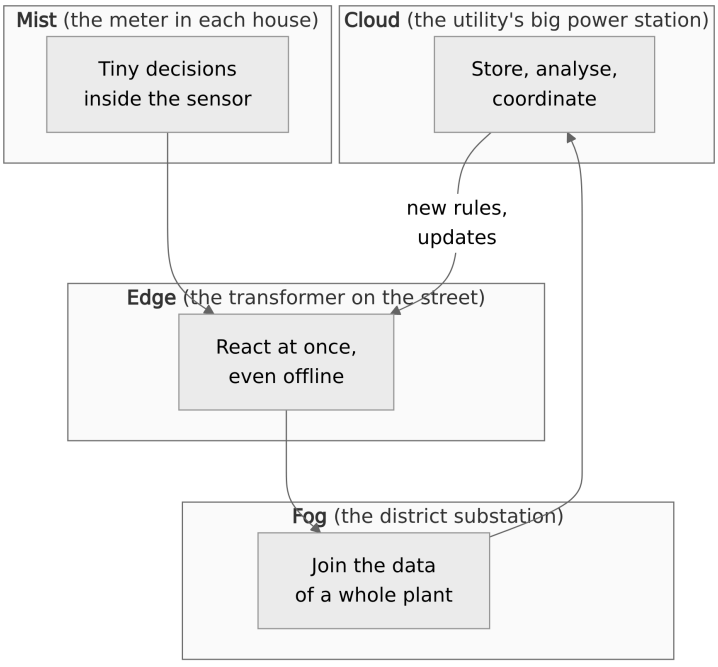
# Unit 3 · Cloud systems

Back to the city-builder game. Your city needs water and electricity. You could build your own water plant and your own power station, pay for them up front and repair them yourself. Or you could sign a contract with a utility company: it runs the plants, you open the tap and pay the bill at the end of the month. Most companies today do the second thing with their computers. That is the **cloud**. In this unit you learn what exactly you can rent, who owns it, what it is used for, how much it costs, why some decisions still have to be taken in local **substations** near the neighbourhoods (**edge**, **fog** and **mist**), and why it matters in which country the utility keeps your data.

**What you will learn**

- Explain what the **cloud** is and tell the three **service models** apart: **IaaS**, **PaaS** and **SaaS**
- Publish a real web page with **GitHub Pages** and say which service model it is
- Tell the **deployment models** apart (public, private, hybrid, multicloud) and name the main **functions of the cloud**
- Read a provider's **pricing calculator** and produce a dated monthly cost estimate for a real system
- Decide what a real plant processes at the **edge**, in the **fog**, in the **mist** and in the cloud, and why
- Find out where a real service keeps its data and what that means for **data sovereignty**



Lessons 1 and 2 are about the top box: what you rent and what it costs. Lesson 3 is about the boxes below it. Lesson 4 asks whose power station it is.

## Lessons

| # | Lesson | What it covers |
|---|---|---|
| 1 | Cloud and service models | What the cloud is, IaaS, PaaS and SaaS, who manages what; your first site on GitHub Pages |
| 2 | Deployment and functions | Public, private, hybrid and multicloud; what the cloud is used for; a real estimate with a pricing calculator |
| 3 | Edge, fog and mist | Latency measured in the browser; edge computing and the cloud; fog and mist in a wind farm, a water utility and a hotel |
| 4 | Advantages and sovereignty | What the cloud brings to connected systems, its risks; where data live and which law applies |
| 5 | Deliverable 3 · Cloud architecture | What you hand in, who writes what, the group's website, how it is assessed, the defence |