



**Gulf Coast Center
of Excellence**



AI for Energy Engineering

Station 3: App Creation

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AGENDA

- Introduction - 5 minutes
- Demonstration - 5 minutes
- Exploration - 20 minutes

Introduction

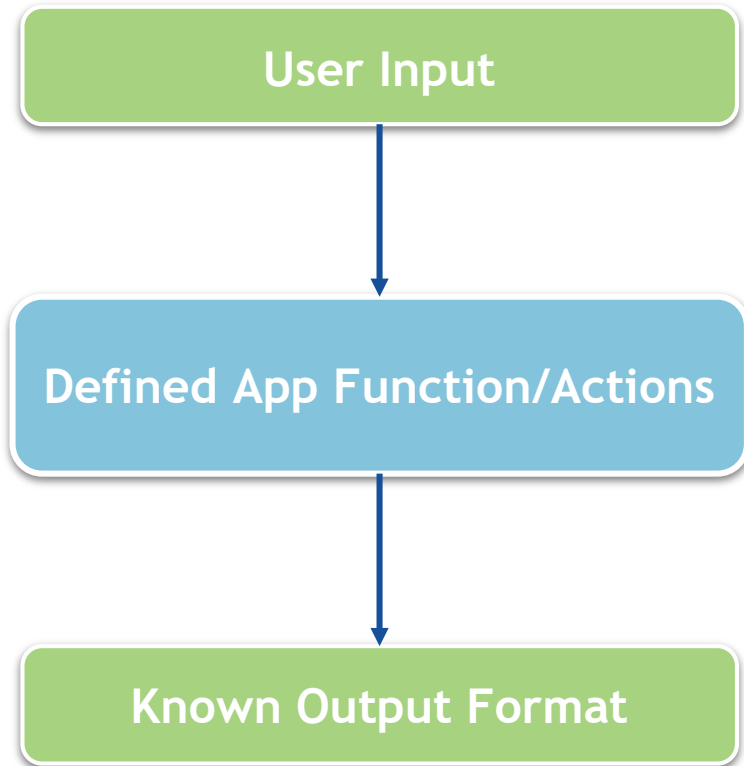
What apps can YOU create?

How long does it take?

What are the benefits?

What is an app?

- Not necessarily something you download from the app store
- The apps we create can be accessed via computer or phone



Currently Available Sites and Software



Prompt Generation

ChatGPT

Gemini

Claude

Grok

CoPilot



App Creation

Base44

Glide

Lovable

Claude (vibe-coding)

App Building Best Practices



Keep Data Secure

- **Don't use real data during app development**
- **Check generated code**
- **Consider paying for plans that ensure data and app security**



Conserve Tokens

- **Be aware of “token” limitations**
- **Use other AI software simultaneously for prompt generation, logos, etc.**

Example Apps

New Recruit
Training
Process

Consultation
Data Tracker

Inventory
System

Machine
Maintenance
Log

Task
Specific
Calculators

Sensor
Interface



App Creation Workflow

Prompt Generation: Chatgpt



App Creation: Base44 Free Account



End Use: Internal Applications



Demo

Demo Screenshots



Copy and Paste

Base44 App Prompt: Compressed Air Leak Tracker

Prompt:

Build a mobile-first web app called "Compressed Air Leak Tracker" designed for maintenance teams to log, track, and analyze compressed air system leaks across a facility.

Core Data Structure (Excel-Backed Table)

Create a primary table called **Leaks** with the following fields:

Basic Info

- Leak ID (auto-generated unique ID)
- Title / Short Description
- Detailed Description (multi-line text)
- Photo Upload (camera-enabled)
- Audio Note (optional)

Location

- Geotag (GPS capture from mobile device)
- Facility / Building Name
- Area / Zone (dropdown or text)
- Map View (visual pin display of all leaks)

Leak Characteristics

- Orifice Diameter (inches or mm)

...



Apps

Superagents

New

What will you build next?

Describe the app you want to create...



Plan



What would you like to create?

Tasks & Workflows

CRM & Sales

Content & Sites

Finance

Booking

... More

Demo Screenshots



Explore the App

Leak Log
6 leaks

Q Search leaks...

• **Scheduled** #1ca2f4
Experiment 1
@ Warehouse A - Zone 3
2.06 CFM \$ \$397 /yr

• **Identified** #487f88
Fitting leak near compressor #3
@ Main Plant - Zone 1
12.58 CFM \$ \$2,420 /yr

• **Scheduled** #487f89
Hose connection drip - Assembly
@ Assembly Line - Zone 2

Title *
e.g., Fitting leak near compressor #3

Description
Detailed description of the leak...

Facility **Area / Zone**
Select... Select...

Leak Measurements

Diameter (Inches) * Pressure (PSIG) *
0.125 100

Leak Type Pipe Size
Select... e.g., 1/2"

Severity

Home Log Map Settings

Air Leak Tracker
5 active leaks detected

ACTIVE LEAKS
5
42 CFM total

COST IMPACT
\$8,082
per year

REPAIRED
1
leaks fixed

SAVINGS
\$384
from repairs

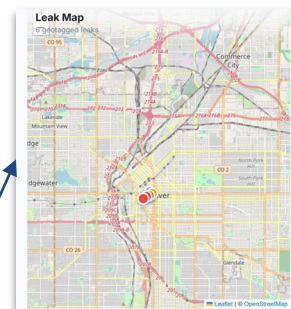
Found a leak?
Log it in seconds with auto-calculations

Add Leak

Recent Leaks [View all →](#)

• **Scheduled** #1ca2f4
Experiment 1
@ Warehouse A - Zone 3
2.06 CFM \$ \$397 /yr

Home Log Map Settings



Settings
Cost & calculation parameters

Energy Costs

Electricity Cost (\$/kWh)
0.1

Compressor Efficiency (kW/100 CFM)
22

Default Parameters

Default Pressure (PSIG)
100

Annual Operating Hours
8760

Home Log Map Settings

Demo Screenshots



Edit When Needed

Facility

Select...

Area / Zone

Select...

Leak Measurements

Diameter (inches) *

0.125

Pressure (PSIG) *

100

Leak Type

Select...

Pipe Size

e.g., 1/2"

Severity

Low

Medium

High

Date Identified

04/28/2026



Will you add an optional dropdown to display the equations used in your live estimate section for calculating the repair estimate?

17 days ago

Base44

> Thought for less than a second

Edited components/Leak Calculator Preview

Now pass diameter , pressure , and dischargecoeff from AddLeak into the component:

Edited Add Leak Page

Added a collapsible "View calculation equations" link below the live estimate that shows each formula step-by-step with the actual input values substituted in.



Leak Measurements

Diameter (inches) *

0.09

Pressure (PSIG) *

100

Leak Type

Select...

Pipe Size

e.g., 1/2"

LIVE ESTIMATE — LOW

1.07 CFM

\$206 /year loss

\$206 if repaired

View calculation equations

1. ORIFICE AREA

$$A = \pi \times (d/2)^2$$
$$A = \pi \times (0.0075/2)^2 = 0.000044 \text{ ft}^2$$

2. PRESSURE DIFFERENTIAL

$$\Delta P = \text{PSIG} \times 144 \text{ (psf)}$$
$$\Delta P = 100 \times 144 = 14400 \text{ psf}$$

3. LEAK FLOW RATE

$$Q = C \times A \times \sqrt{(2\Delta P / \rho) \times 60}$$
$$C = 0.65, \rho = 0.075 \text{ lb/ft}^3$$
$$Q = 1.07 \text{ CFM}$$

Demo Screenshots



Deploy App

Publish Your App

Web Mobile app

Once published, the app will be visible to users based on its visibility settings.

<https://air-guard-flow.base44.app>

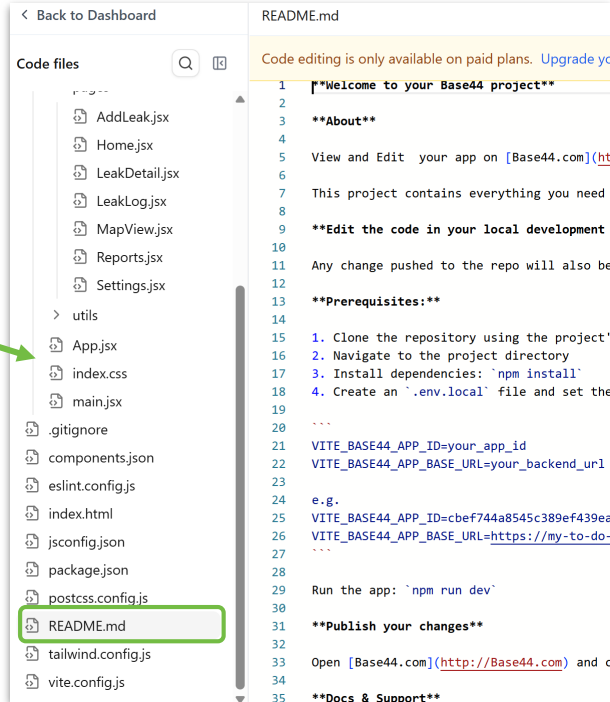
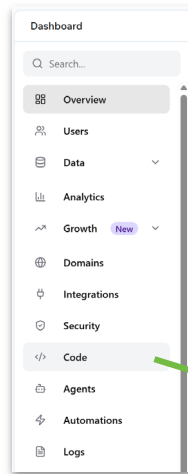
Edit URL

App Visibility

Public (login required)

Publish App

- Public (no login)
- Public (login required) ✓
- Private (login required)
Available for Starter+



Exploration Ideas



Air Leak Tracker

Create an app that can keep a log of compressed air leaks in your facility.

Consider:

- Location
- Cost Calculations
- Severity Ranking
- Summaries



Equipment Log

Convert a manual equipment maintenance or setpoint log to app format.

Consider:

- Graphical Representations
- Notifications



Inventory System

Create an inventory tracking system.

Consider:

- Images
- Labels and Locations
- Purchasing Information
- Categorization

Links



ChatGPT

<https://chatgpt.com/>



Base44

<https://app.base44.com/>



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