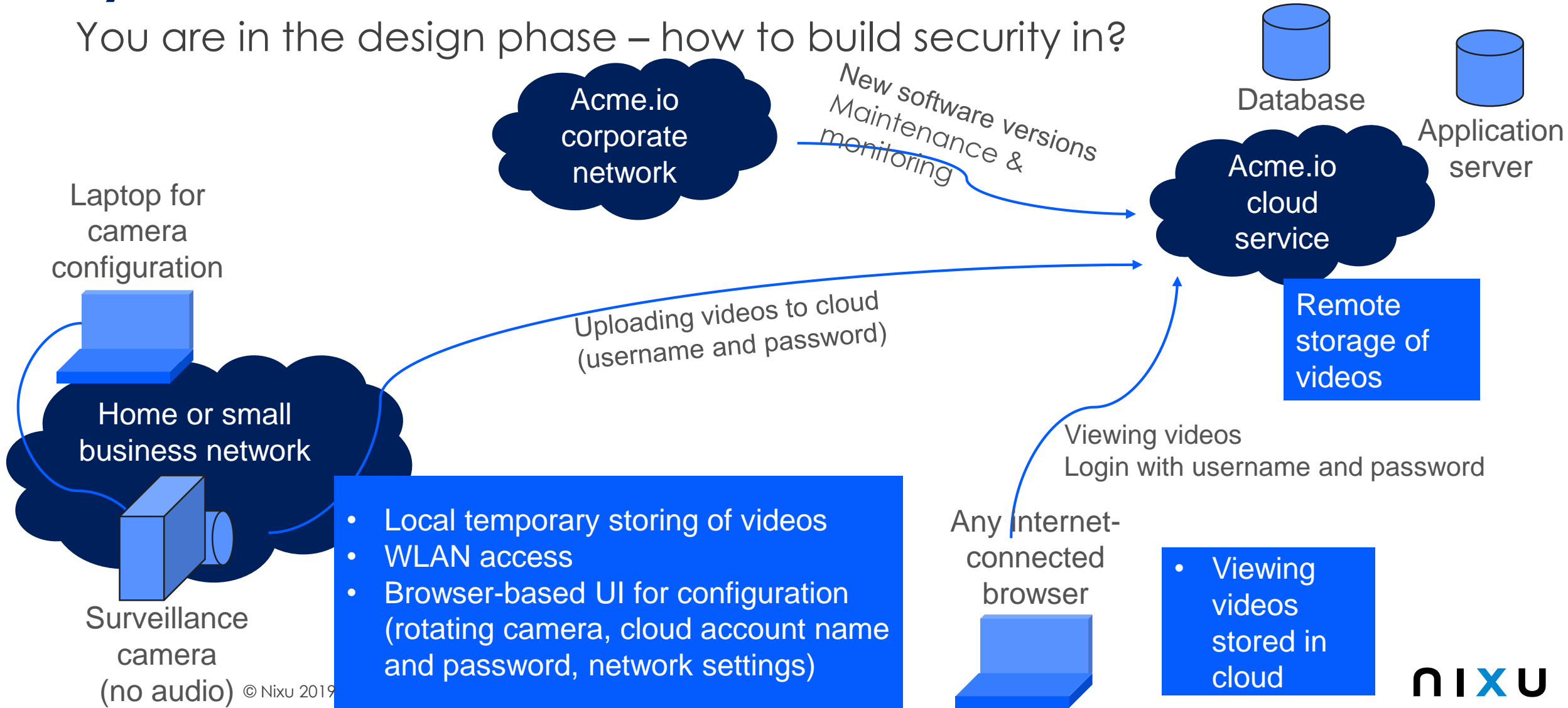# Imaginary IoT Camera System

Threat modeling example target
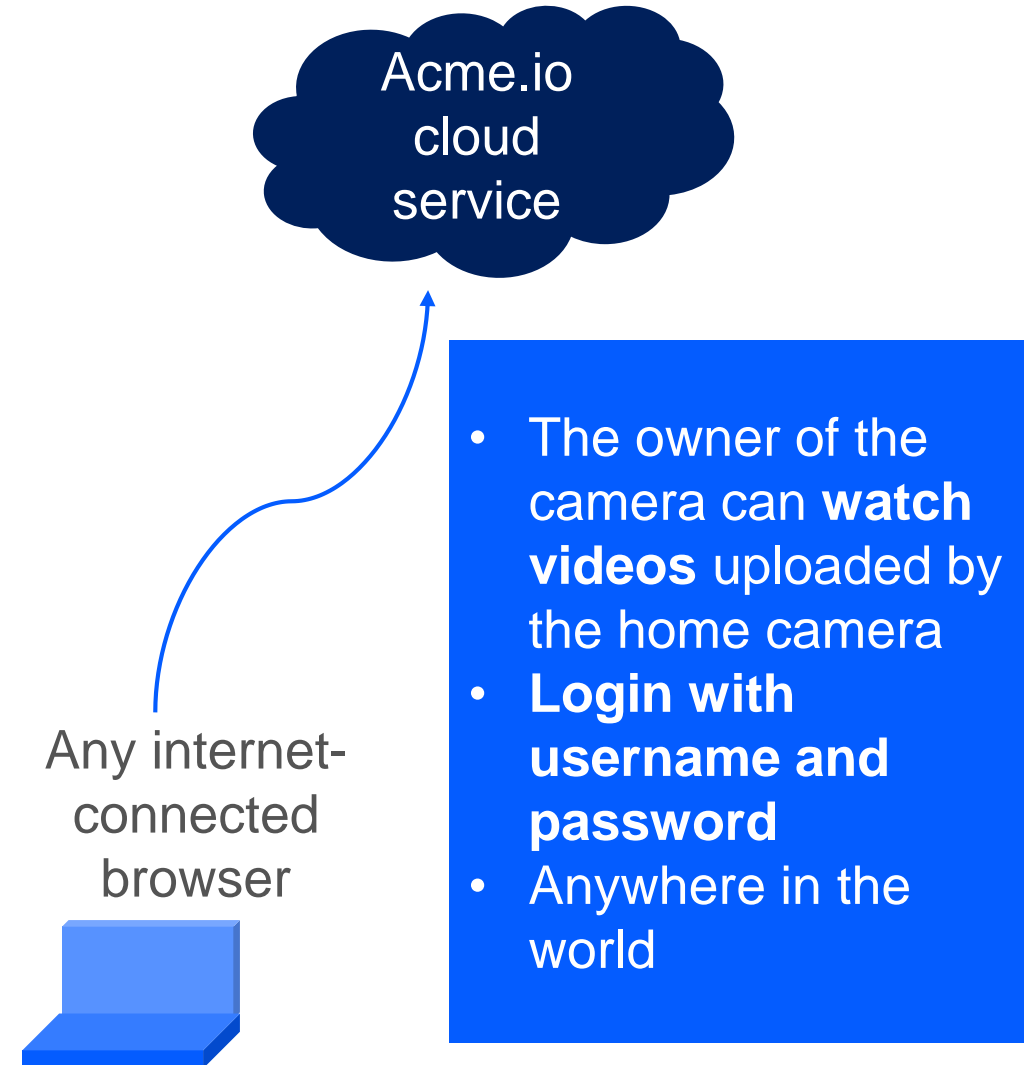
An imaginary home surveillance IoT camera system

You are in the design phase – how to build security in?

Database

Application server

Acme.io corporate network

New software versions
Maintenance & monitoring

Acme.io cloud service

Laptop for camera configuration

Remote storage of videos

Uploading videos to cloud (username and password)

Home or small business network

Viewing videos
Login with username and password

- Local temporary storing of videos
- WLAN access
- Browser-based UI for configuration (rotating camera, cloud account name and password, network settings)

Any internet-connected browser

Surveillance camera (no audio)

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- Viewing videos stored in cloud

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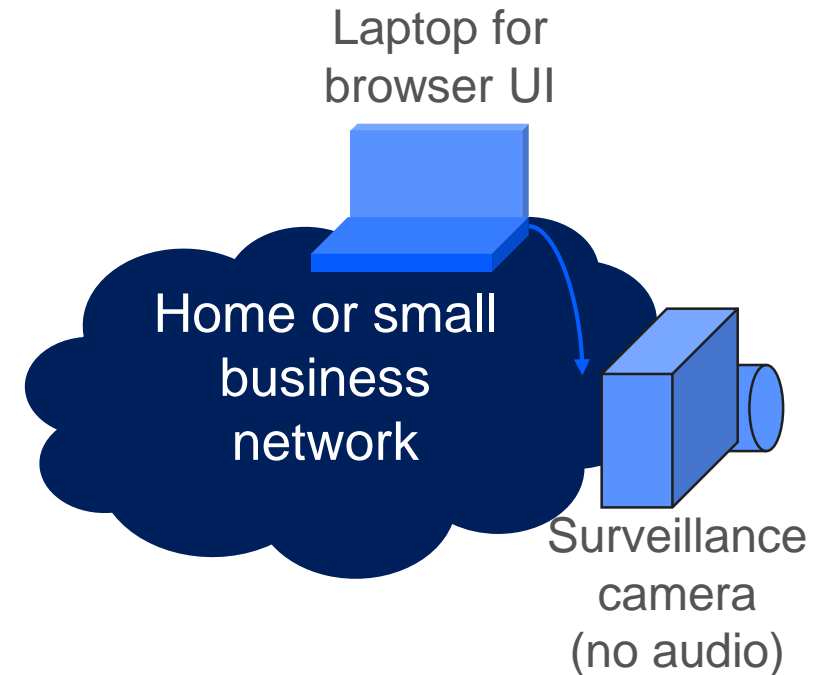# What threats can you find from the video cloud access?

- Camera owners can **view the videos** recorded by their home surveillance camera also **while travelling or when at work**
- Using a **browser**, they simply login to their Acme.io cloud account
- Authentication with **username and password**

Acme.io cloud service

Any internet-connected browser

- The owner of the camera can **watch videos** uploaded by the home camera
- **Login with username and password**
- Anywhere in the world

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What threats can you find from the camera features?

- Camera is connected to the home network with WLAN or Ethernet cable
- Camera has a **web-based configuration interface**
  - Network settings
  - Camera UI username and password
  - Rotating the camera
  - Video storage options (cloud account username and password, how many days the videos are kept before removal)
  - Updating firmware
- **Recorded videos are stored temporarily on the device** until storage limit is reached
  - **Videos are uploaded to cloud** when there's internet connectivity

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Laptop for browser UI

Home or small business network

Surveillance camera (no audio)

- Local temporary storing of videos
- WLAN access
- Browser-based UI for configuration (rotating camera, cloud account name and password, network settings)

What threats can you find from development and operations?

- Drew **is a new developer** and is not familiar with all procedures yet
- Olive has been in the operations for ages and **does not like the job**
- SSH remote access to the servers

Drew

Olive

DevOps department

Acme.io corporate network

Developing new software versions, bug fixes

Test environment

Monitoring and maintenance

Acme.io cloud service

Production environment

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