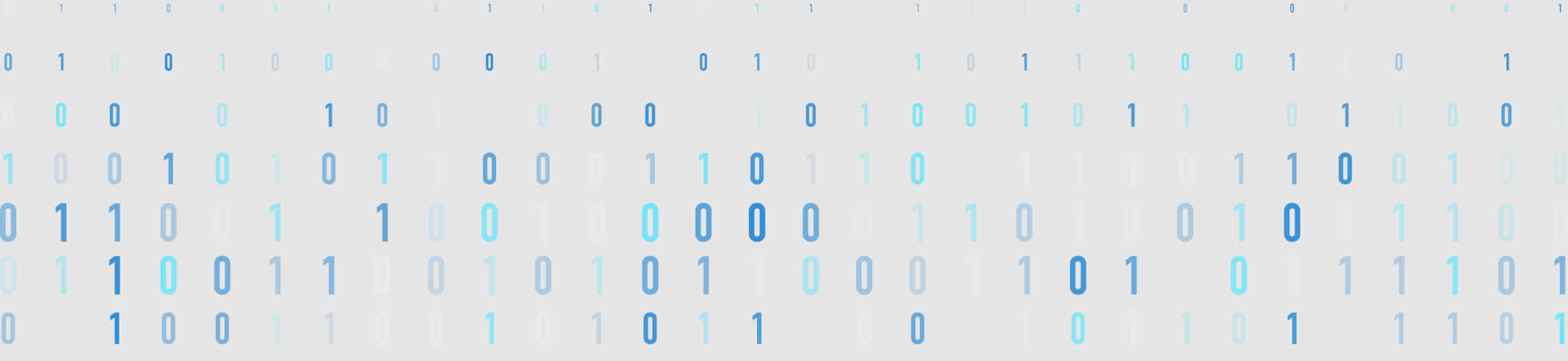
Repo: https://github.com/ieeeditu/NodeJS-Azure-Deployment



Enter following command after getting shell access of your Virtual machine:

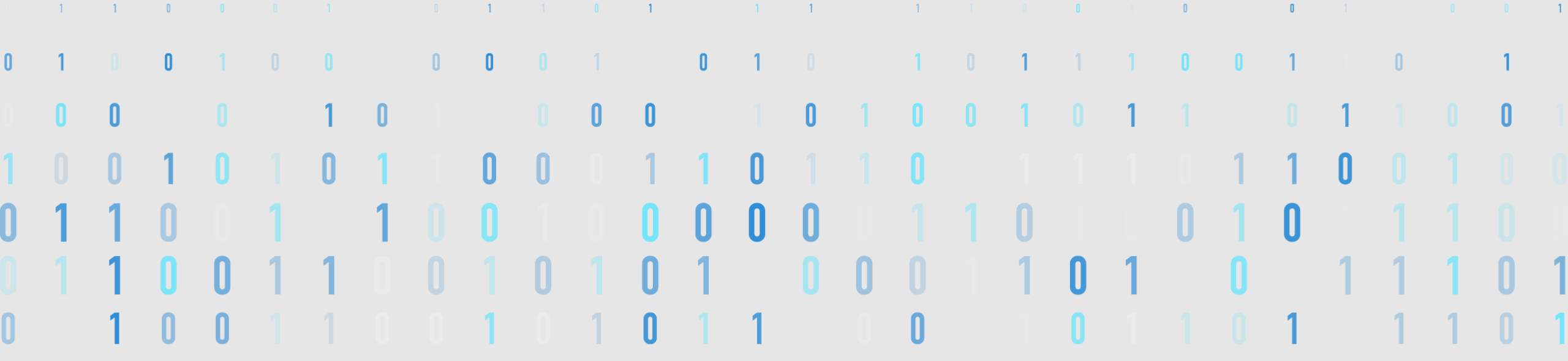
1. sudo apt-get update
2. sudo apt install nodejs
3. sudo apt install npm
4. git clone https://github.com/ieeeditu/NodeJS-Azure-Deployment
5. cd NodeJS-Azure-Deployment
6. node index.js

Azure For Students (https://azure.microsoft.com/en-in/free/students/)

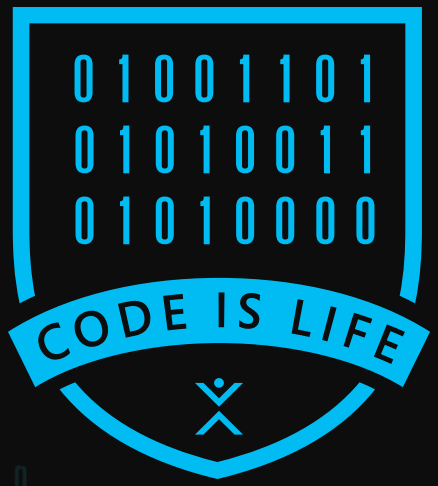


Series Review

https://forms.office.com/Pages/ResponsePage.aspx?id=oBzDhDusrk6tEVGdgCM-b_ulMYntdY5Psai6_YZWmOFUOVJPWklQNFVDMkM0SDA0RjFCUFJPVUdSVi4u



Thank You



About The Speaker

Himanshu Kotnala
Email: kotnala.himanshu@gmail.com
MSP Collaboration: himanshukotnala@studentpartner.com
LinkedIn: https://www.linkedin.com/in/aker99/
Github: https://github.com/aker99/

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