

Transforming 5250 Screens to React Framework with AI based tools





IT Training and Solutions GmbH

Markus A. Litters

CEO at i and me - IT Training and Solutions GmbH
IBM Champion

54 years old and 36 years on IBM Midrange

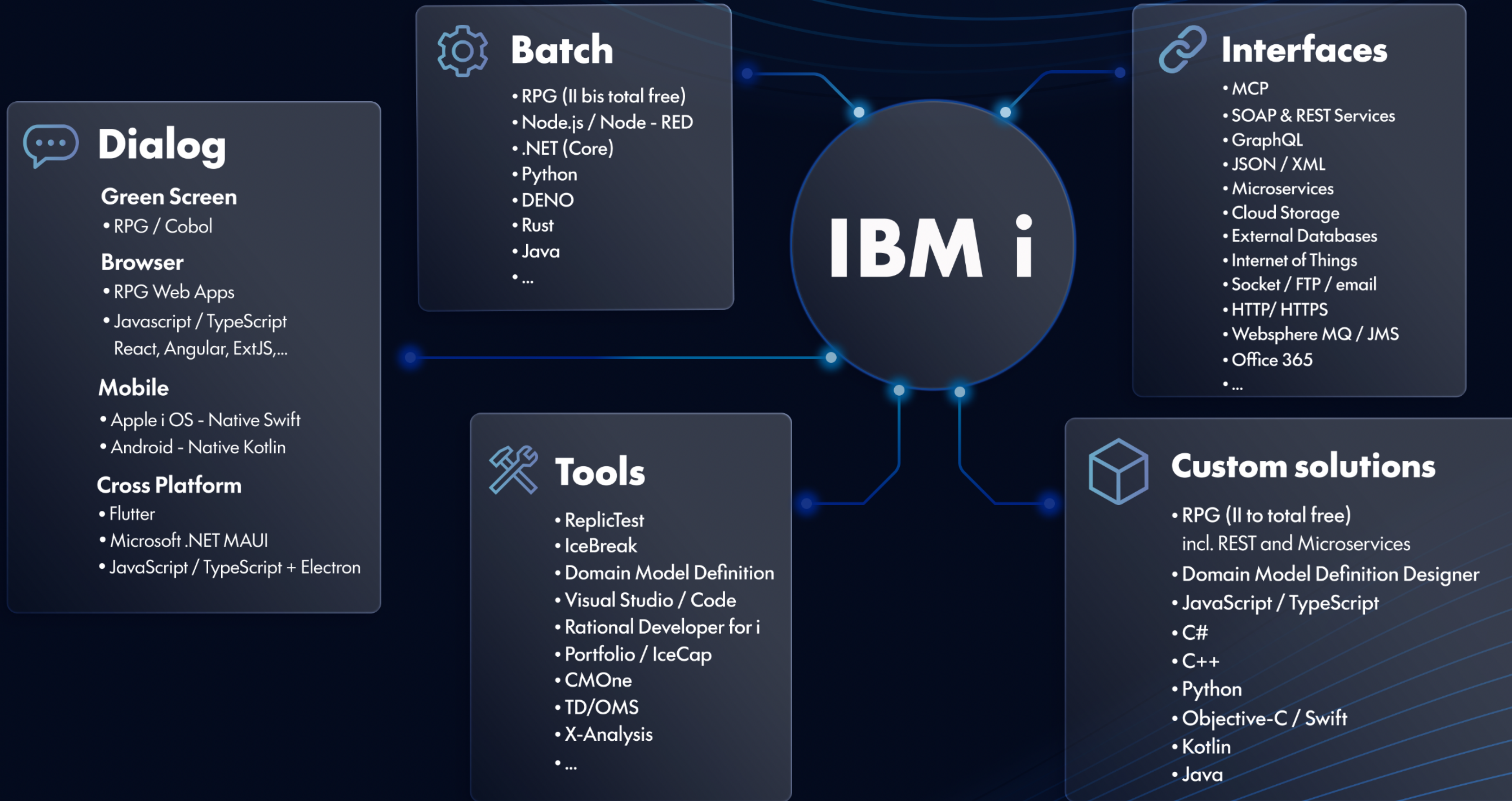
Modernization / Integration / Transformation
From RPG-II to most modern Microservice RPG
From DOS to most modern Agentic-AI and MCP
From c# to Flutter
From DB2 for I to Postgre SQL

First person in the world outside IBM running Node.js
on IBM i :-)





Your independent **application modernization partner**





Your independent **AI partner**



Agentic Coding Tools

- Claude Code
- IBM Bob
- AI Production Gate
- Cursor
- OpenAI CodeX
- CoPilot
- Ozgar
- ...



Machine / Deep Learning

- Python
- Jupyter Notebooks
- Image Processing
- Video Processing
- ...

**YOUR
COMPANY**



MCP Server

- i and me MCP Server
- AI Production Gate
- IBM MCP Server for IBM i
- Ozgar MCP Server
- ...



Large Language Modells

- Meta Llama
- Claude
- Google Gemini
- OpenAI ChatGPT
- IBM Granite
- ...





Agenda

- What are we talking about? 01
- Why should we do that? 02
- How does it work? 03



What are we talking about?

```
LAGERPLÄTZE VERWALTEN

ÄNDERUNG

Lager.....: KL Kleinteilelager
Lagerplatz.....: 011201

-----
Zone.....: A
Platzart.....: TA1 Tablar 100 hoch
Mix-Teile-Lagerung: J
Platz gesperrt....: -
Sperr-Grund.....: -
Stammplatz für....: _____

-----
Belegungs-Art.....: 8 tel
Freier Platz.....:  / 8 tel           letzte Änderung von:

zul.ges.Gewicht...: 270,00 kg           XDINUNZIO 23.09.24
max.freies Gewicht: 247,89 kg

-----
F1=Abbrechen  F4=Löschen  F5=Anzeige Belegung
```



What are we talking about?

LAGERPLÄTZE VERWALTEN

ÄNDERUNG

Lager.....: KL Kleinteilelager
Lagerplatz.....: 011201

Zone.....: A
Platzart.....: TA1 Tablar 100 hoch
Mix-Teile-Lagerung: J
Platz gesperrt.....: -
Sperr-Grund.....: -
Stamplatz für.....: _____

Belegungs-Art.....: 8 tel
Freier Platz.....: ___ / 8 tel
letzte Änderung von:

zul.ges.Gewicht...: 270,00 kg
max.freies Gewicht: 247,89 kg
XDINUNZIO 23.09.24

F1=Abbrechen F4=Löschen F5=Anzeige Belegung

AI



Warehouse: AL

Storage location: 808080

Zone *
A

Storage type *
GB - Gitterbox

Mixed parts storage

Storage location locked

Lock reason *
90 - gesperrt

Master location for

Occupancy type	Free space
3 tel	0 / 3 tel

Permissible total weight *	Maximum free weight
1500 kg	1200 kg

Last change by:

NODEJSAPP on 22.5.2024

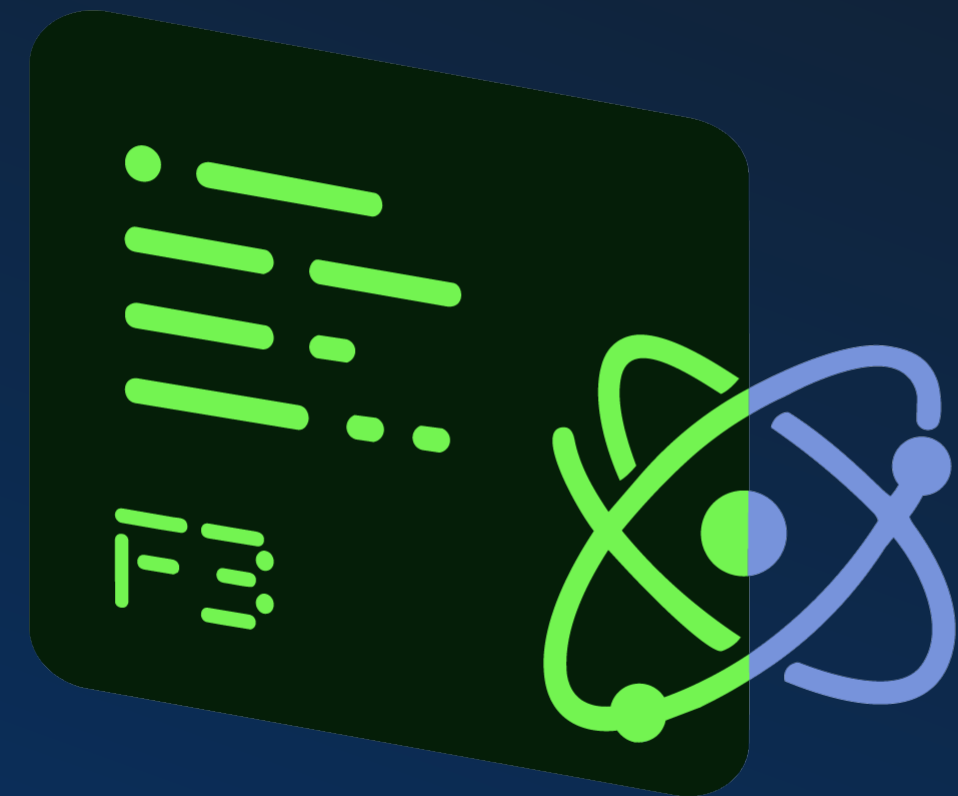
Delete

Save



IT Training and Solutions GmbH

DSPF2React



DSPF2 React

Warehouse: AL Storage location: 808080

Zone *
A

Storage type *
GB - Gitterbox

Mixed parts storage

Storage location locked

Lock reason *
90 - gesperrt

Master location for

Occupancy type 3	tel tel	Free space 0	/ 3 tel / 3 tel
---------------------	------------	-----------------	--------------------

Permissible total weight * 1500	kg	Maximum free weight 1200	kg
------------------------------------	----	-----------------------------	----

Last change by:
NODEJSAPP on 22.5.2024

Delete Save



Why should we do that?

localhost:5173

FMT01 **FMT02** FMT03 FMT04

FMT02 · Bearbeitung

Pflege der Attribute, Kapazitäten und Gewichte eines Lagerplatzes.

Kontext

Lager: **AL - Aussenlager** Lagerplatz: **Nicht gesetzt**

Zone: A **Platzart**: **FP - Flachpalette**

Mix-Teile-Lagerung: N - Nein

Sperr-Grund: Bitte wählen

Belegungs-Art (tel): 0-99

zul.ges.Gewicht (kg): z.B. 500.00

z.B. 300.00

F1 = Abbrechen · F4 = Löschen · F5 = Anzeige Belegung

Bereit zur Bearbeitung Status aktualisieren

Warehouse: AL Storage location: 808080

Zone *
A

Storage type *
GB - Gitterbox

Mixed parts storage

Storage location locked

Lock reason *
90 - gesperrt

Master location for

Occupancy type: 3 tel Free space: 0 / 3 tel

Permissible total weight *
1500 kg Maximum free weight: 1200 kg

Last change by:
NODEJSAPP on 22.5.2024

Delete Save



Why should we do that?

In a time where we have these great

Warehouse: AL Storage location: 808080

Zone *
A

Storage type *
GB - Gitterbox

Mixed parts storage

Storage location locked

Lock reason *
90 - gesperrt

Master location for

Occupancy type	tel	Free space	/ 3 tel
3		0	

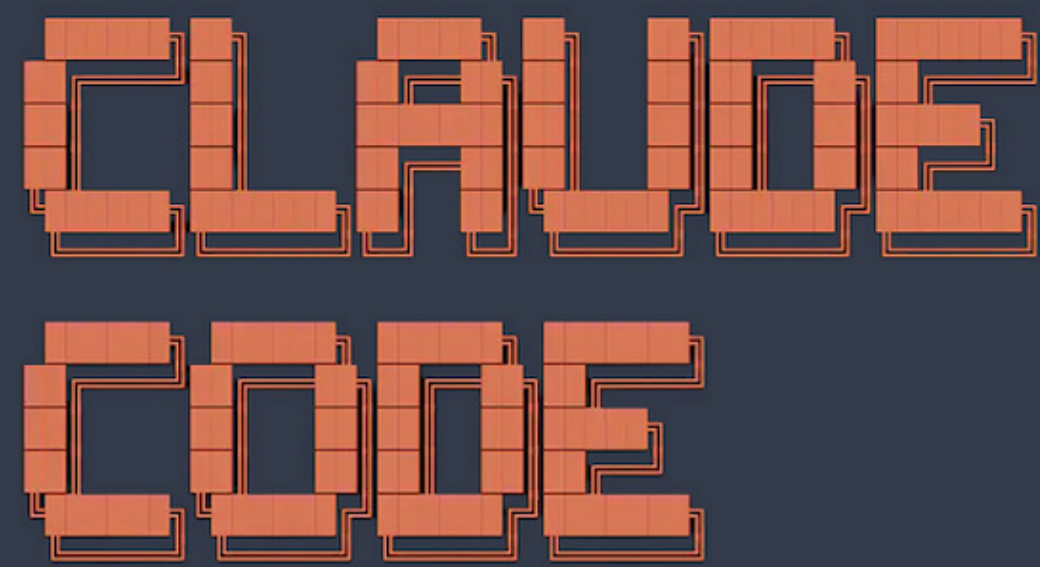
Permissible total weight *	kg	Maximum free weight	kg
1500		1200	

Last change by:
NODEJSAPP on 22.5.2024

Delete Save



Agentic Coding Tools



OpenAI Code



GitHub Copilot



CURSOR AI



Gemini CLI

... many more of them



IT Training and Solutions GmbH

Agentic Coding Tools

CLAUDE
CODE



GitHub
Copilot



OpenAI Code

What is it?

Agentic coding is an approach to software development in which autonomous AI agents plan, write, test, and modify code with minimal human interaction.

At least in theory



CLAUDE
CODE



GitHub
Copilot

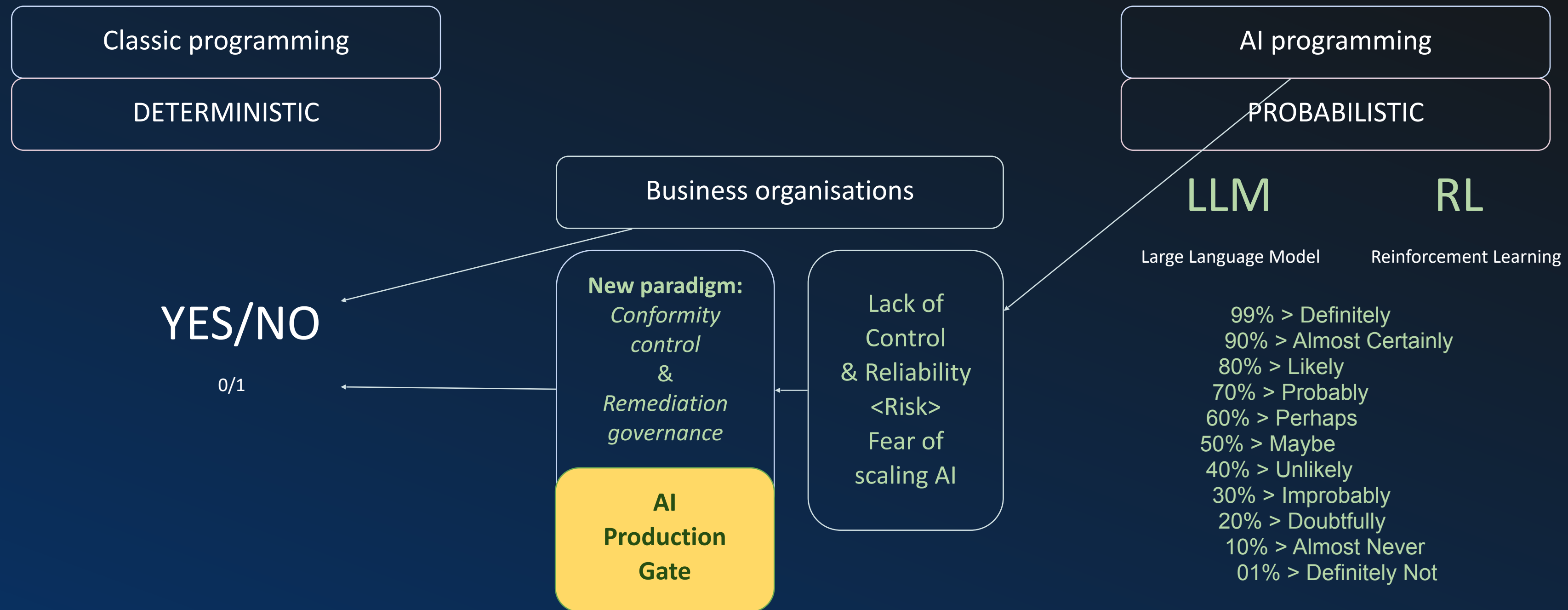


OpenAI Code

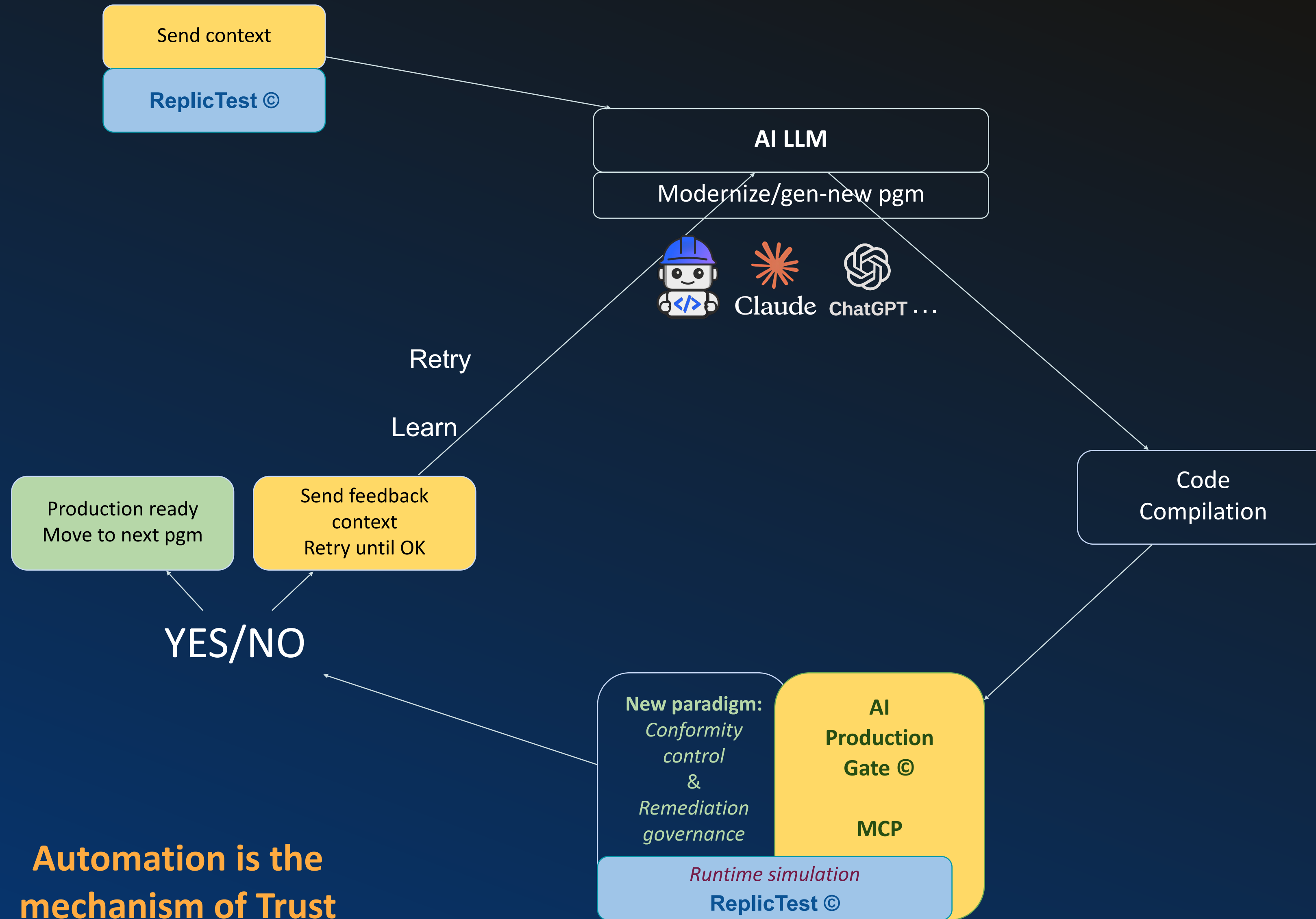
Agentic Coding Tools

```
379 C ECHKAZ ENDSR
380 C #CHKAT BEGSR
381 C MOVE *OFF *IN88
382 *
383 C VZASSI IFEQ *ZEROS
384 C MOVE *ON *IN88
385 C GOTO ACHKAT
386 C ENDIF
387 *
388 C VZASSI OCCUR PRXDS
389 C PRXASS IFEQ *ZEROS
390 C MOVE *ON *IN88
391 C GOTO ACHKAT
392 C ENDIF
393 *
394 C PRXSUC IFEQ 'N'
395 C MOVE *ON *IN88
396 C GOTO ACHKAT
397 C ENDIF
398 *
399 C EXSR CHKWTG
400 *
401 C EXSR #CHKT2
402 *
403 C ACHKAT TAG
404 *
405 C ECHKAT ENDSR
406 * kein Arzt keine Startzeit
407 C $WORK3 BEGSR
408 *
```

```
337 VZASSI = TZASSI;
338
339 If CheckVacation();
340 | Iter;
341 EndIf;
342
343 If CheckAppointmentExists();
344 | If TZDAT = YDAT And TZZEIT <= YTIME;
345 | | Iter;
346 | EndIf;
347
348 VZDAT = ConvertYMDToDMY(TZDAT);
349 VZZEIT = TZZEIT;
350 VZASSI = TZASSI;
351
352 If CheckDoctorAvailable();
353 | Iter;
354 EndIf;
355
356 If CheckMultipleSlots();
357 | Iter;
358 EndIf;
359
360 DisplayProposal();
361
362 If KEY = F00;
363 | Iter;
364 EndIf;
365
366 Leave;
367 EndIf;
```



AI Production Gate represents the missing layer in the AI stack, to converge Business into a deterministic control & governance while scaling AI with confidence.



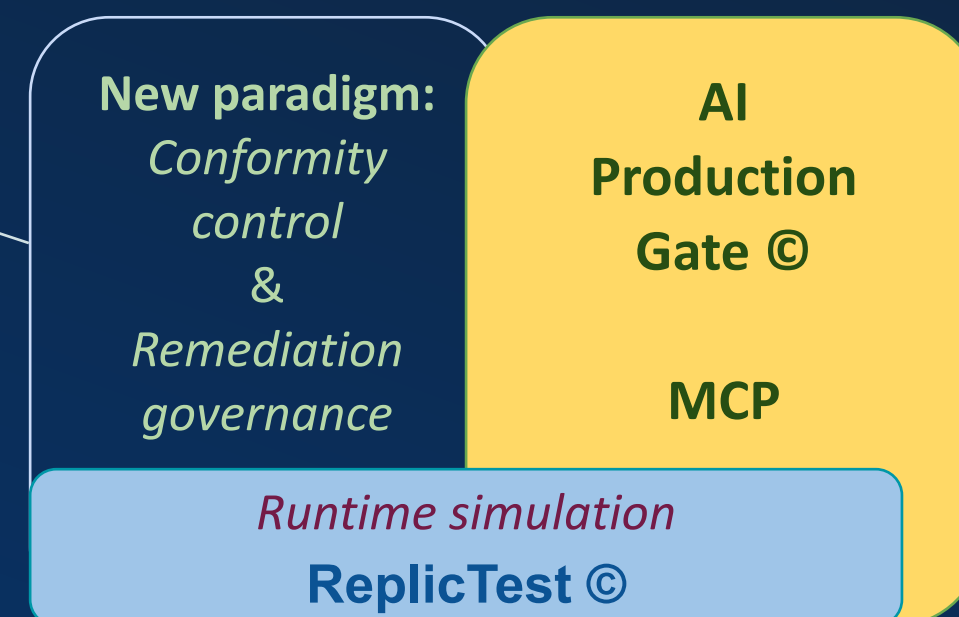
Automation is the mechanism of Trust



But what happens if the agentic coding tool is even not able to create compilable code?

YES/NO

Automation is the mechanism of Trust





IT Training and Solutions GmbH



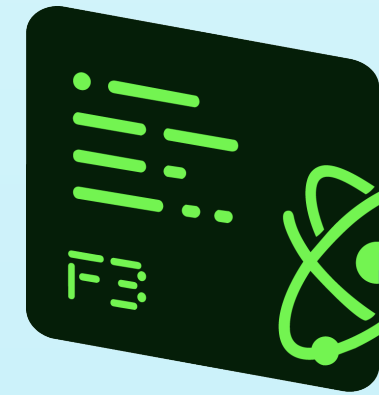
LIGHTMAN



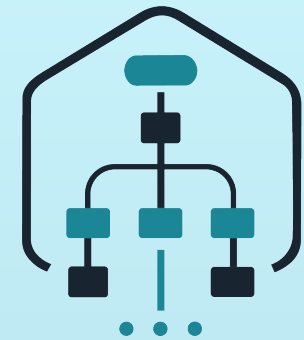
Code for IBM i



MORGANA



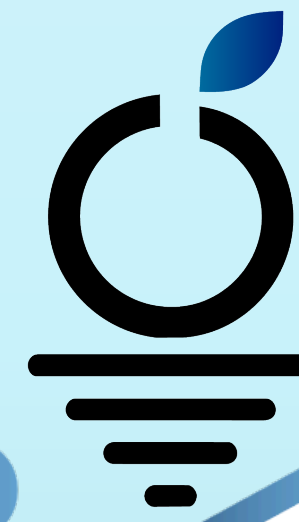
DSPF2
React



PGM Workflow



Free



Avalon



i and me MCP Server



What is Lightman?

- VS Code extension to improve the results of Agentic coding tools like IBM Bob, Claude Code and other and reduce cost of tokens
- Take advantage of the integration with Code for IBM i Extension
- Gather as much information as possible WITHOUT AI, for example by using the MORGANA Outline features, our PGMWorkflow, and our own MCP Server for IBM i
- Create AI Skills without knowing anything about it with our easy to use Skill wizard and manage them public or private with LIGHTMANs Skill Manager

What is Lightman?

- Includes our effective build tool, Avalon, to ensure that applications modernized or customized by agents are properly converted, including a cross-reference database
- Includes the DSPF2React module for phased modernization based on Open Access handlers

What is Lightman?



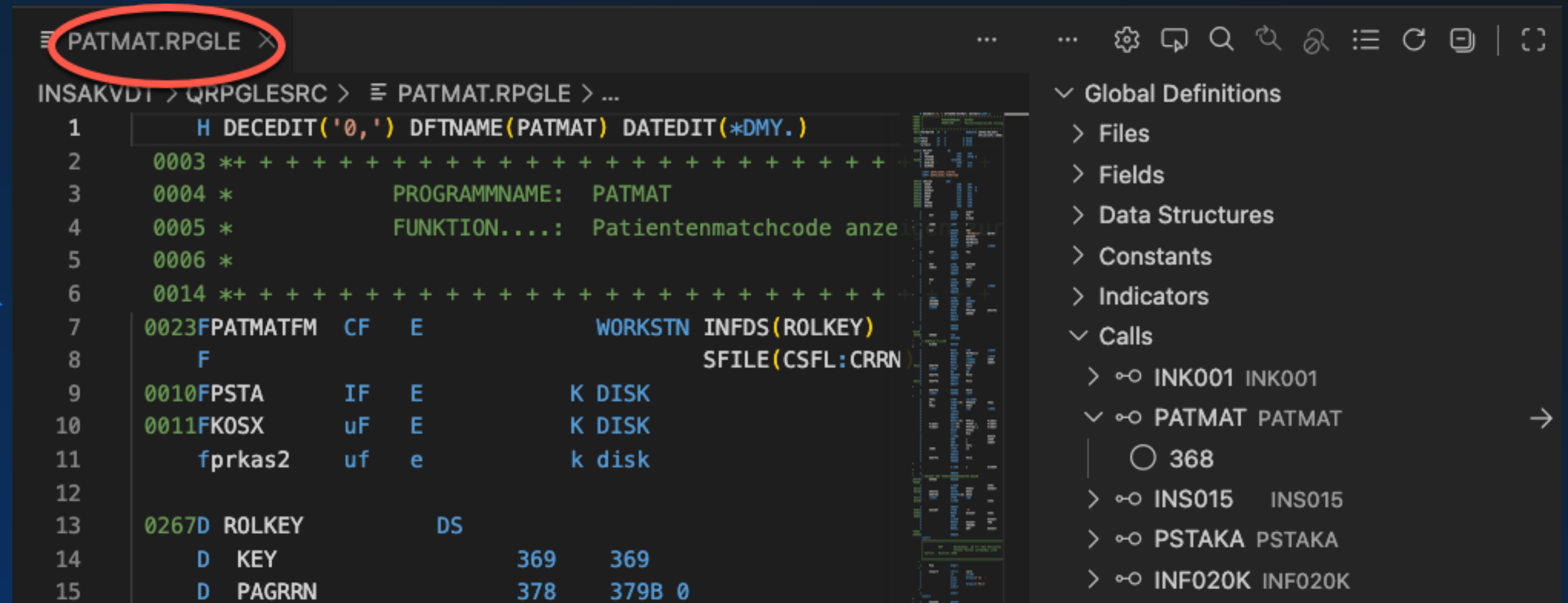
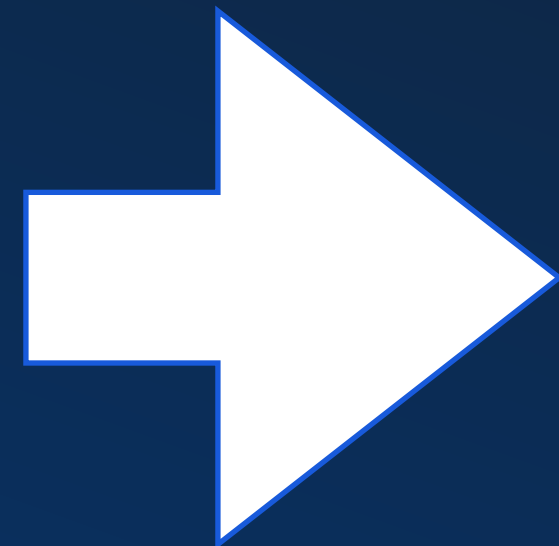
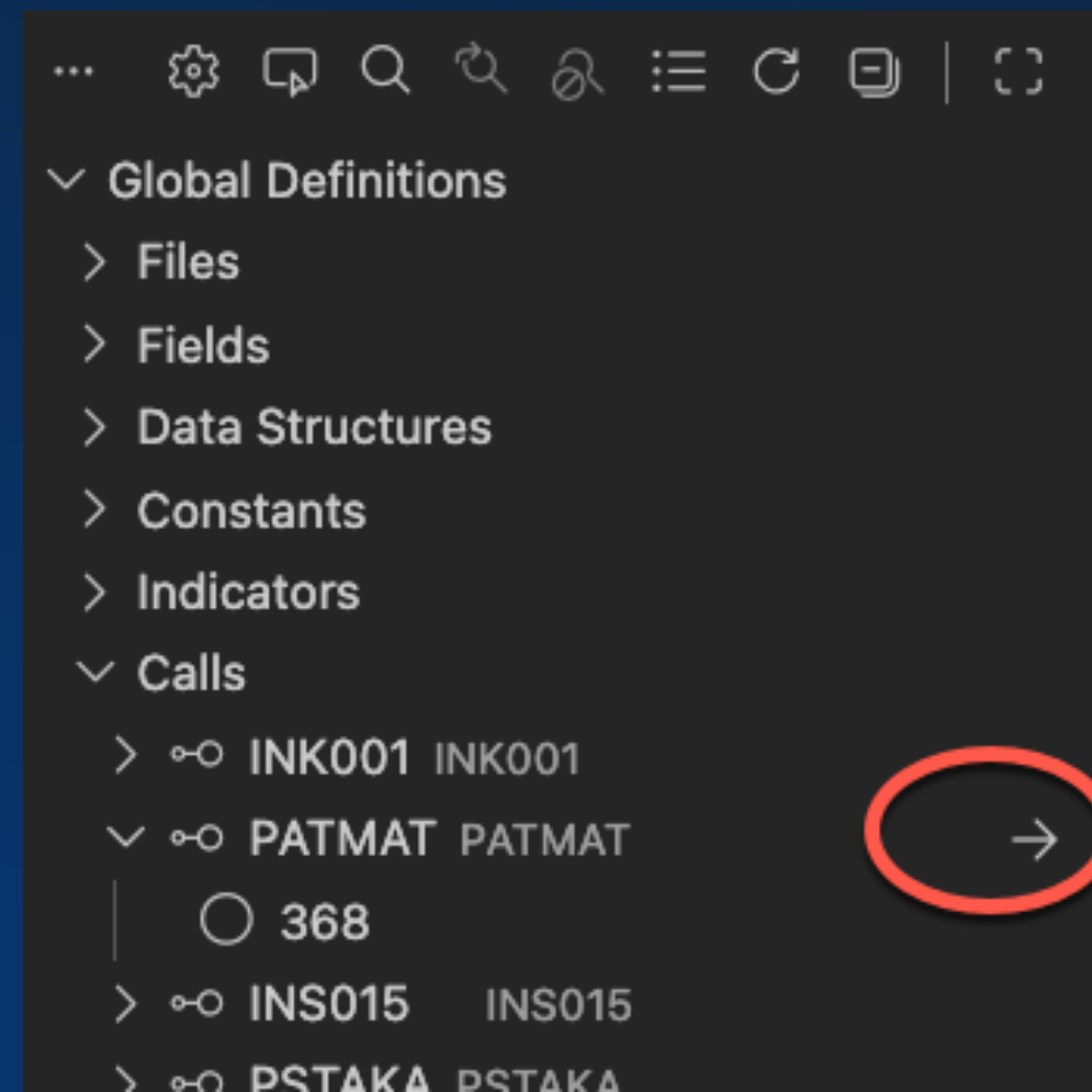
MORGANA Outline and more...



MORGANA



What is MORGANA? ... and MORE





Skill Manager and Wizard

LIGHTMAN Welcome Project4i Setup Wizard Skill Wizard X

> AUSGEWÄHLTE VERBINDUNG ZU IBM I
> AUSGEWÄHLTES AGENTIC CODING TOOL
✓ HINTERLEGTE SKILLS

Skill List

- Private
hugo1
- Public
skill-public
- Public
skill-tester

Create new skill

Status: Skill Wizard started.

IBM i RPG Modernization Skill Wizard

IBM i RPG Application Modernization

Skill Setup

Configure your skill before starting the wizard

Skill Name
e.g. my-skill-01

Target Agents

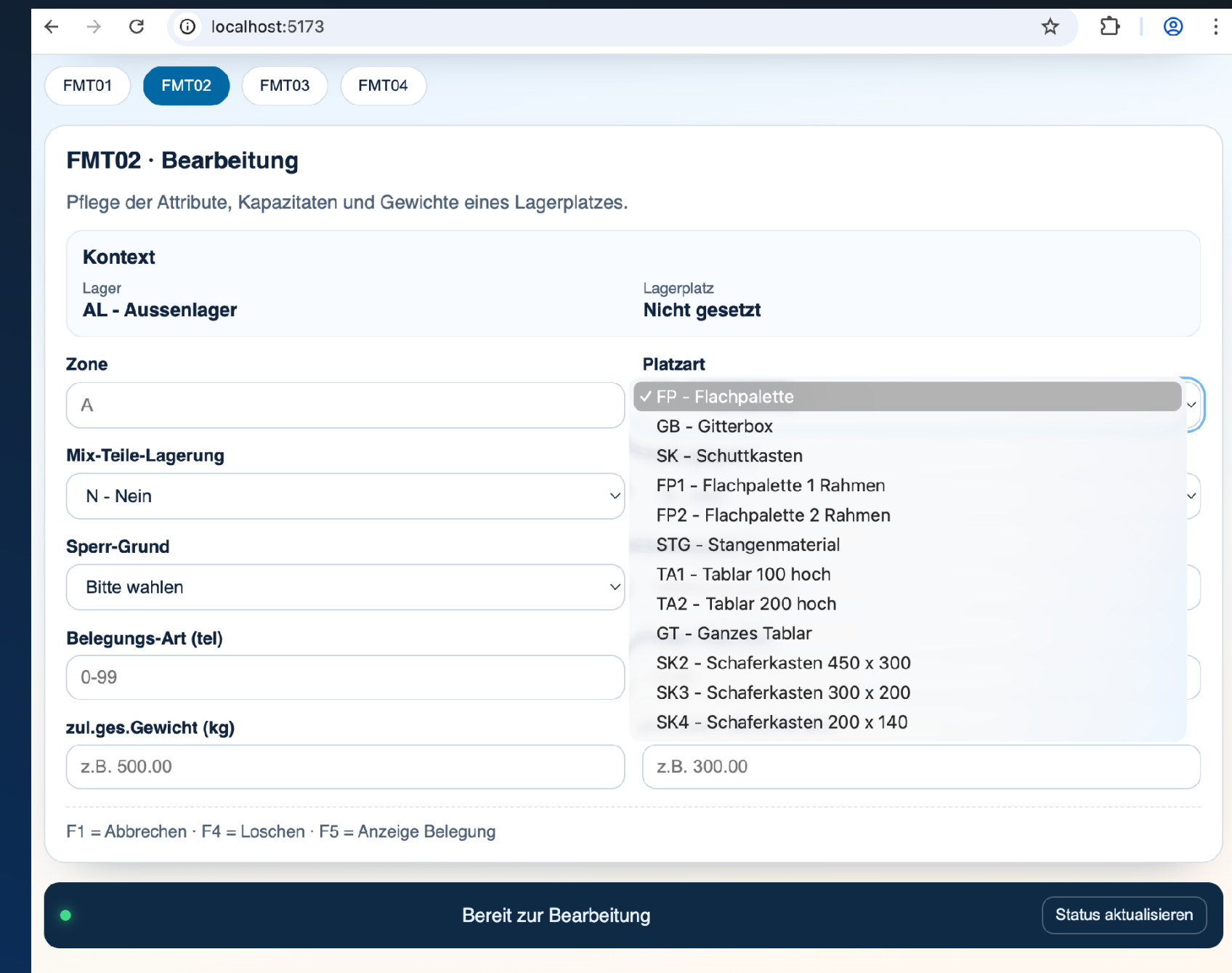
- Copilot
- Codex
- Claude

Start Wizard

PROBLEMS TERMINAL zsh + -

Why should we do that?

- Convert 5250 Screen automatically into React components that could be reused in your favorite Projects
- With our generic OA Handler and Browser Framework you can keep your existing RPG Programs with just one line of change (F Spec)
 - NO risk that your applications does „strange“ things and your company stand still
- Your young talents will love that React stuff while you keep training them into RPG



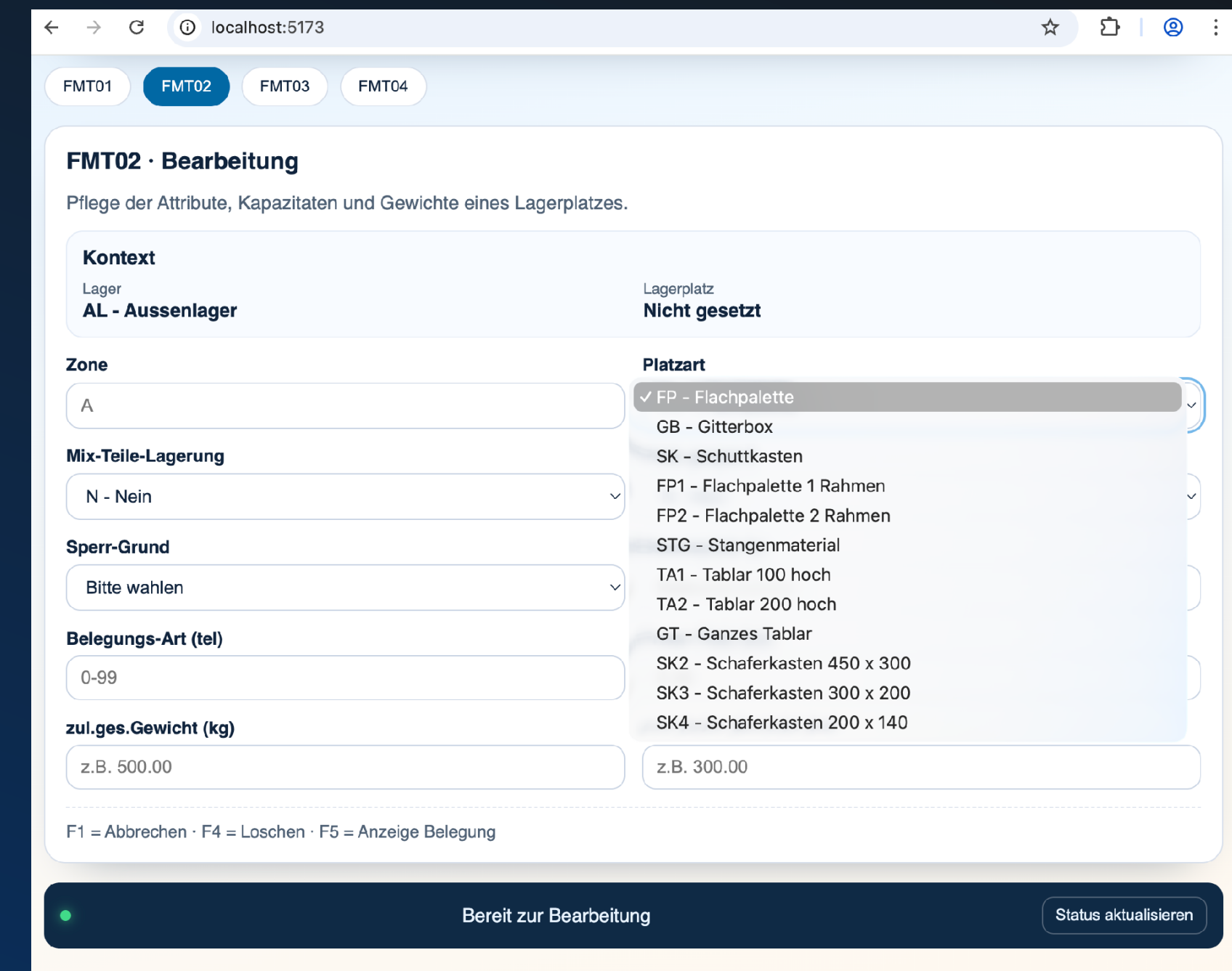
The screenshot shows a web browser window at localhost:5173 displaying a form titled 'FMT02 - Bearbeitung'. The form is for editing warehouse attributes and includes the following fields and options:

- Kontext:** Lager (AL - Aussenlager), Lagerplatz (Nicht gesetzt)
- Zone:** A
- Mix-Teile-Lagerung:** N - Nein
- Sperr-Grund:** Bitte wählen
- Belegungs-Art (tel):** 0-99
- zul.ges.Gewicht (kg):** z.B. 500.00
- Platzart:** A dropdown menu with options: FP - Flachpalette (selected), GB - Gitterbox, SK - Schuttkasten, FP1 - Flachpalette 1 Rahmen, FP2 - Flachpalette 2 Rahmen, STG - Stangenmaterial, TA1 - Tablar 100 hoch, TA2 - Tablar 200 hoch, GT - Ganzes Tablar, SK2 - Schaferkasten 450 x 300, SK3 - Schaferkasten 300 x 200, SK4 - Schaferkasten 200 x 140.

At the bottom of the form, there are instructions: 'F1 = Abbrechen · F4 = Löschen · F5 = Anzeige Belegung'. A status bar at the very bottom shows 'Bereit zur Bearbeitung' and a 'Status aktualisieren' button.

Why should we do that?

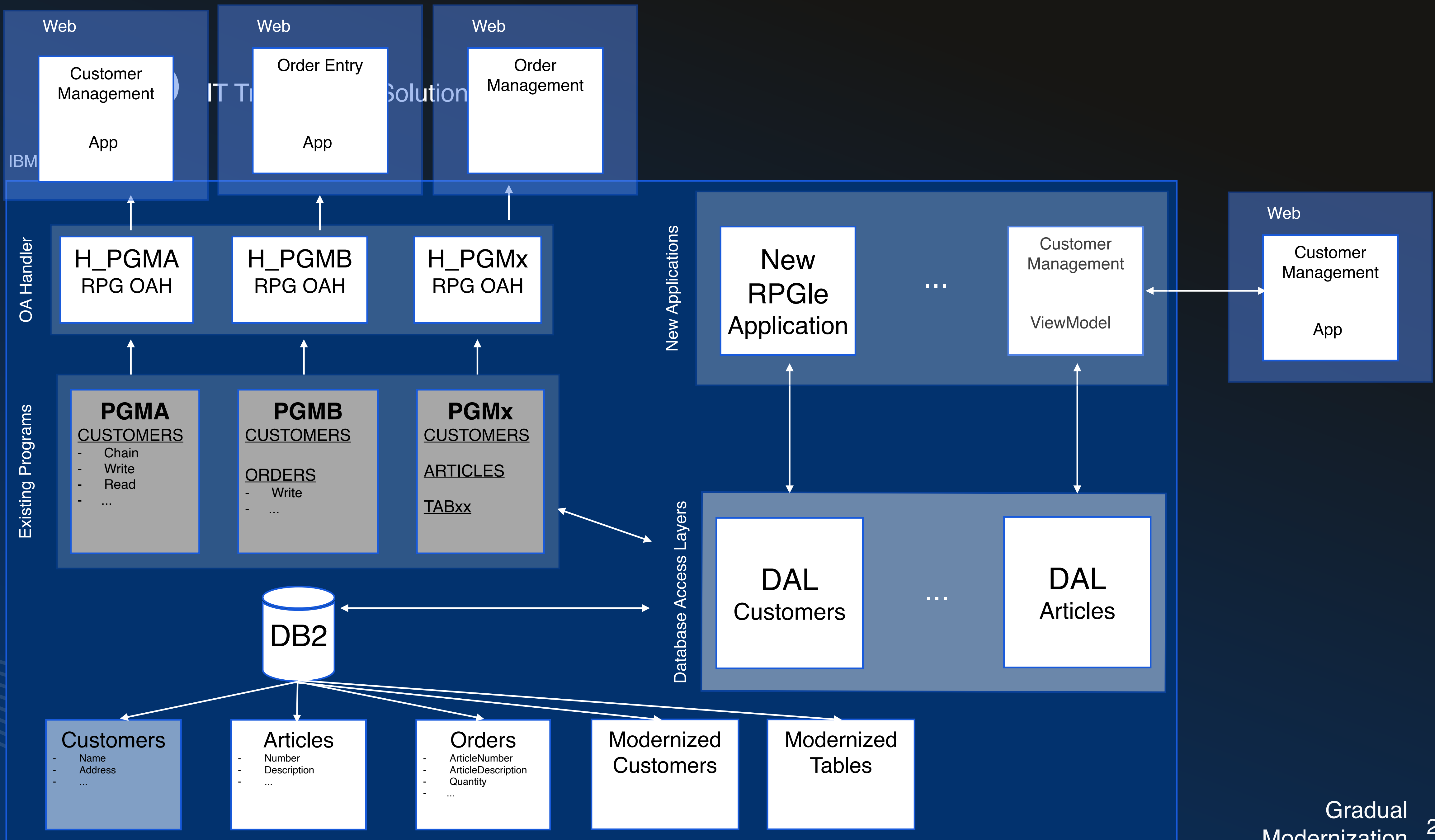
- If you don't want AI do a whole conversion of your Application (yet)
- If you want to do a Gradual Modernization
- In combination with Database OA Handlers you can modernize already a lot while keep your existing and proofed RPG / Cobol Code Logic as it is and be sure your company still works
- Your new or younger Users will love that
- Your long term Users that don't want Web UI can still work with the 5250 Screens



The screenshot shows a web application interface for editing a warehouse location (FMT02). The interface is displayed in a browser window at localhost:5173. The main heading is "FMT02 · Bearbeitung" with the subtitle "Pflege der Attribute, Kapazitäten und Gewichte eines Lagerplatzes." Below this, there are several sections for data entry:

- Kontext:** Lager (AL - Aussenlager) and Lagerplatz (Nicht gesetzt).
- Zone:** A dropdown menu with the value "A".
- Mix-Teile-Lagerung:** A dropdown menu with the value "N - Nein".
- Sperr-Grund:** A dropdown menu with the value "Bitte wählen".
- Belegungs-Art (tel):** A text input field with the value "0-99".
- zul.ges.Gewicht (kg):** A text input field with the value "z.B. 500.00".
- Platzart:** A dropdown menu with a list of options: FP - Flachpalette (selected), GB - Gitterbox, SK - Schuttkasten, FP1 - Flachpalette 1 Rahmen, FP2 - Flachpalette 2 Rahmen, STG - Stangenmaterial, TA1 - Tablar 100 hoch, TA2 - Tablar 200 hoch, GT - Ganzes Tablar, SK2 - Schaferkasten 450 x 300, SK3 - Schaferkasten 300 x 200, and SK4 - Schaferkasten 200 x 140.

At the bottom of the form, there are instructions: "F1 = Abbrechen · F4 = Löschen · F5 = Anzeige Belegung". The status bar at the bottom indicates "Bereit zur Bearbeitung" and "Status aktualisieren".



Why should we do that?

Can you see the adult in the room? ;-)





How does it work?

localhost:5173

FMT01 **FMT02** FMT03 FMT04

FMT02 · Bearbeitung

Pflege der Attribute, Kapazitäten und Gewichte eines Lagerplatzes.

Kontext

Lager: **AL - Aussenlager** Lagerplatz: **Nicht gesetzt**

Zone: A

Mix-Teile-Lagerung: N - Nein

Sperr-Grund: Bitte wahlen

Belegungs-Art (tel): 0-99

zul.ges.Gewicht (kg): z.B. 500.00

Platzart

- ✓ FP - Flachpalette
- GB - Gitterbox
- SK - Schuttkasten
- FP1 - Flachpalette 1 Rahmen
- FP2 - Flachpalette 2 Rahmen
- STG - Stangenmaterial
- TA1 - Tablar 100 hoch
- TA2 - Tablar 200 hoch
- GT - Ganzes Tablar
- SK2 - Schaferkasten 450 x 300
- SK3 - Schaferkasten 300 x 200
- SK4 - Schaferkasten 200 x 140

z.B. 300.00

F1 = Abbrechen · F4 = Löschen · F5 = Anzeige Belegung

Bereit zur Bearbeitung Status aktualisieren

Lets see it in action!!!



Whats „Next“?

The Web Development Journey



HTML



CSS



JavaScript



React



Next.js



Mastering the future - together.

THANK YOU

For your attention.

Any Question? info@iandme.rocks

www.iandme.rocks