

LESSON 4.1 • 1.5 HOURS

AI in customer service: build and deploy your own chatbot

IN THIS LESSON

- What a customer-service chatbot does
- How a modern AI chatbot works
- Building and testing one yourself
- Your legal duty to disclose AI



L4.1 Learning Objectives

By the end of this lesson you will be able to:



Explain the difference between a rule-based and an AI (LLM-based) chatbot



Write a system prompt that sets a bot's role, tone, scope and fallback



Build a knowledge base and test a chatbot for wrong answers and hand-off



Apply the EU AI Act duty to tell users they are talking to AI

THIS LESSON

L4.1

Duration: 1.5 hours

Practice: EX 4.1

Quiz: 5 questions, 70% to pass



Key Terms

The words you will meet in L4.1, in plain language.

Chatbot

An AI assistant that answers questions in natural language, often for customer service.

System prompt

The instructions that set a chatbot's role, tone, scope and limits.

Escalation

Handing a conversation over to a human when the bot can't or shouldn't answer.

LLM

A 'large language model': the AI behind modern chatbots that predicts natural-sounding text.

Knowledge base

The documents (FAQs, policies, product info) a chatbot answers from.

Transparency duty

The EU AI Act rule to tell people clearly when they are dealing with AI.



Customer service never sleeps

WHY CHATBOTS MATTER

A chatbot answers routine customer questions in plain language, day or night, so people can focus on the hard cases.

Eurostat (2025): 55% of EU businesses used AI, cloud or analytics in 2023.



What a customer-service chatbot does

A chatbot is an AI assistant that answers customer questions in plain language, day or night.



Answers common questions

Opening hours, order status, returns, 'how do I...': the questions a business hears hundreds of times, answered in seconds.



Works around the clock

Customers get help at midnight or on a holiday, without a person waiting by the keyboard.



Frees people for hard cases

Staff stop repeating the same answers and focus on complex, sensitive or high-value conversations.

Tip: let the bot handle the routine questions so people can focus on the tricky ones.

Two kinds of chatbot

Not all chatbots are equal. Knowing the difference helps you build a better one.

A Rule-based (older)

- Follows fixed buttons and scripts
- Predictable, but limited
- Gets stuck if a question isn't in its menu

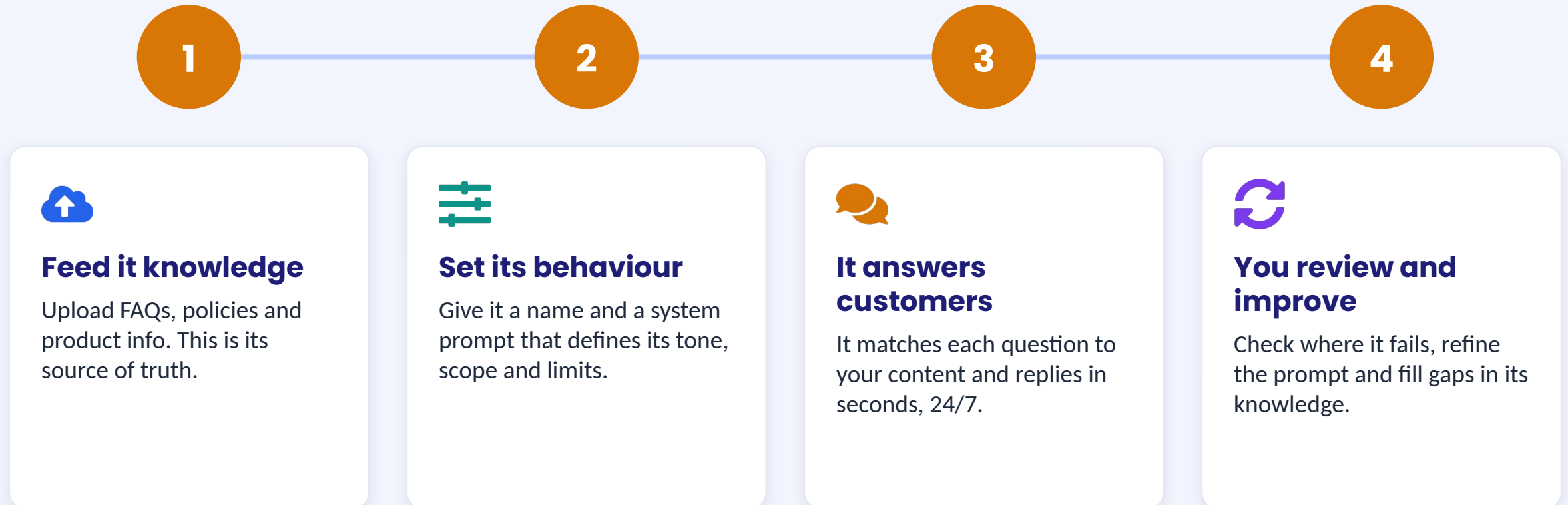
B AI / LLM-based (modern)

- Understands questions in natural language
- Answers from the knowledge you give it
- Far more flexible, but can 'hallucinate'

Best practice: a knowledge-grounded bot answers only from your documents.

How a modern AI chatbot works

Behind the scenes, a knowledge-grounded chatbot follows four simple stages.



Quality comes mostly from the knowledge and the prompt you give it. Builds toward EX 4.1.

Writing a good system prompt

The system prompt is the bot's job description. Write it as if briefing a new employee on day one.

Part	What it does	Example (a small bakery)
Role and tone	Says who the bot is and how it should sound	'You are the friendly support assistant for a small bakery. Be warm, concise and polite.'
Scope and limits	Says what to cover and what to refuse	'Only answer questions about our products, hours and orders. For anything else, offer a human.'
Fallback	Says what to do when it doesn't know	'If you are unsure, say so and suggest contacting the team. Never guess.'
AI disclosure	Makes sure users know it is an AI	'Start each chat with: You're chatting with our AI assistant.'

A clear system prompt is the difference between a good bot and a bad one.

What to put in the knowledge base

Your chatbot is only as good as the information you give it. Cover these four areas.



Frequent questions

The real questions customers ask most often, with clear, correct answers.



Policies

Returns, refunds, delivery, privacy: the rules customers need to understand.



Products and services

What you offer, key details, prices and what makes each option different.



Contact and escalation

How and when to reach a human, so the bot can hand over smoothly.

Tip: write your FAQ the way customers actually ask, not in formal company language.

Build a chatbot, step by step

You can build a working chatbot in under an hour, with no coding.

1



Create the bot

Sign up to a no-code tool like Chatbase and start a new chatbot project.

2



Upload your knowledge

Add a FAQ document, policies or a website link so the bot answers from real content.

3



Name it and prompt it

Give it a friendly name and a system prompt: its role, tone, what it should and shouldn't do.

4



Test, then deploy

Ask real customer questions, fix weak spots, then embed it on a website with the code snippet it gives you.

Tool: [Chatbase.co](https://chatbase.co) (free tier). This is exactly what you will do in EX 4.1.

Test your chatbot before customers do

A chatbot must be tested like any product. Probe it before it goes live.



Everyday and edge cases

Run the ten most common questions, then awkward, vague or out-of-scope ones to see how it copes.



Hunt for wrong answers

Confident but incorrect replies do the most damage. Fix these first.



Check the hand-off

Make sure it offers a human when it should, and never invents information.

Tip: keep a simple log of questions it failed. That list is your improvement plan.

Good chatbot vs bad chatbot

The same technology can delight or annoy customers. Behaviour is what separates them.



A good chatbot

- Answers accurately from real company info
- Clearly says it is an AI assistant
- Admits when it doesn't know
- Offers a human for complex issues



A bad chatbot

- Invents confident but wrong answers
- Pretends to be a human
- Traps customers in dead-end loops
- Never lets you reach a real person

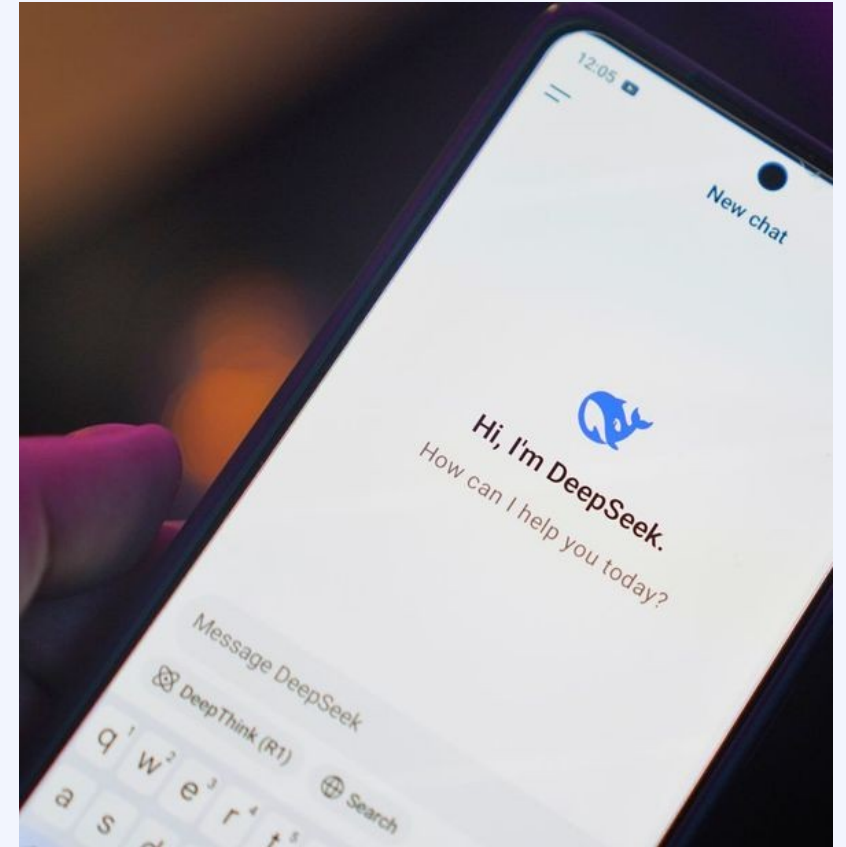
Aim for the left column: it builds trust instead of frustration.

Your legal duty: disclose the AI



Under Article 50 of the EU AI Act, people must be clearly told when they are interacting with an AI system, unless it is obvious. This applies from 2 August 2026.

- Add a visible line such as 'You're chatting with our AI assistant'
- Never let the bot pose as a human
- Build the habit of disclosing AI into everything you make now



Check Your Understanding

Try answering these in your own words before moving on.



What is the difference between a rule-based and an AI (LLM-based) chatbot?



Why does grounding a chatbot in your own documents reduce wrong answers?



What three things should a good system prompt always define?



Under the EU AI Act, what must you tell customers who chat with your bot?



Learning Resources

Want to go further? These are free and trusted.



Chatbase: no-code AI chatbot builder

<https://www.chatbase.co/>



EU AI Act, Article 50: transparency obligations

<https://artificialintelligenceact.eu/article/50/>



L4.1 Key Takeaways

Before the next lesson, hold on to these five points.



Modern AI chatbots answer natural questions from the knowledge you give them



Ground the bot in your own documents to keep answers accurate and on-brand



A clear system prompt (role, scope, fallback) is what makes a bot reliable



Always test for wrong answers and a clean hand-off to a human



By law (EU AI Act, Art. 50) you must tell users they are talking to AI

Now Put It Into Practice

Head to the Re-AI learning platform to finish this lesson.



INTERACTIVE ACTIVITY

Build your chatbot's system prompt

On the platform · about 10 minutes



HANDS-ON EXERCISE EX 4.1

Build and test a live AI chatbot

1.5 hours · Tools: Chatbase.co (free tier), Google Docs or Word, ChatGPT (optional, for drafting)



LESSON QUIZ

5 multiple-choice questions

70% to pass · unlimited retakes

