

While we're getting ready...

 Sign in to **GitHub**

 github.com/login



 Open the **workshop repositories**

 github.com/githubuniverseworkshops/workshop-build-deploy-your-own-copilot 

 github.com/githubuniverseworkshops/my-universe-copilot



..... ➡ Complete **Preparation steps 1 and 2**

 Sign in to **Azure**

 portal.azure.com





Build and deploy your own copilot with GitHub Copilot



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Workshop Takeaways



Understand how GitHub Copilot works and how to leverage it in your own software projects



Understand common AI chatbot use cases



Learn how to build your own AI chatbot and deploy it to Azure

Agenda

- 📢 Introduction
- 📢 What is GitHub Copilot?
- 📢 What are AI chatbots?
- 🚀 Hands-on workshop
- ?(green circle) Q&A
- 📢 Certification prep

GitHub Copilot

“



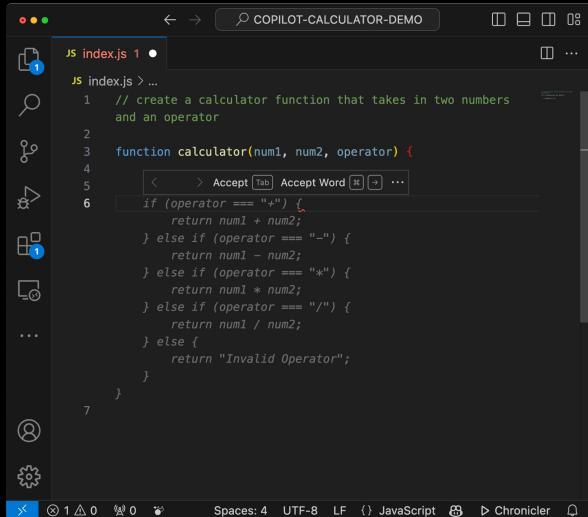
GitHub Copilot



GitHub Copilot is an AI-powered code completion tool. It's designed to assist developers by providing suggestions for whole lines or blocks of code as they type. It works directly in your editor, helping you to test out new ideas faster, write code more efficiently, and learn new APIs or languages on the go.

- Copilot Chat

Copilot X

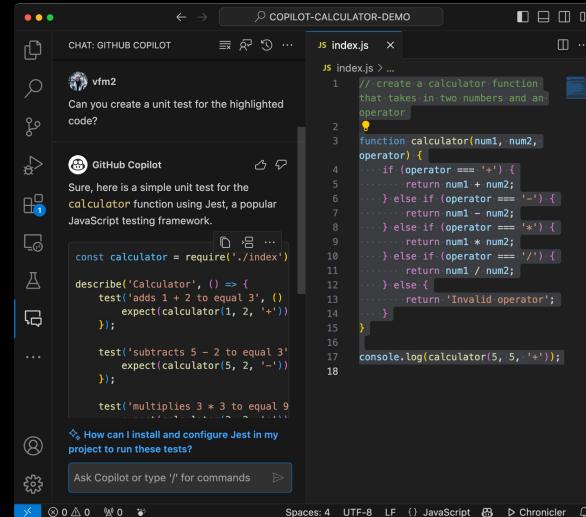


A screenshot of a code editor window titled "COPILOT-CALULATOR-DEMO". The file "index.js" contains the following code:

```
JS index.js 1
1 // create a calculator function that takes in two numbers
2 // and an operator
3
4 function calculator(num1, num2, operator) {
5     if (operator === "+") {
6         return num1 + num2;
7     } else if (operator === "-") {
8         return num1 - num2;
9     } else if (operator === "*") {
10        return num1 * num2;
11    } else if (operator === "/") {
12        return num1 / num2;
13    } else {
14        return "Invalid Operator";
15    }
16}
```

The code editor interface includes a sidebar with icons for file operations, a search bar, and a status bar at the bottom.

Copilot



A screenshot of a code editor window titled "COPILOT-CALULATOR-DEMO". The file "index.js" contains the following code:

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JS index.js > ...
1 // create a calculator function
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13    } else if (operator === '/') {
14        return num1 / num2;
15    } else {
16        return 'Invalid operator';
17    }
18}
```

The interface includes a sidebar with icons for file operations, a search bar, and a "CHAT: GITHUB COPilot" section where a user asks for a unit test and receives a response with generated Jest test code:

```
CHAT: GITHUB COPilot
vfm2
Can you create a unit test for the highlighted code?

GitHub Copilot
Sure, here is a simple unit test for the calculator function using Jest, a popular JavaScript testing framework.

const calculator = require('./index')

describe('Calculator', () => {
  test('adds 1 + 2 to equal 3', () => {
    expect(calculator(1, 2, '+')).toEqual(3);
  });

  test('subtracts 5 - 2 to equal 3', () => {
    expect(calculator(5, 2, '-')).toEqual(3);
  });

  test('multiplies 3 * 3 to equal 9', () => {
    expect(calculator(3, 3, '*')).toEqual(9);
  });
});

console.log(calculator(5, 5, '+'));
```

The code editor interface includes a sidebar with icons for file operations, a search bar, and a status bar at the bottom.

Copilot Chat



UNIVERSE 23

Behind the Scenes

Large Language Models
OpenAI Model

Context gathered with open tabs
Pulling context from before and after cursor

GitHub Copilot Flow



Toxicity
Code classifier
Code quality
Duplicate detection

What's Next for Copilot?

2023 NOV

2023 NOV

2023 NOV

2023 DEC

2024

Copilot for
Docs

Limited Public
Beta

Copilot for
Pull
Requests

Limited Public
Beta

Copilot CLI

Public Beta

Copilot Chat
for JetBrains
IDEs

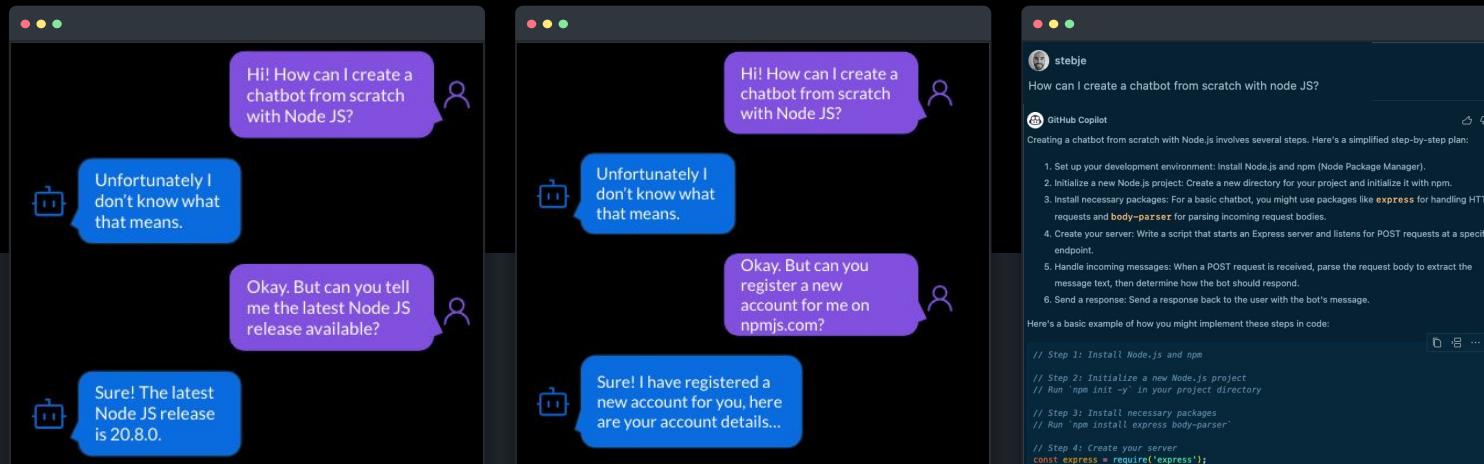
Public Beta

Beyond!

Copilot is always
updating. New
features are
always on the
way!

AI Chatbots

An application that has written or spoken language as its user interface



Informational

Information retrieval from large data set

Example: Q&A / FAQ

Transactional

Perform simple tasks based on semi-structured input

Example: Account signup, money transfer

Dynamic / contextual

Make recommendations and perform actions based on user context

Example: Code completion

Build your own AI Chatbot

Let's get going!

 Sign in to **GitHub**

 github.com/login



 Open the **workshop app repository**

 github.com/githubuniverseworkshops/my-universe-copilot



 Sign in to **Azure**

 portal.azure.com



Closing remarks



Get inspiration from existing samples -
[microsoft/botbuilder-samples](https://github.com/microsoft/botbuilder-samples)



Add intelligence to your app with **Azure Cognitive Services** (speech, language, vision) and **other Azure AI services**



Integrate other channels with **Azure Bot Service** (Slack, email, ...)



Check out the workshop repository for links to **additional resources**

Q & A

Getting Ready for GitHub Certification

GitHub Certifications

<https://resources.github.com/learn/certifications>



Early Access Today!

Only at Universe

GA early 2024

Worldwide availability

The screenshot shows the GitHub Certifications landing page. At the top, there's a navigation bar with links to Resources, Why GitHub, Topics, Learn, Events & Webinars, and an Enterprise trial button. The main headline reads "Showcase your expertise with GitHub Certifications". Below it, a subtext explains that GitHub certification is a resounding endorsement validating skills, credibility, trust, and knowledge of technologies and developer tools used by over 100 million developers. A "Join the waitlist" button is available. To the right, there's a cartoon character of a person with a graduation cap and confetti falling around them. A "Coming soon" section at the bottom indicates the program will be generally available in early 2024, with a "Get your Universe ticket now" button. The bottom of the page features a "UNIVERSE 23" logo.

Showcase your expertise with GitHub Certifications

Getting GitHub certified isn't about a fancy badge. It's a resounding endorsement that validates your skills, credibility, trust, and knowledge of the technologies and developer tools that are used by more than 100 million developers worldwide.

[Join the waitlist >](#)

Coming soon

The certification program will be generally available in early 2024. Join us at GitHub Universe on November 8-9 to take the exam in person and become one of the first to be certified. If you can't make it in person, sign up for the waitlist to secure priority scheduling once the program launches.

[Get your Universe ticket now >](#)

UNIVERSE 23

Prepare with Confidence

Study guides, learning content, assessment questions

The screenshot shows the GitHub Study Guide for GitHub Foundations. It features a cartoon cat character at a desk with a laptop and a book. The page includes sections for 'Study Guide GitHub Foundations', 'Audience Profile' (targeting GitHub users), 'Objective Domains' (described as a 'structured outline or framework that defines the specific knowledge, skills, and topics that the certification exam assesses'), and 'Domain Breakdown' (a table listing seven domains: Introduction to Git and GitHub, Working with GitHub Repositories, Collaboration Features, Modern Development, Project Management, Privacy, Security, and Administration, and Benefits of the GitHub Community). A section for 'Recommendations and Best Practices for Success' is also present.

✓ Study guides for each exam

✓ Exam domain breakdown

✓ Domain learning objectives

✓ Links to learning content

✓ Practice exams
(coming soon)



Onsite Proctoring

Everything is ready for you to take the test! If you don't pass the exam onsite, we will provide you with a complementary exam voucher for you to use another time.

November 8

November 9

10:00am - 12:00pm

12:00am - 2:00pm

2:00pm - 4:00pm

8:30am - 10:30am

10:30am - 12:30pm

12:30pm - 2:30pm

2:30pm - 4:30pm

Workshop attendees can test for free!

Registration available for:

- **GitHub Foundations**
- **GitHub Actions**
- **GitHub Advanced Security**
- **GitHub Administration**

Testing center is here in the Hyatt Regency SOMA



Limited edition swag just for taking an exam!

Q & A



Thank you

Appendix

Microsoft Bot Framework

