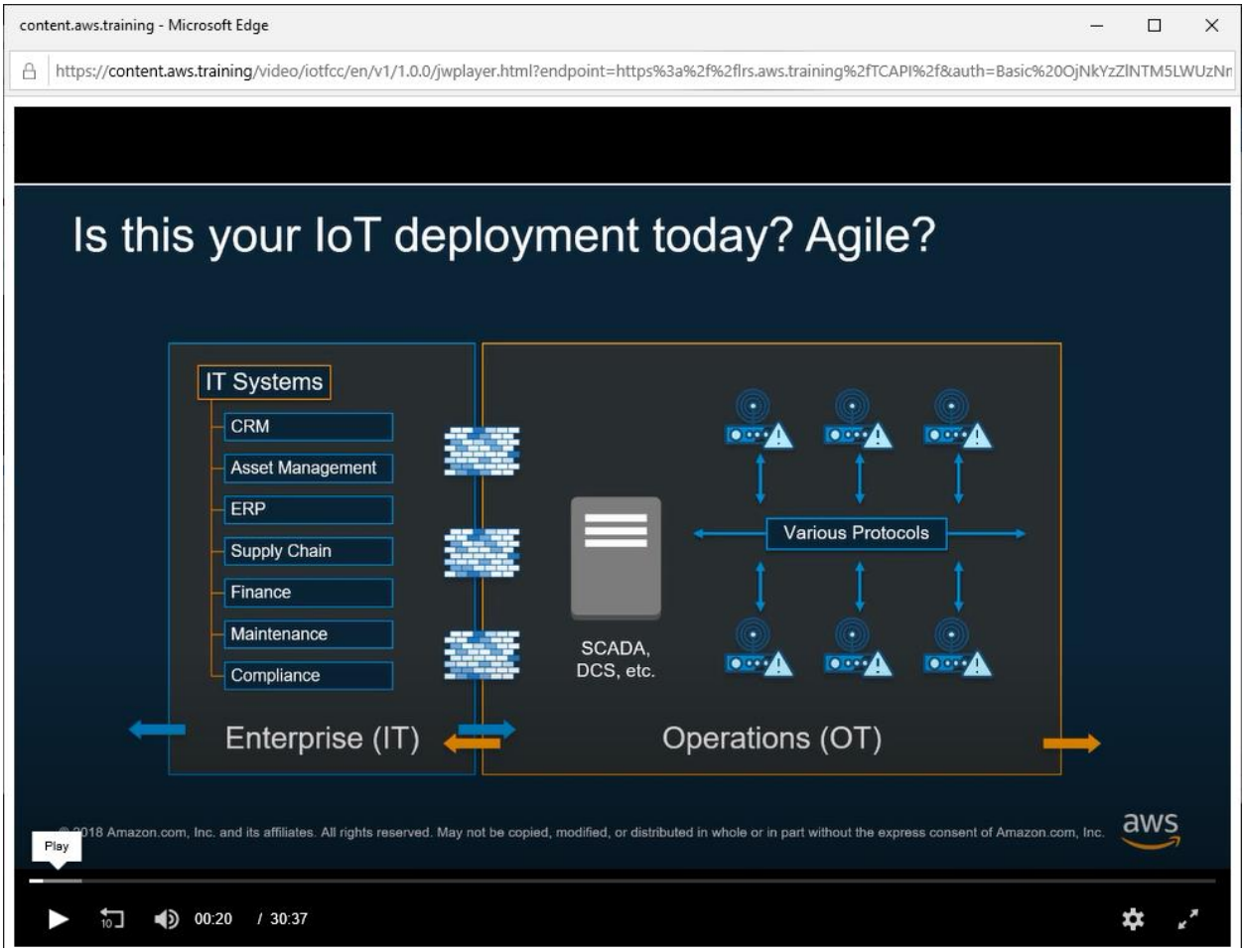
content.aws.training - Microsoft Edge
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Is this your IoT deployment today? Agile?
IT Systems
CRM
Asset Management
ERP
Supply Chain
Finance
Maintenance
Compliance
SCADA,
DCS, etc.
Various Protocols
Enterprise (IT)
Operations (OT)
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aws
Play
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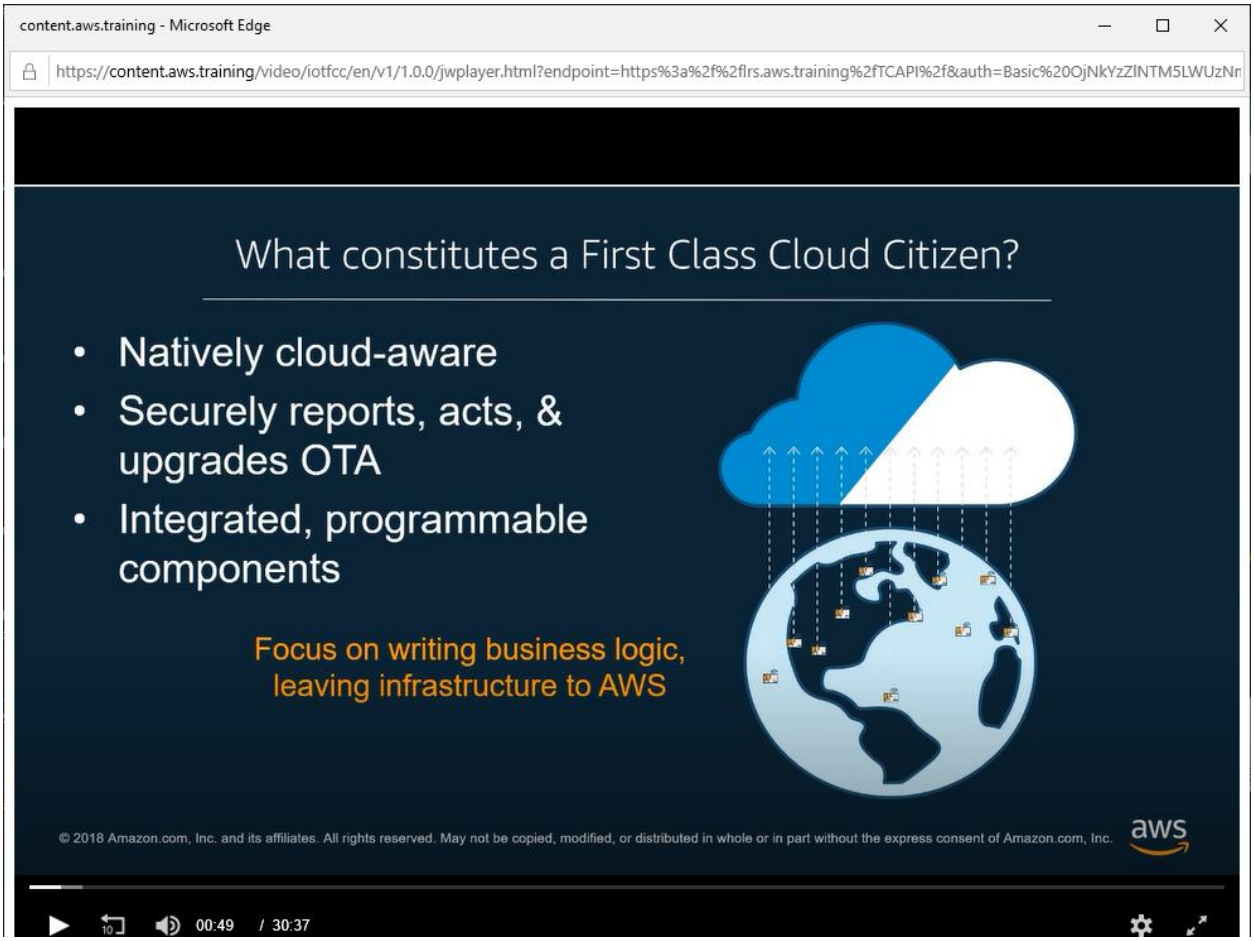
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
What constitutes a First Class Cloud Citizen?
• Natively cloud-aware
• Securely reports, acts, & upgrades OTA
• Integrated, programmable components
Focus on writing business logic, leaving infrastructure to AWS
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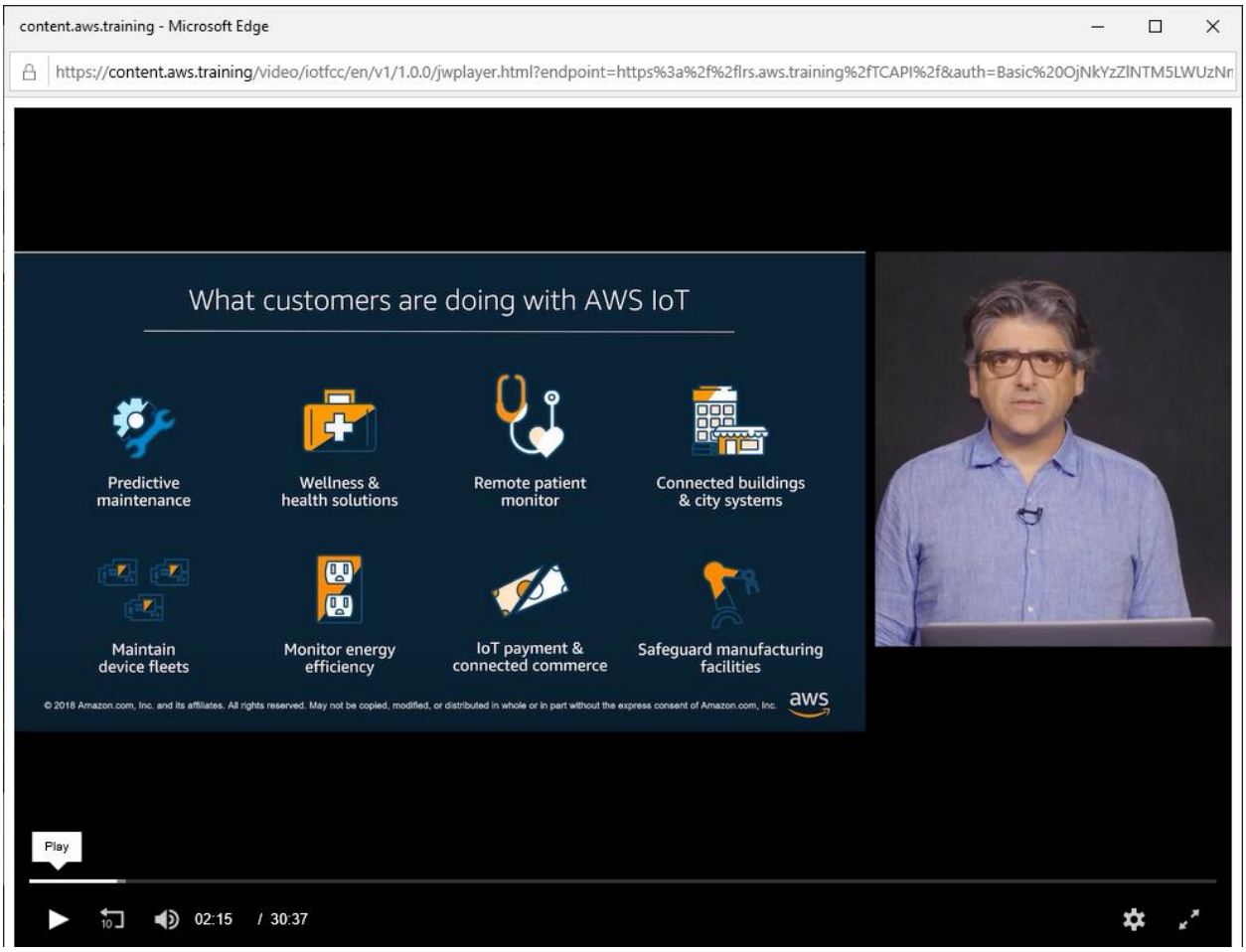
aws
00:49
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
What customers are doing with AWS IoT
Predictive maintenance
Wellness & health solutions
Remote patient monitor
Connected buildings & city systems
Maintain device fleets
Monitor energy efficiency
IoT payment & connected commerce
Safeguard manufacturing facilities
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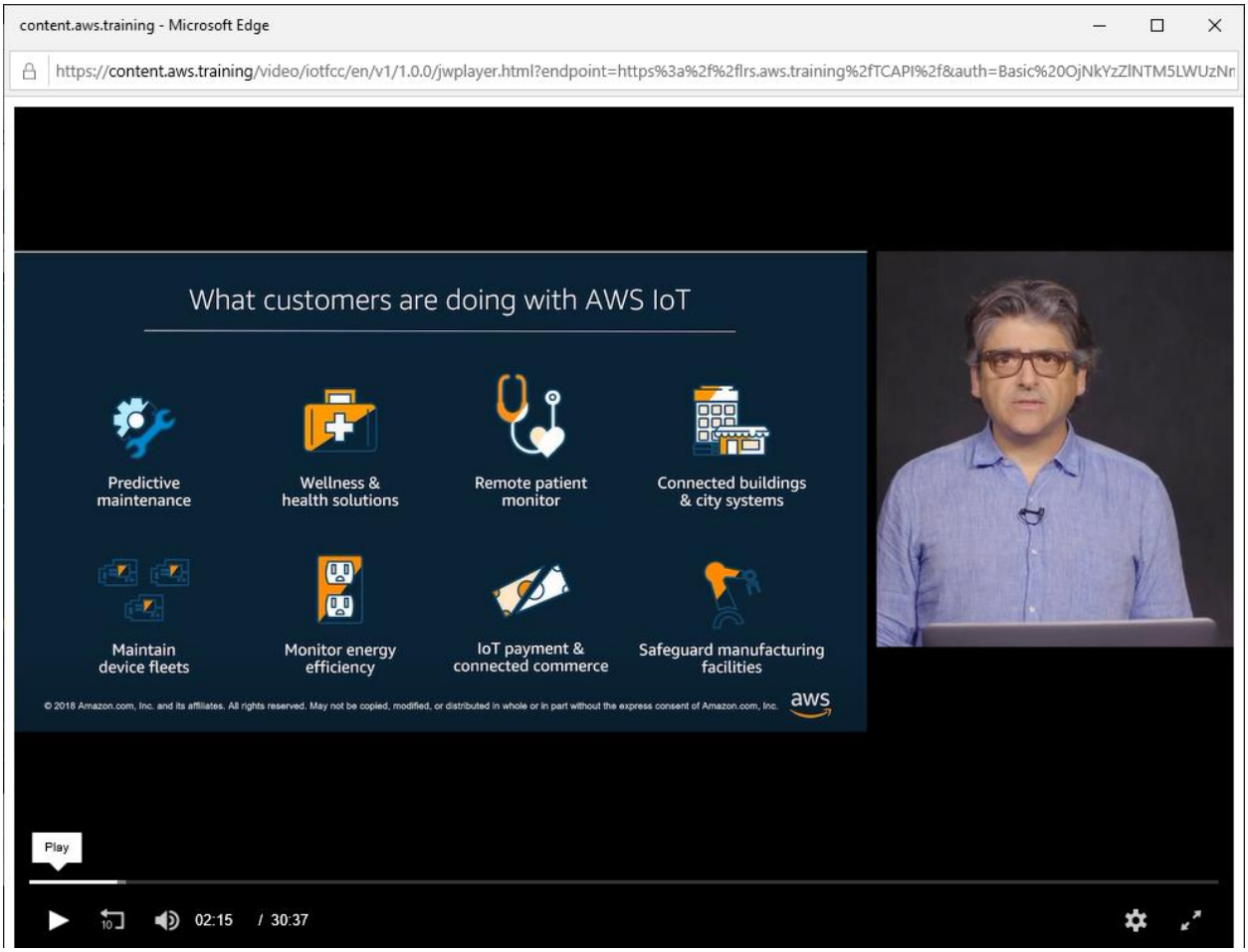
aws
Play
02:15
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
What customers are doing with AWS IoT
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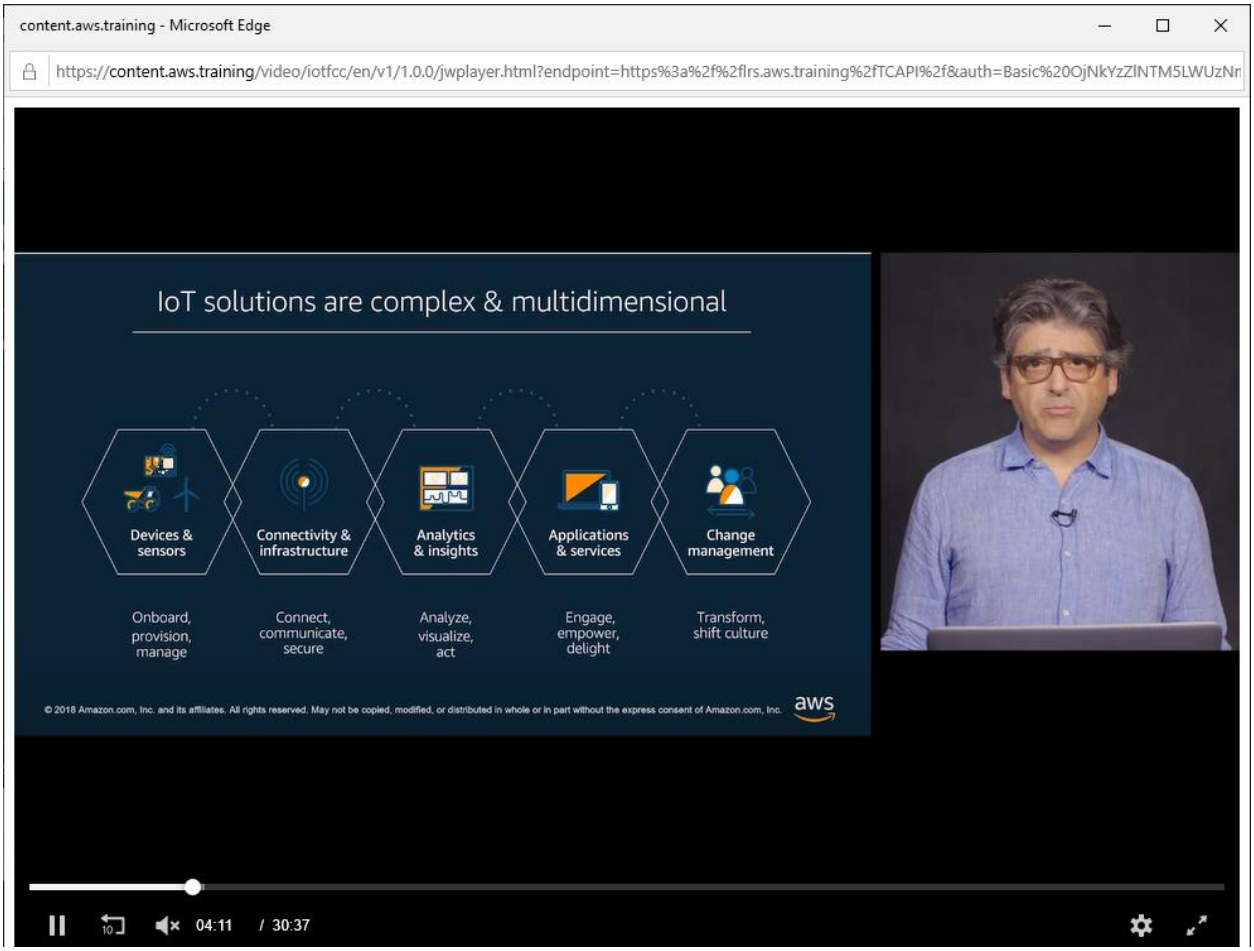
aws
Play
02:15
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
IoT solutions are complex & multidimensional
Devices & sensors
Connectivity & infrastructure
Analytics & insights
Applications & services
Change management
Onboard, provision, manage
Connect, communicate, secure
Analyze, visualize, act
Engage, empower, delight
Transform, shift culture
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aws
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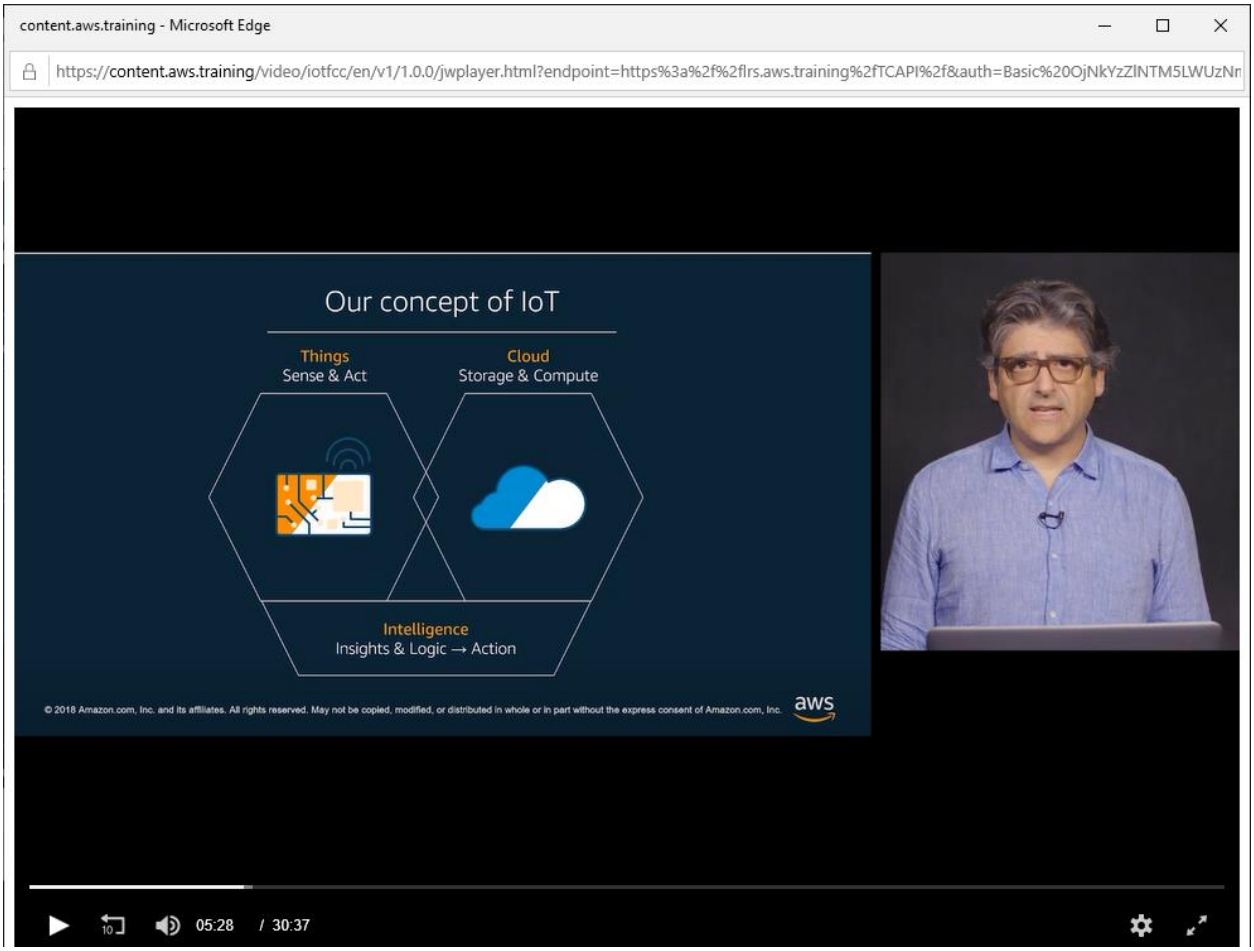
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
Our concept of IoT
Things
Sense & Act
Cloud
Storage & Compute
Intelligence
Insights & Logic → Action
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05:28
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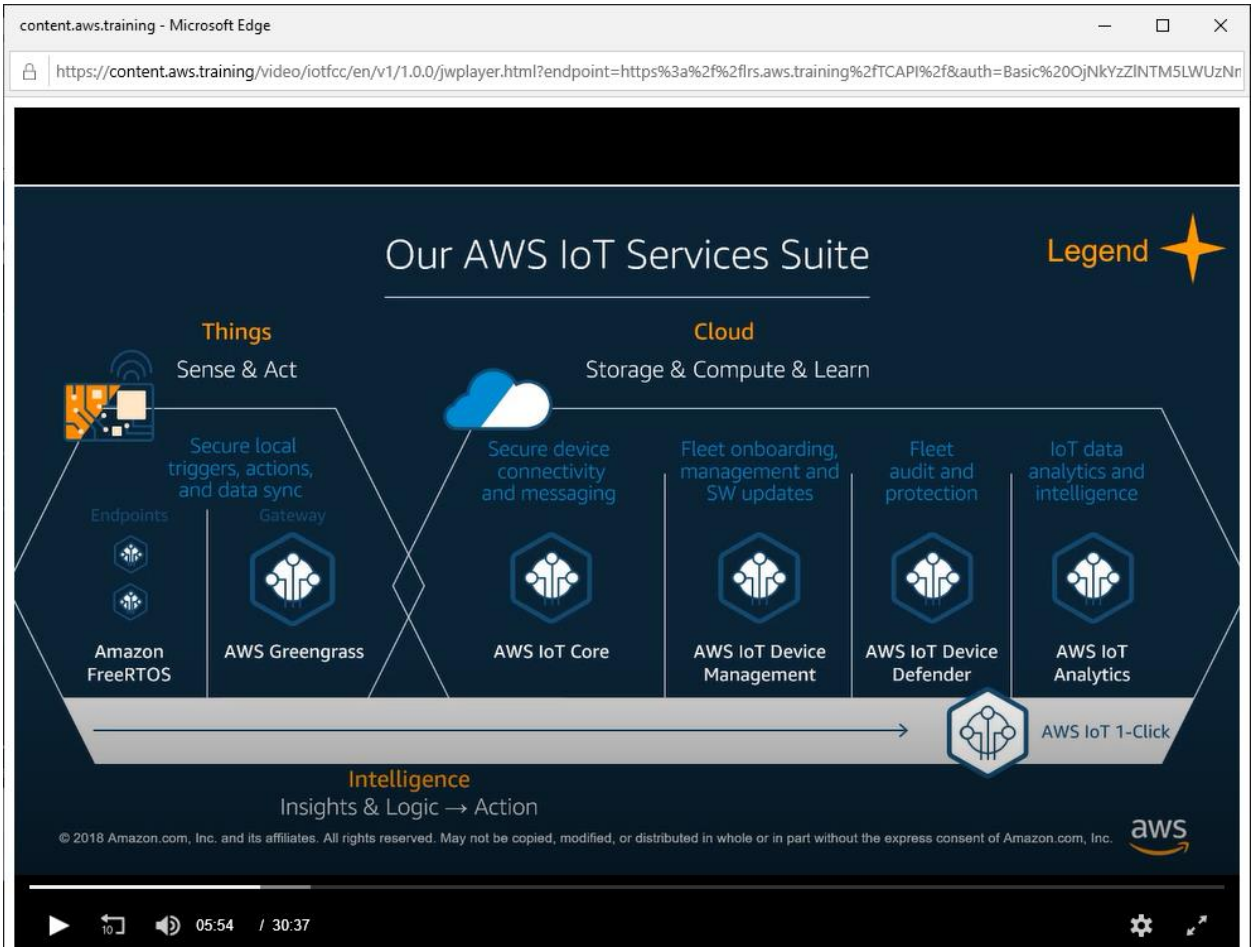
content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
Our AWS IoT Services Suite
Legend
Things
Sense & Act
Cloud
Storage & Compute & Learn
Secure local triggers, actions, and data sync
Endpoints
Gateway
Amazon FreeRTOS
AWS Greengrass
Secure device connectivity and messaging
AWS IoT Core
Fleet onboarding, management and SW updates
AWS IoT Device Management
Fleet audit and protection
AWS IoT Device Defender
IoT data analytics and intelligence
AWS IoT Analytics
AWS IoT 1-Click
Intelligence
Insights & Logic → Action
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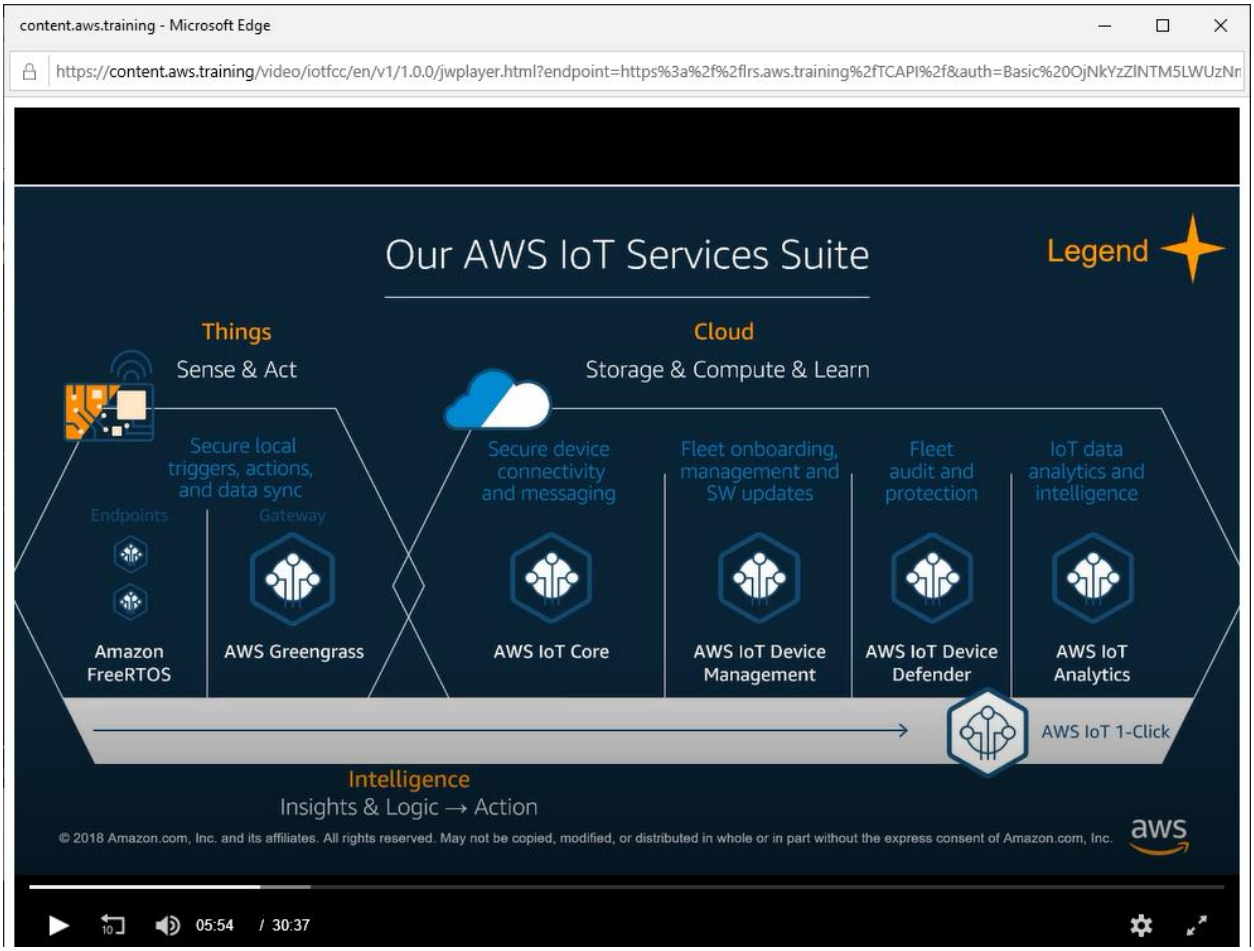
aws
05:54
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
Our AWS IoT Services Suite
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Storage & Compute & Learn
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Endpoints
Gateway
Amazon FreeRTOS
AWS Greengrass
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IoT data analytics and intelligence
AWS IoT Analytics
AWS IoT 1-Click
Intelligence
Insights & Logic → Action
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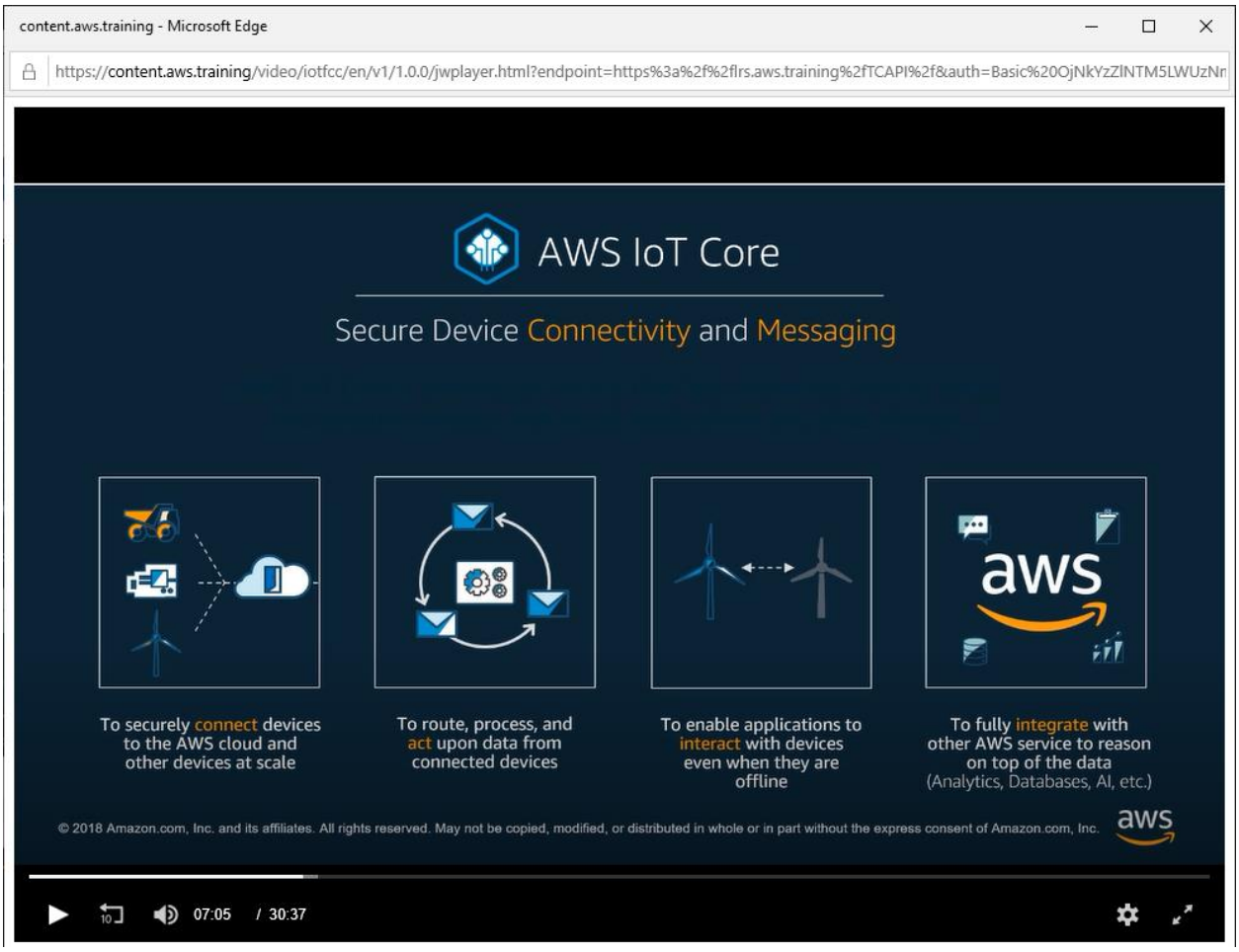
aws
05:54
/ 30:37


content.aws.training - Microsoft Edge
https://content.aws.training/video/iotfcc/en/v1/1.0.0/jwplayer.html?endpoint=https%3a%2f%2flrs.aws.training%2fTCAPI%2f&auth=Basic%20OjNkYzZlNTM5LWUzNr
AWS IoT Core
Secure Device Connectivity and Messaging
To securely connect devices to the AWS cloud and other devices at scale
To route, process, and act upon data from connected devices
To enable applications to interact with devices even when they are offline
To fully integrate with other AWS service to reason on top of the data (Analytics, Databases, AI, etc.)
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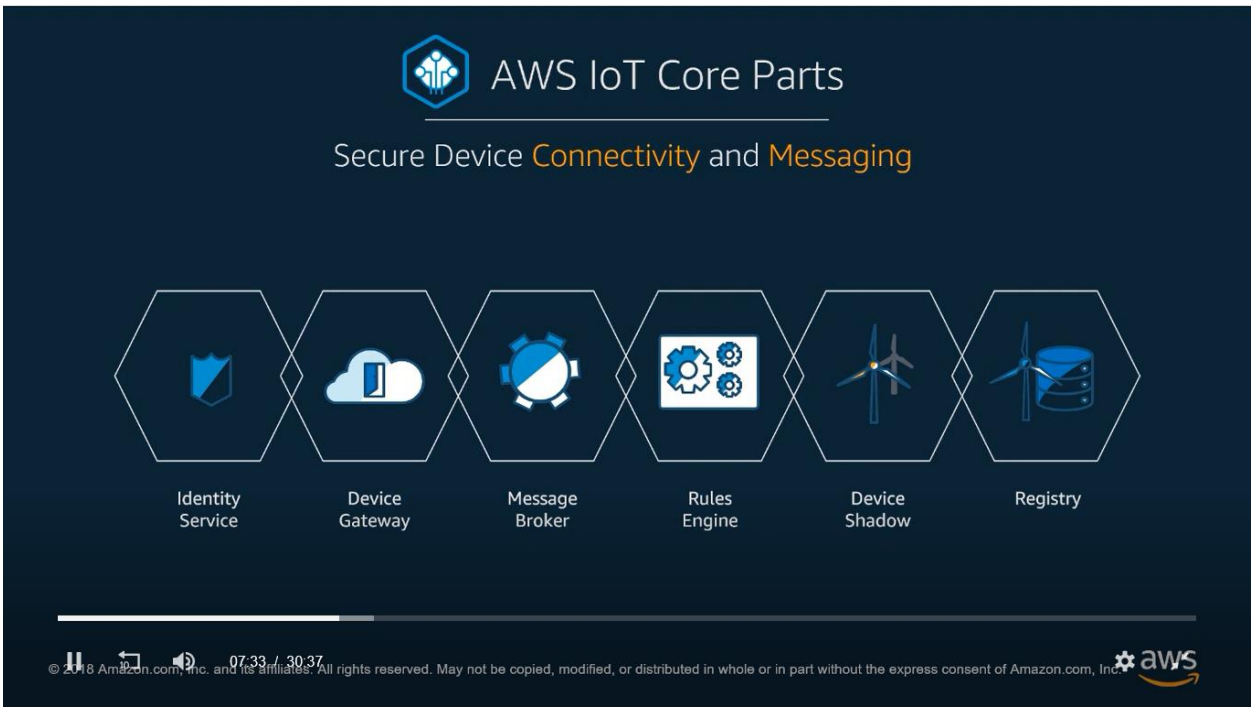
aws
07:05 / 30:37


AWS IoT Core Parts
Secure Device Connectivity and Messaging
Identity Service
Device Gateway
Message Broker
Rules Engine
Device Shadow
Registry
07:33 / 30:37
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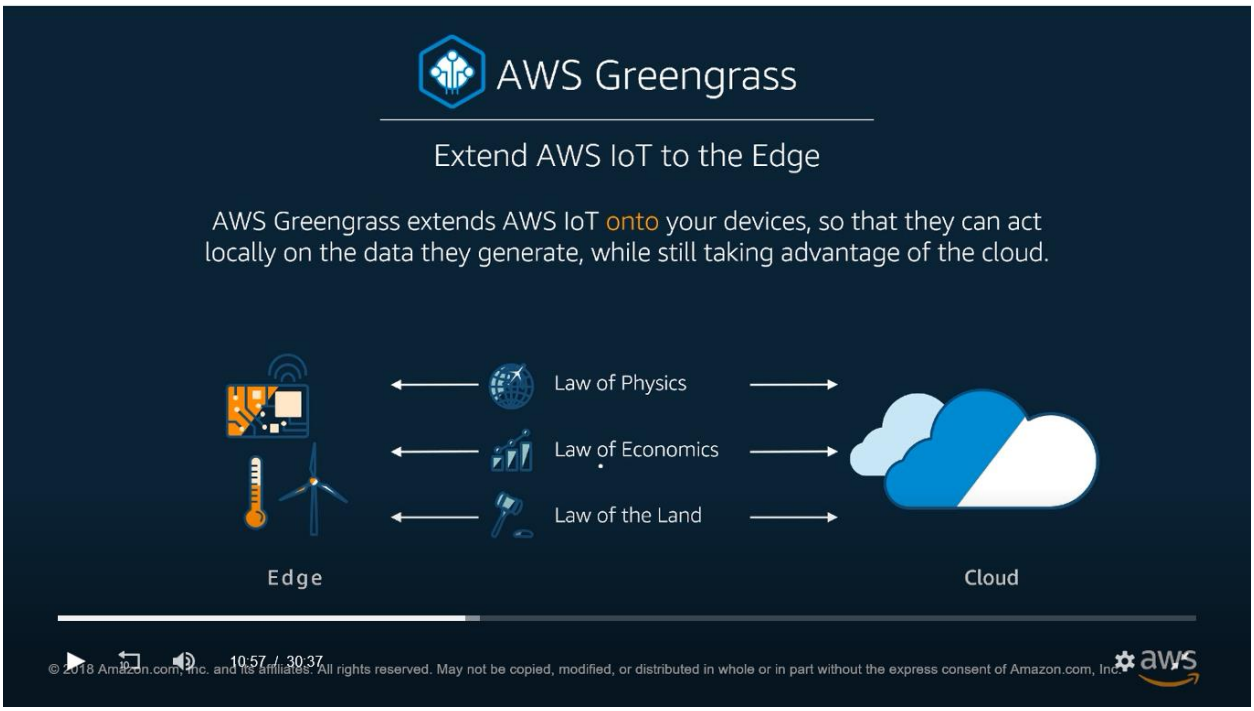
AWS Greengrass
Extend AWS IoT to the Edge
AWS Greengrass extends AWS IoT onto your devices, so that they can act locally on the data they generate, while still taking advantage of the cloud.
Law of Physics
Law of Economics
Law of the Land
Edge
Cloud
10:57 / 30:37
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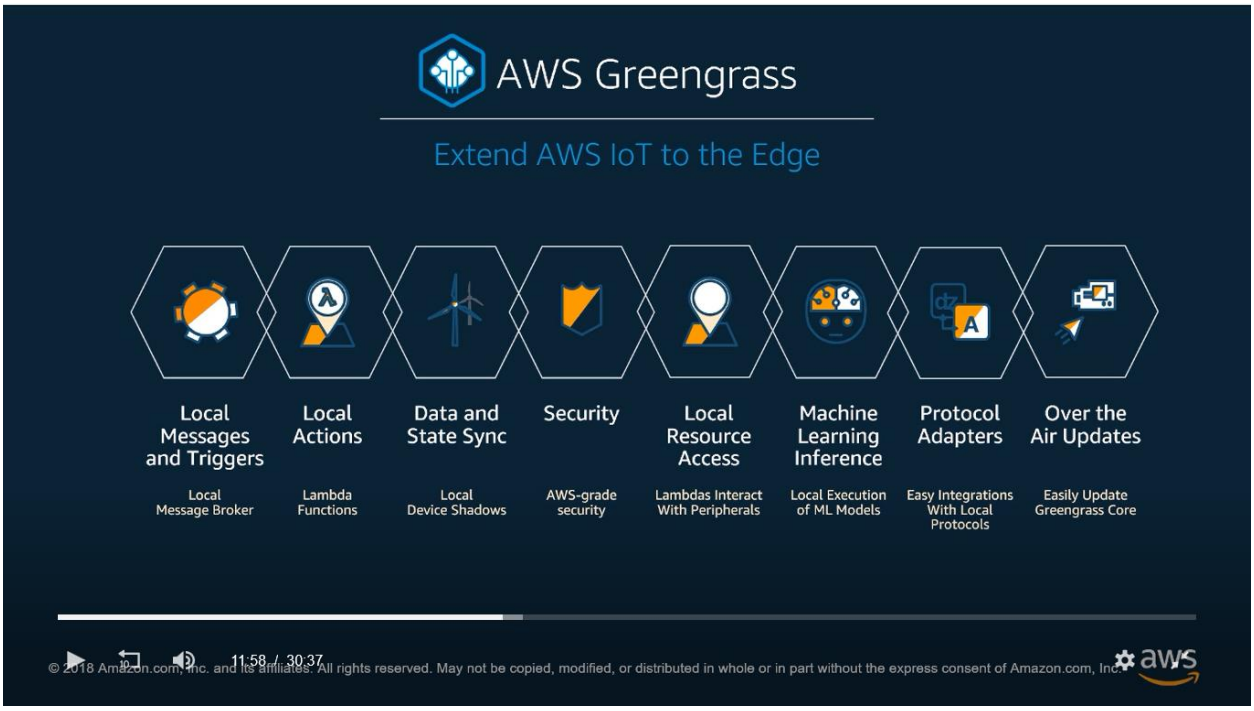
AWS Greengrass
Extend AWS IoT to the Edge
Local Messages and Triggers
Local Message Broker
Local Actions
Lambda Functions
Data and State Sync
Local Device Shadows
Security
AWS-grade security
Local Resource Access
Lambdas Interact With Peripherals
Machine Learning Inference
Local Execution of ML Models
Protocol Adapters
Easy Integrations With Local Protocols
Over the Air Updates
Easily Update Greengrass Core
11:58 / 30:37
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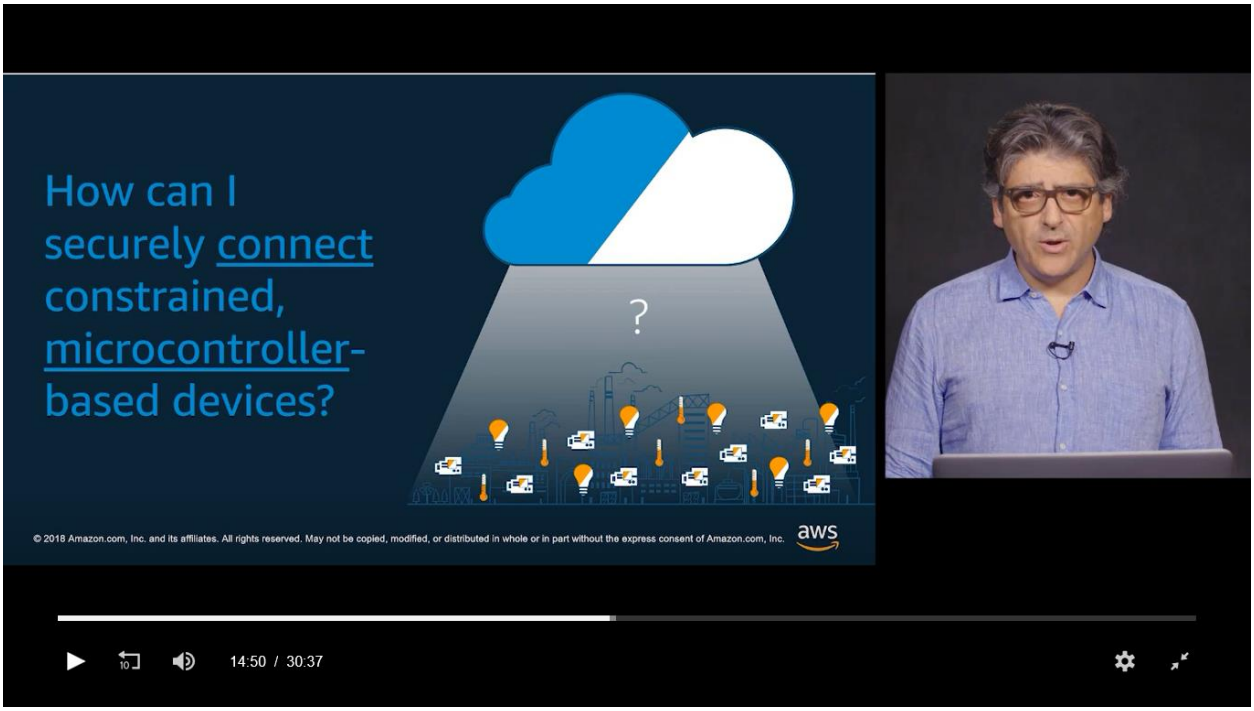
aws


How can I securely connect constrained, microcontroller-based devices?
?
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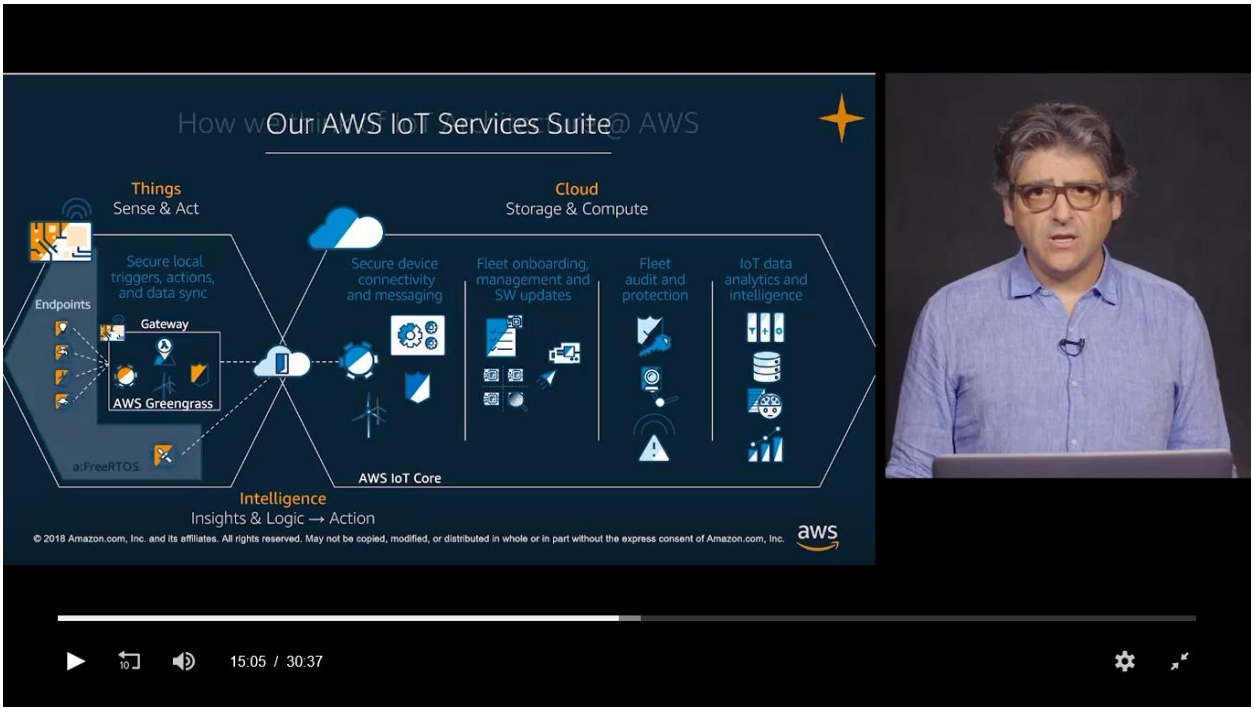
aws
14:50 / 30:37


Our AWS IoT Services Suite
Things
Sense & Act
Secure local triggers, actions, and data sync
Endpoints
Gateway
AWS Greengrass
a:FreeRTOS
Cloud
Storage & Compute
Secure device connectivity and messaging
Fleet onboarding, management and SW updates
Fleet audit and protection
IoT data analytics and intelligence
AWS IoT Core
Intelligence
Insights & Logic → Action
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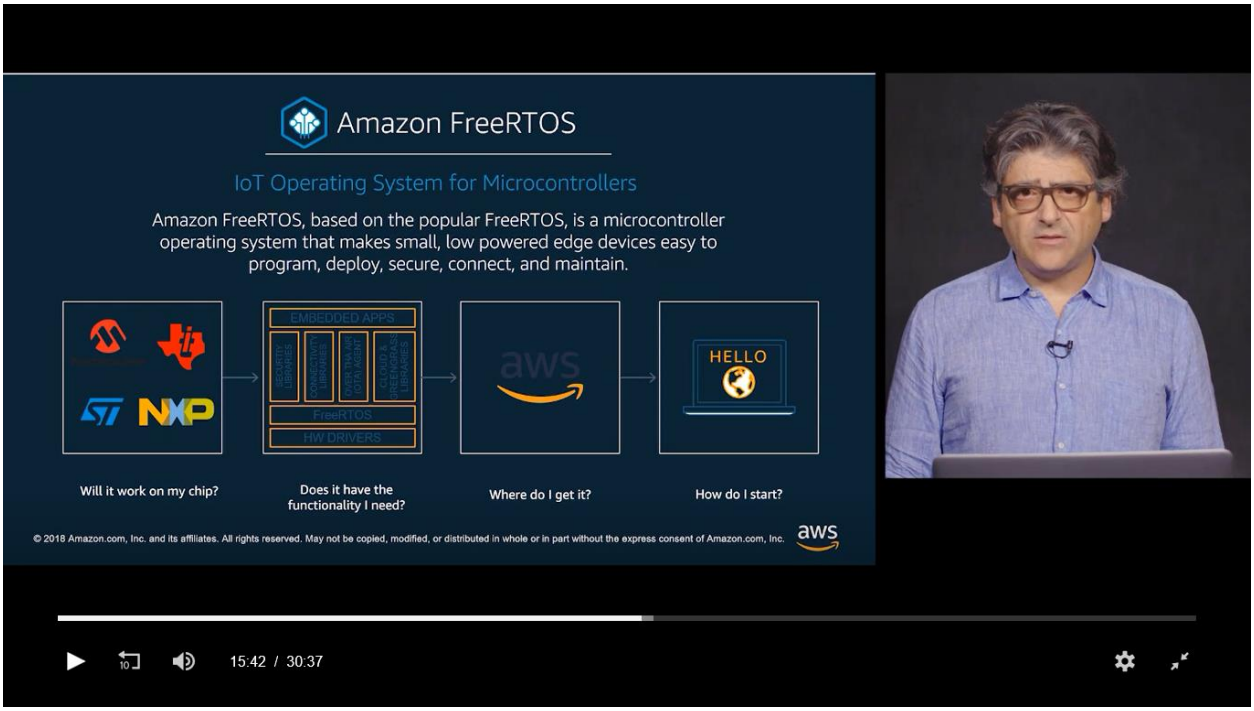
aws
15:05 / 30:37


Amazon FreeRTOS
IoT Operating System for Microcontrollers
Amazon FreeRTOS, based on the popular FreeRTOS, is a microcontroller operating system that makes small, low powered edge devices easy to program, deploy, secure, connect, and maintain.
EMBEDDED APPS
FreeRTOS
HW DRIVERS
HELLO
Will it work on my chip?
Does it have the functionality I need?
Where do I get it?
How do I start?
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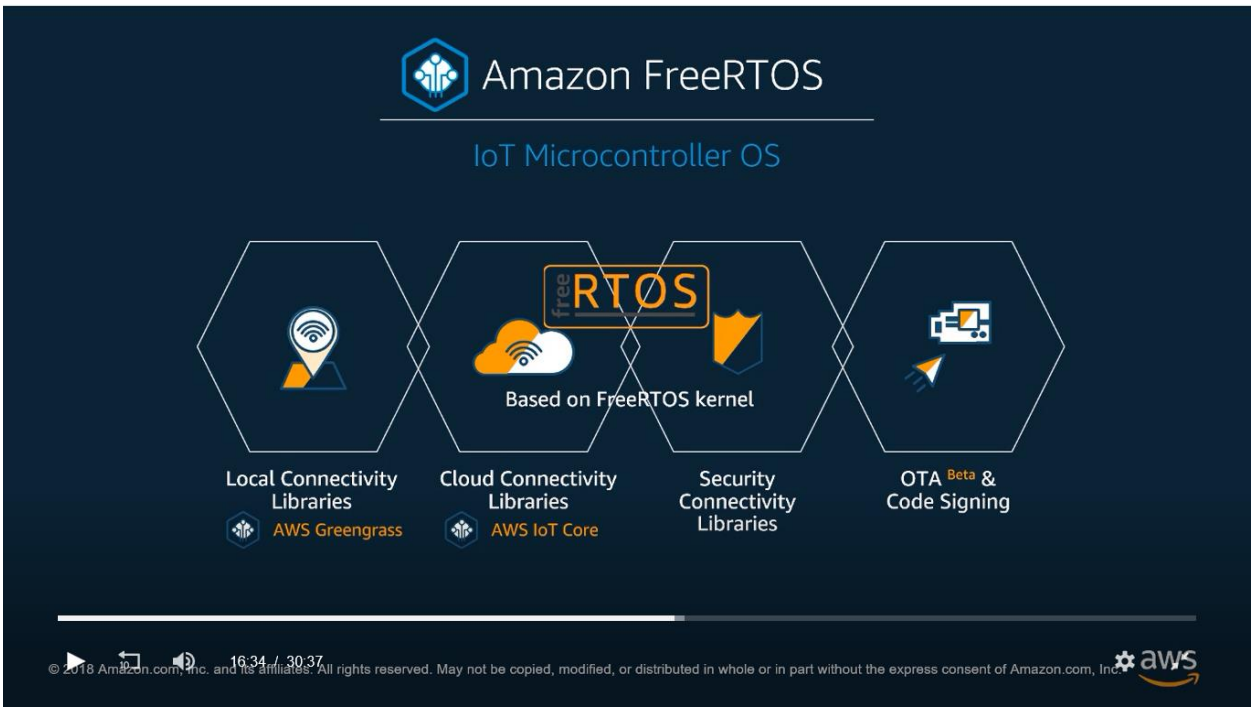
15:42 / 30:37


Amazon FreeRTOS
IoT Microcontroller OS
free RTOS
Based on FreeRTOS kernel
Local Connectivity Libraries
AWS Greengrass
Cloud Connectivity Libraries
AWS IoT Core
Security Connectivity Libraries
OTA Beta & Code Signing
16:34 / 30:37
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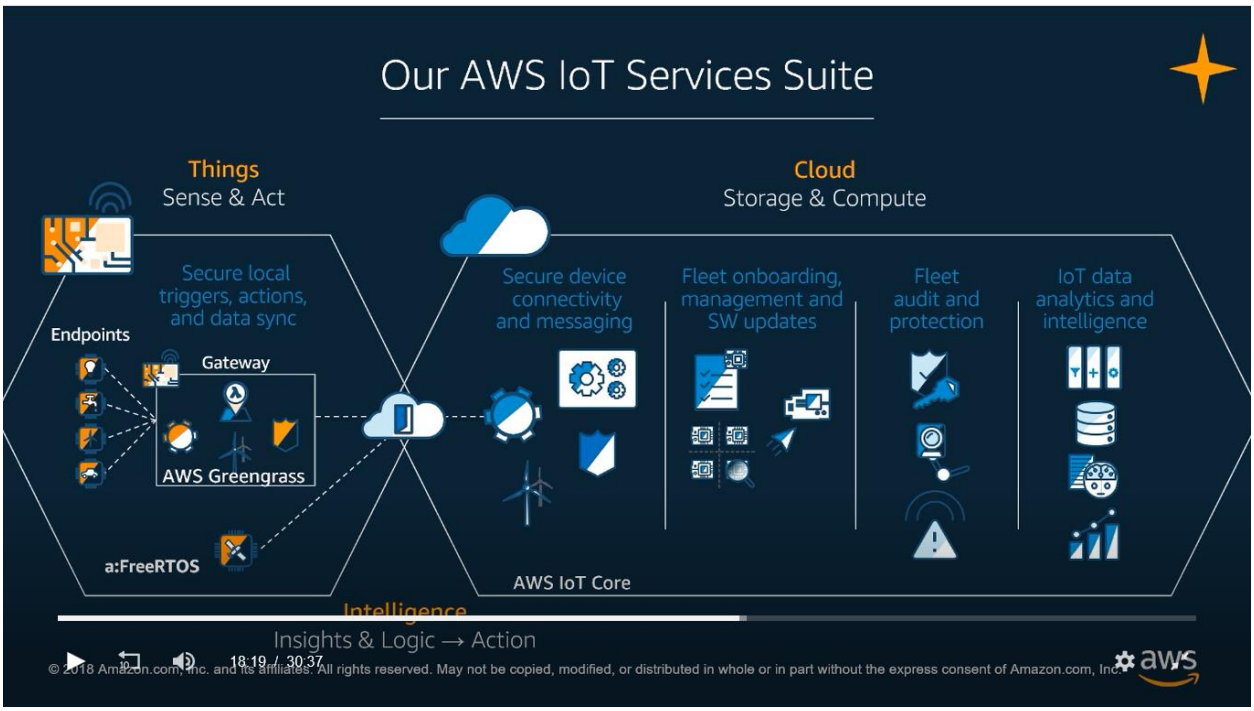
Our AWS IoT Services Suite
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a:FreeRTOS
Secure device connectivity and messaging
Fleet onboarding, management and SW updates
Fleet audit and protection
IoT data analytics and intelligence
AWS IoT Core
Intelligence
Insights & Logic → Action
18:19 / 30:37
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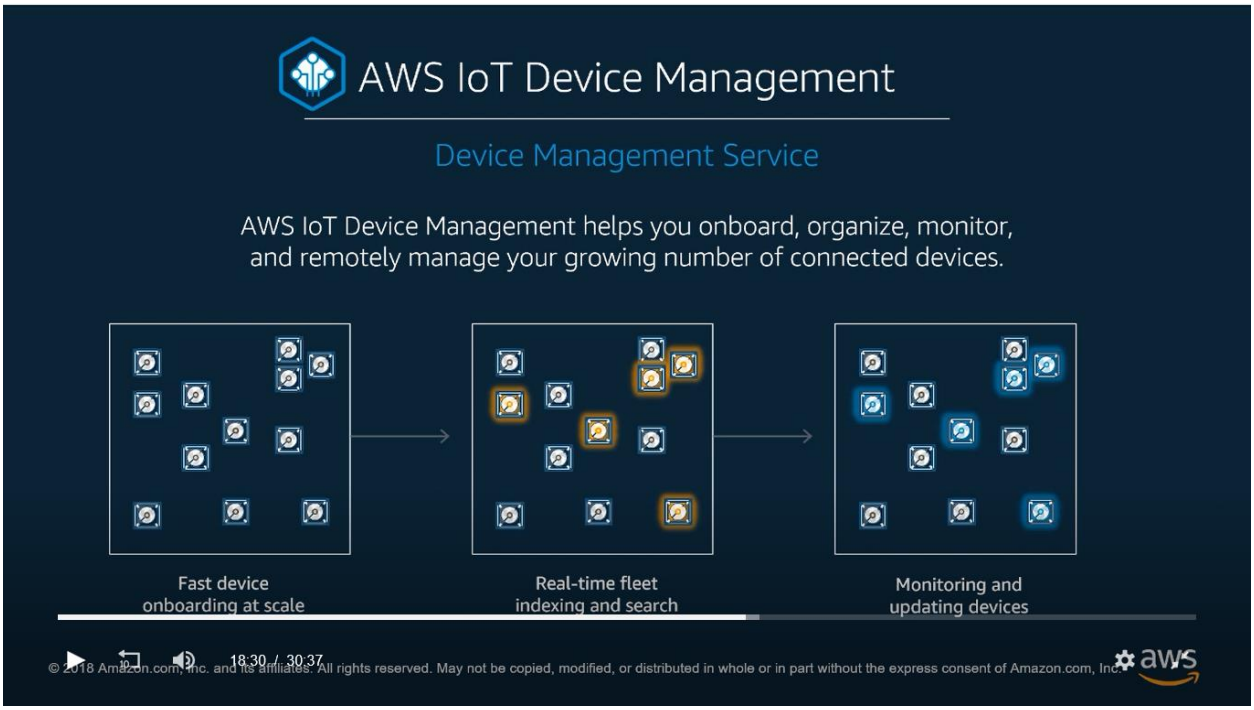
AWS IoT Device Management
Device Management Service
AWS IoT Device Management helps you onboard, organize, monitor, and remotely manage your growing number of connected devices.
Fast device onboarding at scale
Real-time fleet indexing and search
Monitoring and updating devices
18:30 / 30:37
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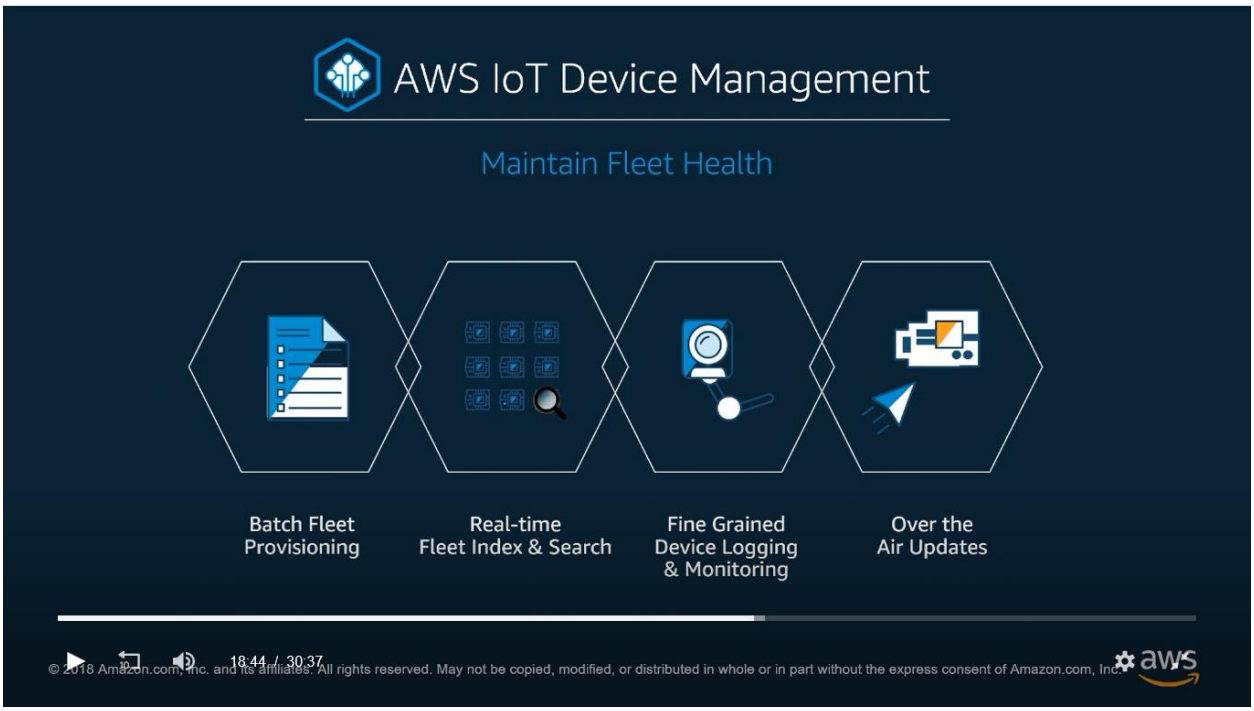
AWS IoT Device Management
Maintain Fleet Health
Batch Fleet Provisioning
Real-time Fleet Index & Search
Fine Grained Device Logging & Monitoring
Over the Air Updates
18:44 / 30:37
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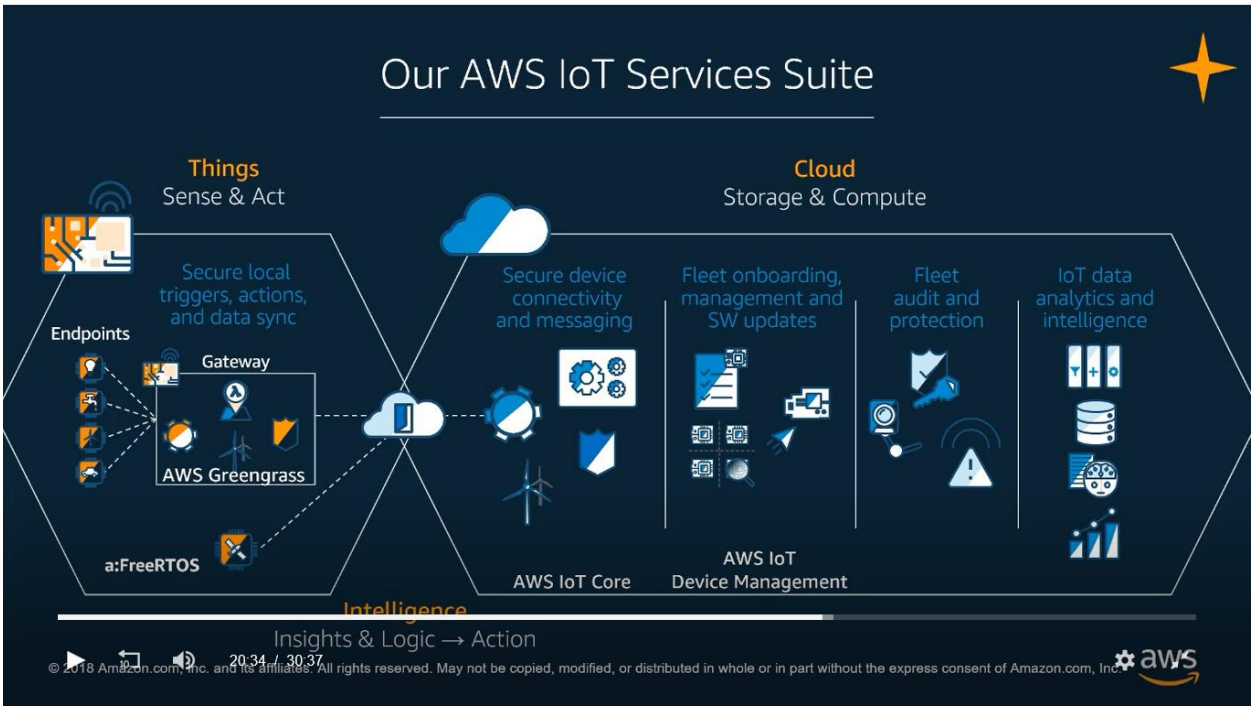
Our AWS IoT Services Suite
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AWS Greengrass
a:FreeRTOS
Secure device connectivity and messaging
Fleet onboarding, management and SW updates
Fleet audit and protection
IoT data analytics and intelligence
AWS IoT Core
AWS IoT Device Management
Intelligence
Insights & Logic → Action
20:34 / 30:37
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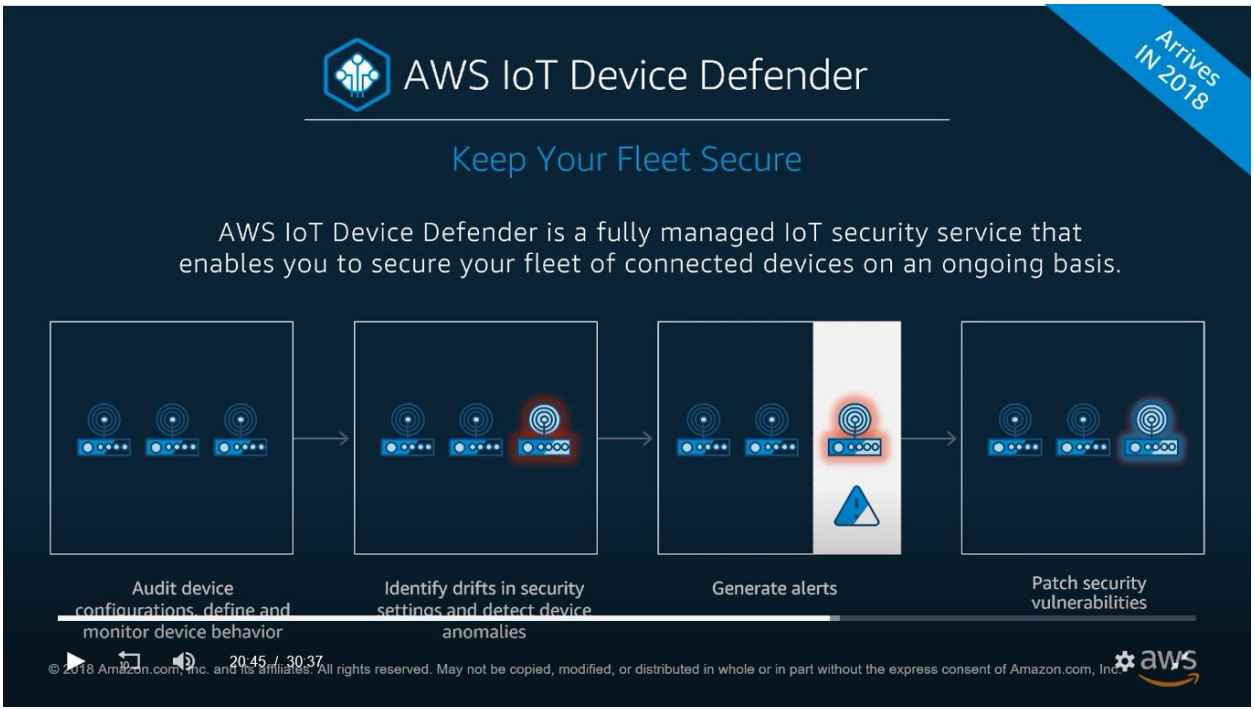
AWS IoT Device Defender
Arrives IN 2018
Keep Your Fleet Secure
AWS IoT Device Defender is a fully managed IoT security service that enables you to secure your fleet of connected devices on an ongoing basis.
Audit device configurations, define and monitor device behavior
Identify drifts in security settings and detect device anomalies
Generate alerts
Patch security vulnerabilities
20:45 / 30:37
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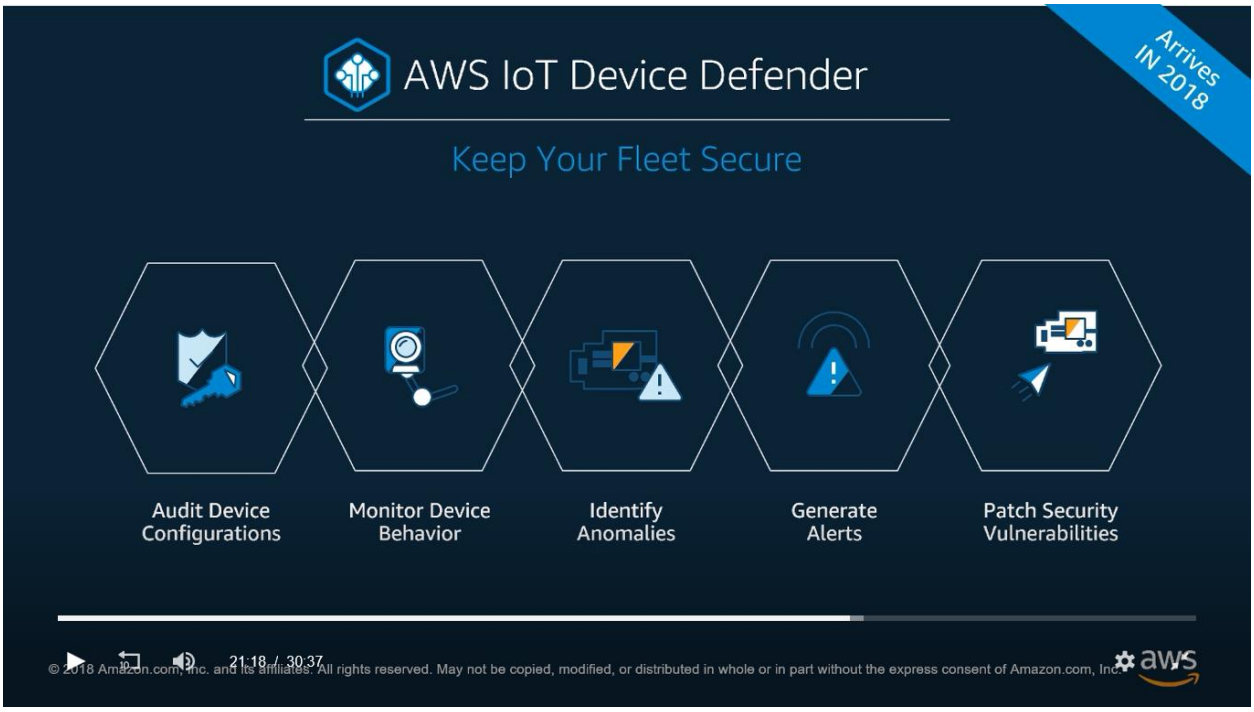
AWS IoT Device Defender
Arrives IN 2018
Keep Your Fleet Secure
Audit Device Configurations
Monitor Device Behavior
Identify Anomalies
Generate Alerts
Patch Security Vulnerabilities
21:18 / 30:37
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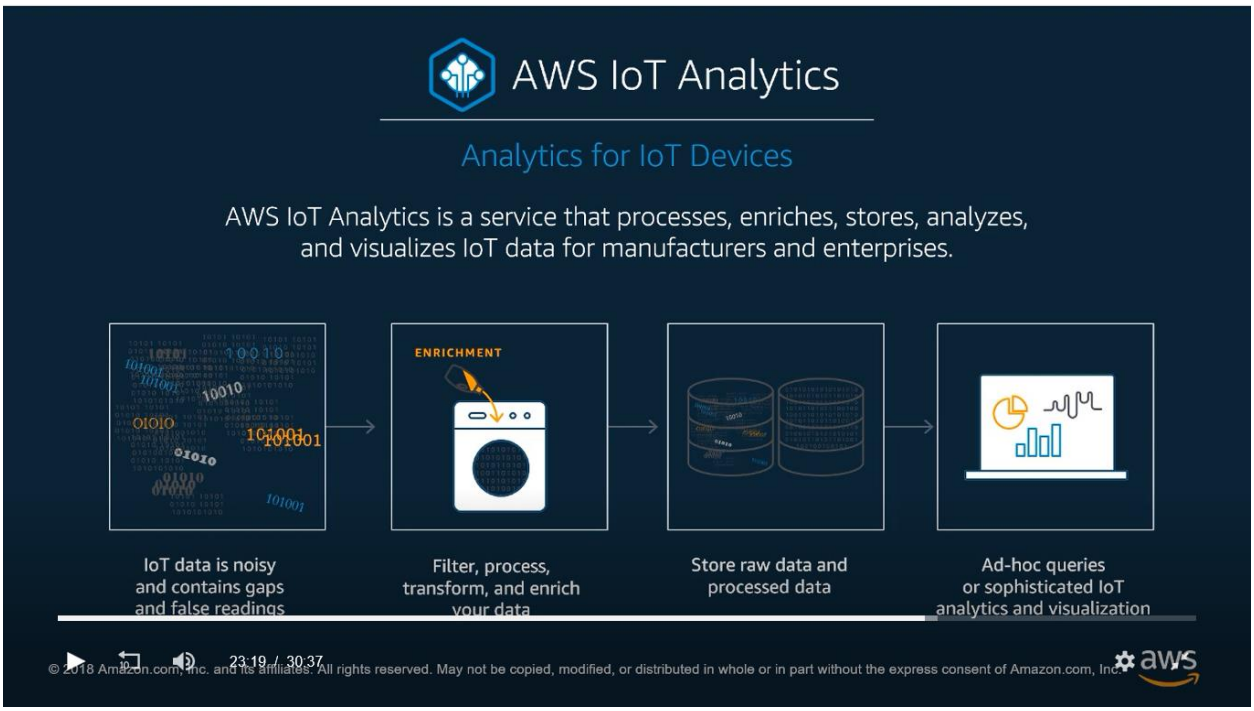
AWS IoT Analytics
Analytics for IoT Devices
AWS IoT Analytics is a service that processes, enriches, stores, analyzes, and visualizes IoT data for manufacturers and enterprises.
ENRICHMENT
IoT data is noisy and contains gaps and false readings
Filter, process, transform, and enrich your data
Store raw data and processed data
Ad-hoc queries or sophisticated IoT analytics and visualization
23:19 / 30:37
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aws

AWS IoT Analytics
Easily analyze IoT data
AWS IoT Analytics is a service that processes, enriches, stores, analyzes, and visualizes IoT data for manufacturers and enterprises.
Channels
Pipelines
Data Stores
Datasets
Jupyter Notebooks & Templates
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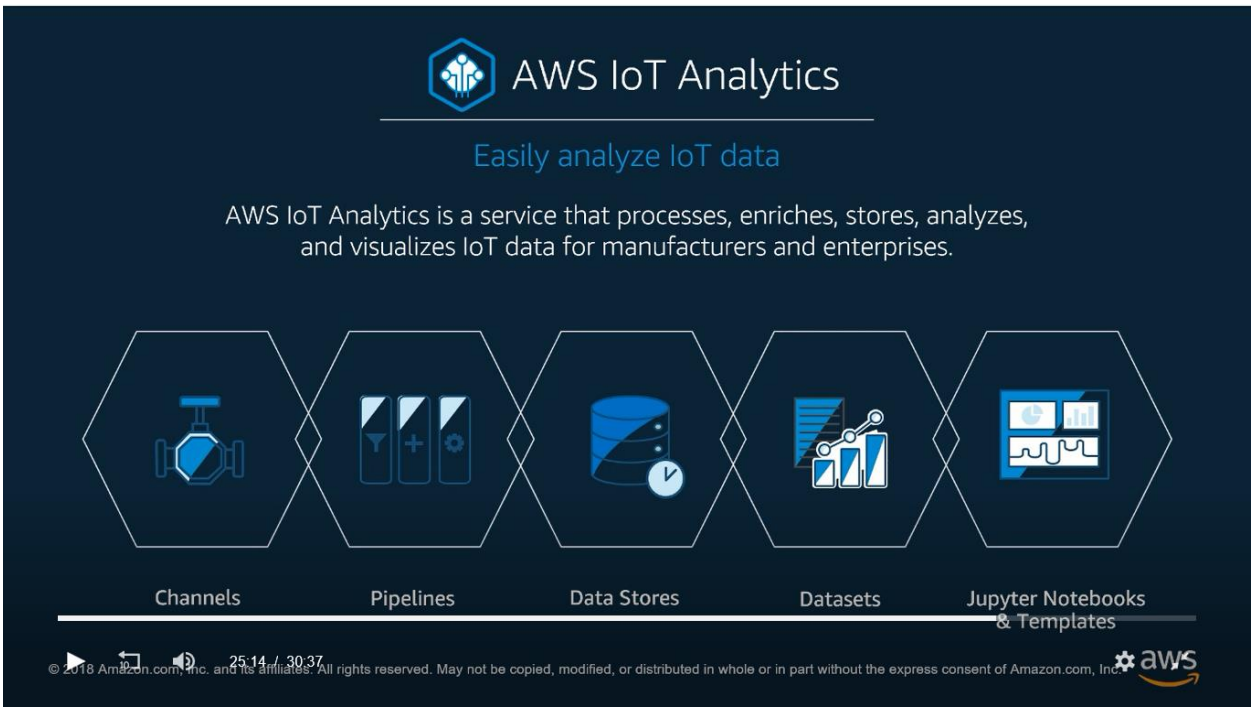
aws
24:07 / 30:37


AWS IoT Analytics
Easily analyze IoT data
AWS IoT Analytics is a service that processes, enriches, stores, analyzes, and visualizes IoT data for manufacturers and enterprises.
Channels
Pipelines
Data Stores
Datasets
Jupyter Notebooks & Templates
25:14 / 30:37
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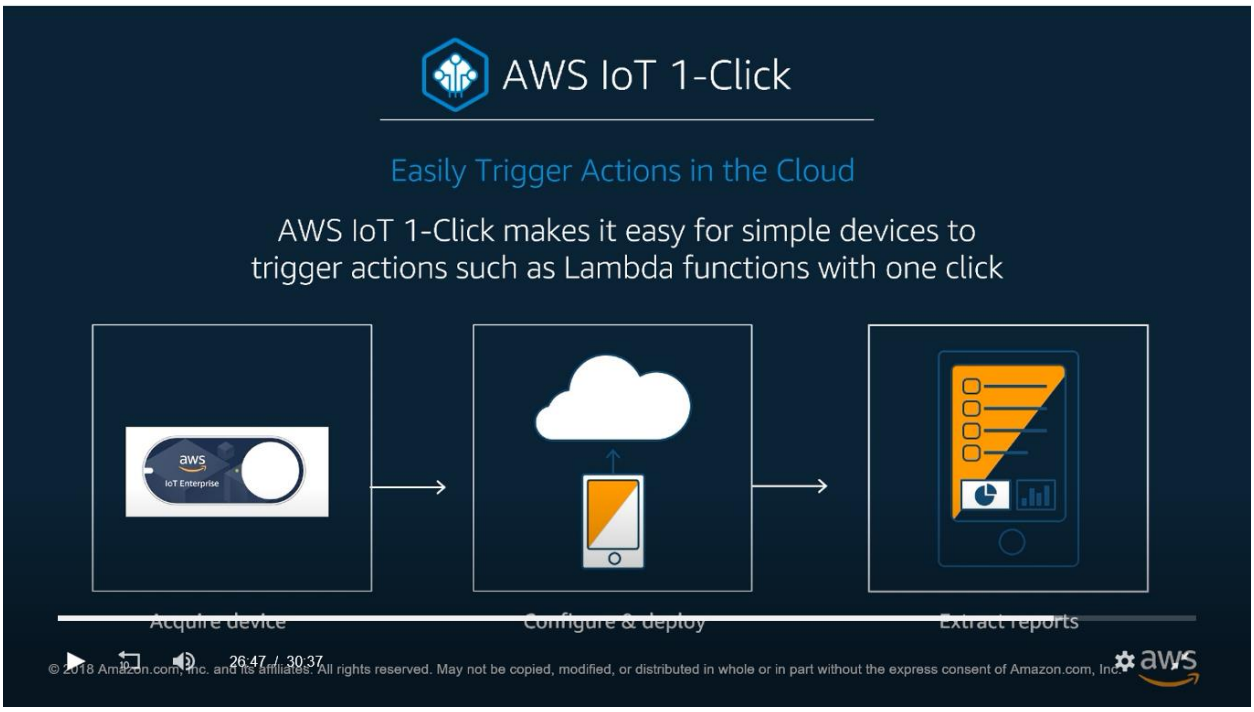
AWS IoT 1-Click
Easily Trigger Actions in the Cloud
AWS IoT 1-Click makes it easy for simple devices to trigger actions such as Lambda functions with one click
aws
IoT Enterprise
Acquire device
Configure & deploy
Extract reports
26:47 / 30:37
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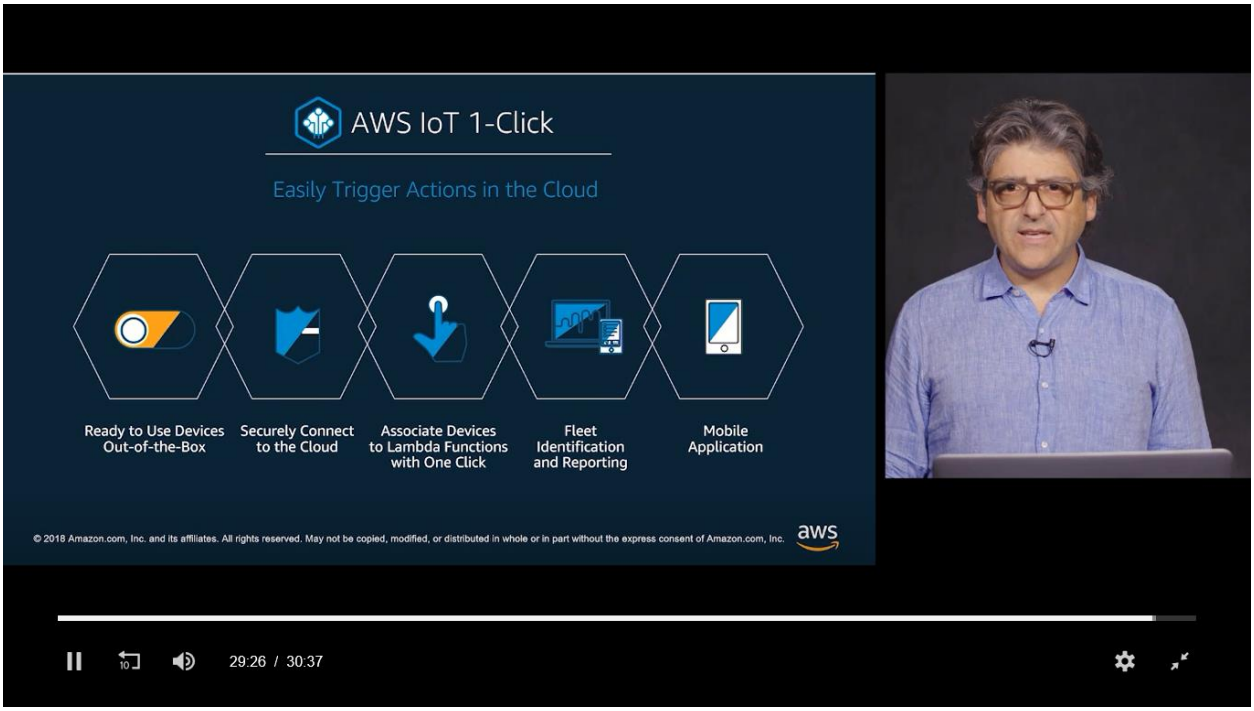
aws


AWS IoT 1-Click
Easily Trigger Actions in the Cloud
Ready to Use Devices Out-of-the-Box
Securely Connect to the Cloud
Associate Devices to Lambda Functions with One Click
Fleet Identification and Reporting
Mobile Application
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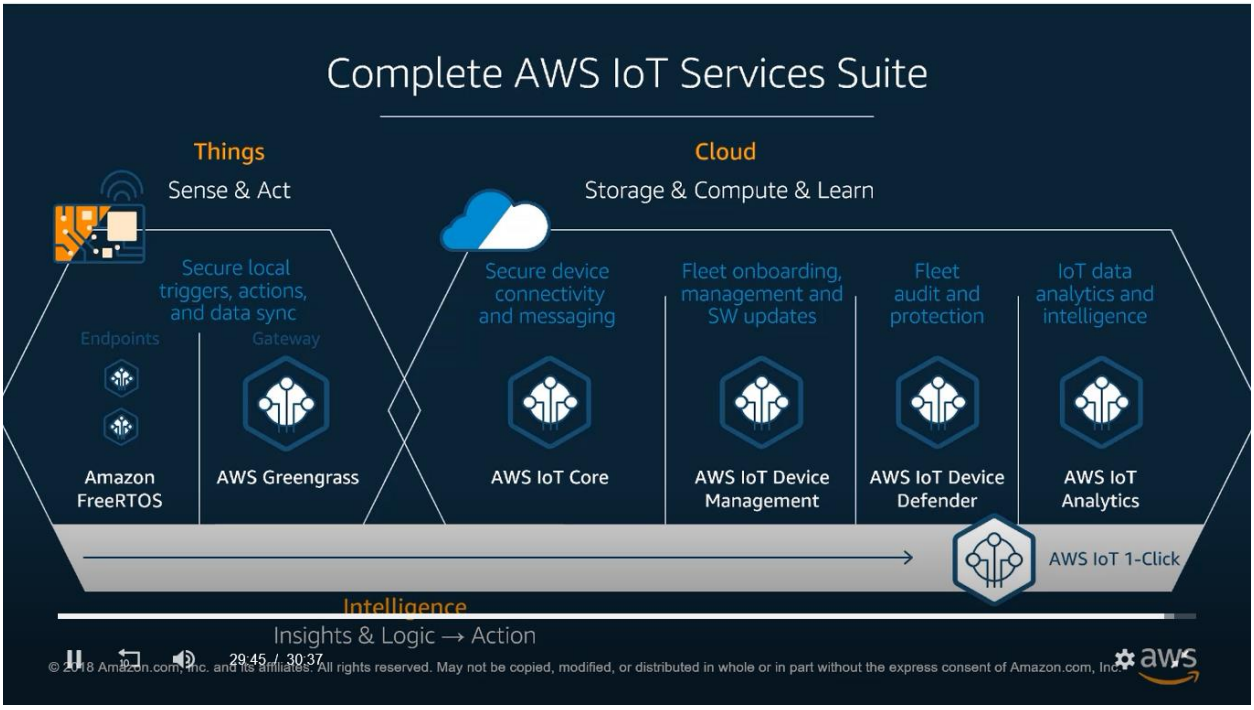
aws
29:26 / 30:37


Complete AWS IoT Services Suite
Things
Sense & Act
Cloud
Storage & Compute & Learn
Secure local triggers, actions, and data sync
Endpoints
Gateway
Secure device connectivity and messaging
Fleet onboarding, management and SW updates
Fleet audit and protection
IoT data analytics and intelligence
Amazon FreeRTOS
AWS Greengrass
AWS IoT Core
AWS IoT Device Management
AWS IoT Device Defender
AWS IoT Analytics
AWS IoT 1-Click
Intelligence
Insights & Logic → Action
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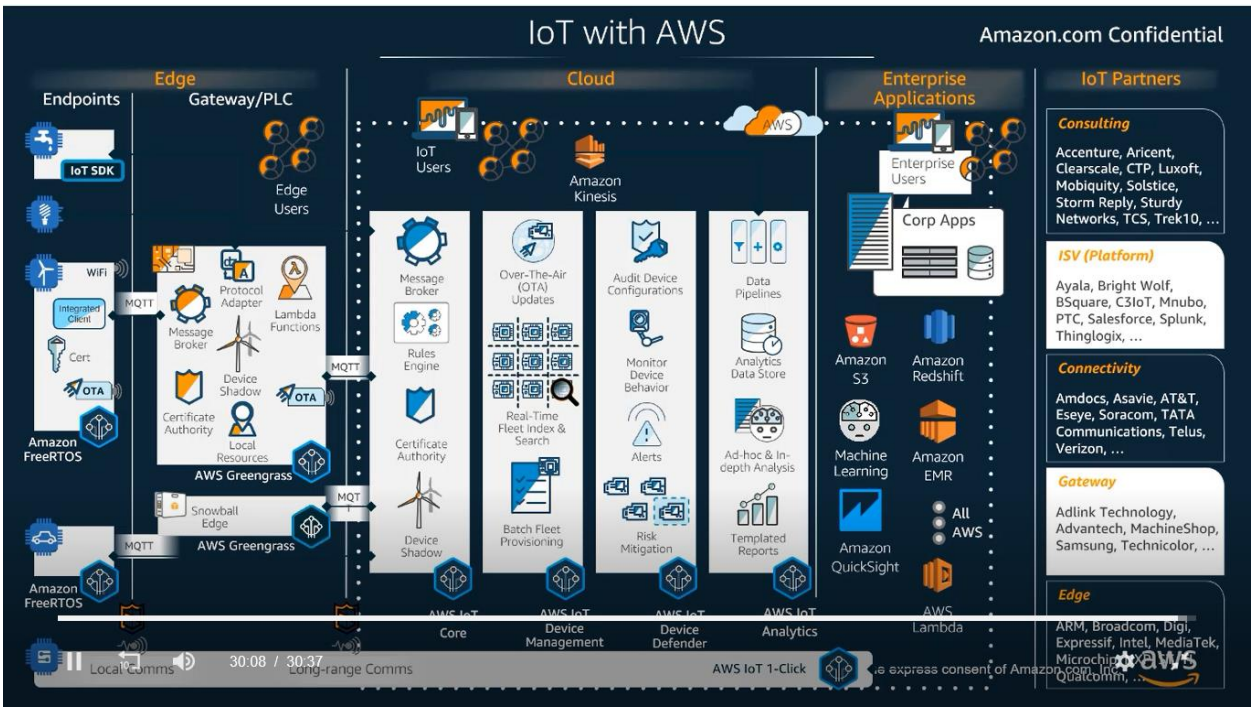
IoT with AWS
Amazon.com Confidential
Edge
Endpoints
Gateway/PLC
IoT SDK
WiFi
Integrated Client
Cert
OTA
Amazon FreeRTOS
MQTT
Protocol Adapter
Lambda Functions
Message Broker
Device Shadow
Certificate Authority
Local Resources
AWS Greengrass
Edge Users
Snowball Edge
AWS Greengrass
Amazon FreeRTOS
Local Comms
Long-range Comms
Cloud
IoT Users
Amazon Kinesis
Message Broker
Rules Engine
Certificate Authority
Device Shadow
Over-The-Air (OTA) Updates
Real-Time Fleet Index & Search
Batch Fleet Provisioning
Audit Device Configurations
Monitor Device Behavior
Alerts
Risk Mitigation
Data Pipelines
Analytics Data Store
Ad-hoc & In-depth Analysis
Templated Reports
AWS IoT Core
AWS IoT Device Management
AWS IoT Device Defender
AWS IoT Analytics
AWS IoT 1-Click
Enterprise Applications
Enterprise Users
Corp Apps
Amazon S3
Amazon Redshift
Machine Learning
Amazon EMR
Amazon QuickSight
All AWS
AWS Lambda
IoT Partners
Consulting
Accenture, Aricent, Clearscale, CTP, Luxoft, Mobiquity, Solstice, Storm Reply, Sturdy Networks, TCS, Trek10, …
ISV (Platform)
Ayala, Bright Wolf, BSquare, C3IoT, Mnubo, PTC, Salesforce, Splunk, Thinglogix, …
Connectivity
Amdocs, Asavie, AT&T, Eseye, Soracom, TATA Communications, Telus, Verizon, …
Gateway
Adlink Technology, Advantech, MachineShop, Samsung, Technicolor, …
Edge
ARM, Broadcom, Digi, Expressif, Intel, MediaTek, Microchip, Qualcomm, …
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