

EDUS

METHODOLOGY

TOOL 2

MIXING THE INGREDIENTS

A Tool for Effectively Using AI to Generate Educational Content on Sustainable Development in the VET Sector



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STEP 1: Define the Ingredients

A prompt – meaning the input given to an AI (or, more appropriately, a chatbot based on a Large Language Model) to obtain a specific output – is like a recipe.

The more accurately you select the ingredients – in terms of type, quantity, and sequence – the better the result. The more personal touches you add, the more original the outcome will be.

Before using AI to generate an educational activity or course, it's important to identify all the key ingredients – that is, the components that make it up – in order to achieve results that are both original and well-suited to the educational context.

Fill in the **Ingredient Map** by specifying:

The Learning Objective

The more specific the objective, the more relevant the output generated by the AI will be. Formulate the objective by **clarifying which competency you want to achieve by the end of the learning experience**. Here are some examples of learning objectives derived from GreenComp, The European sustainability competence framework:

- By the end of the course, the student will be able to **assess own impact on nature**.
- By the end of the course, the student will be able to **synthesise sustainability-related information and data from different disciplines**.
- By the end of the course, the student will be able to **identify relevant social, political and economic stakeholders in one's own community and region to address a sustainability problem**.



The Educational Context

To avoid outcomes that are too difficult to achieve – in terms of skill level, resources, or time – provide the AI with your educational context, specifying:

- The **teacher's profile**, that is, the level of expertise the teacher has on the topic
- The **target group** of the activity (education level of the participants)
- The **duration of the activity** (for example, two hours or three lessons of four hours each)
- The **VET sector** in which the activity will be implemented
- The **available economic, material, and human resources** (for example, two trainers with a class of twenty students can deliver a very different activity compared to two trainers with a group of fifty students!)

The Content

The more narrowly defined the input, the more original the output will be. Instead of asking for a generic activity aimed at “teaching sustainable development”, include in the prompt the specific theme/challenge you intend to address (e.g., circular economy or recycling, or – going deeper into specific VET sectors – more specialized topics like green architecture or food waste).

The Educational Format/Methodology/Tools

To ensure AI supports us as an assistant rather than replacing our creativity, it's useful to start with a guiding idea rather than relying entirely on the AI to generate the concept.

This means suggesting the educational format – or methodology, or tools – you'd like to use in the activity (e.g., project work, lecture, role play, construction sets, etc.). You can also enrich the prompt with more detailed instructions about the **structure** (e.g., “alternate lectures with group practical activities”), or **sources of inspiration** (for example, including an example of an activity that has already been carried out, adding to the prompt the phrase: “follow this example to generate the activity”).

Be Inspired

In the Edus Training Program, you can find inspiration on the methodological approaches to adopt when developing your educational activities:

- 1 **Problem-Based Learning**
- 2 **Co-Creation-Based Learning**
- 3 **Experiential Learning**

Learn more about these methodologies and their effectiveness in teaching sustainable development by downloading the Edus Training Program.

Objective

- *What will the student have learned by the end of the course?*

Context

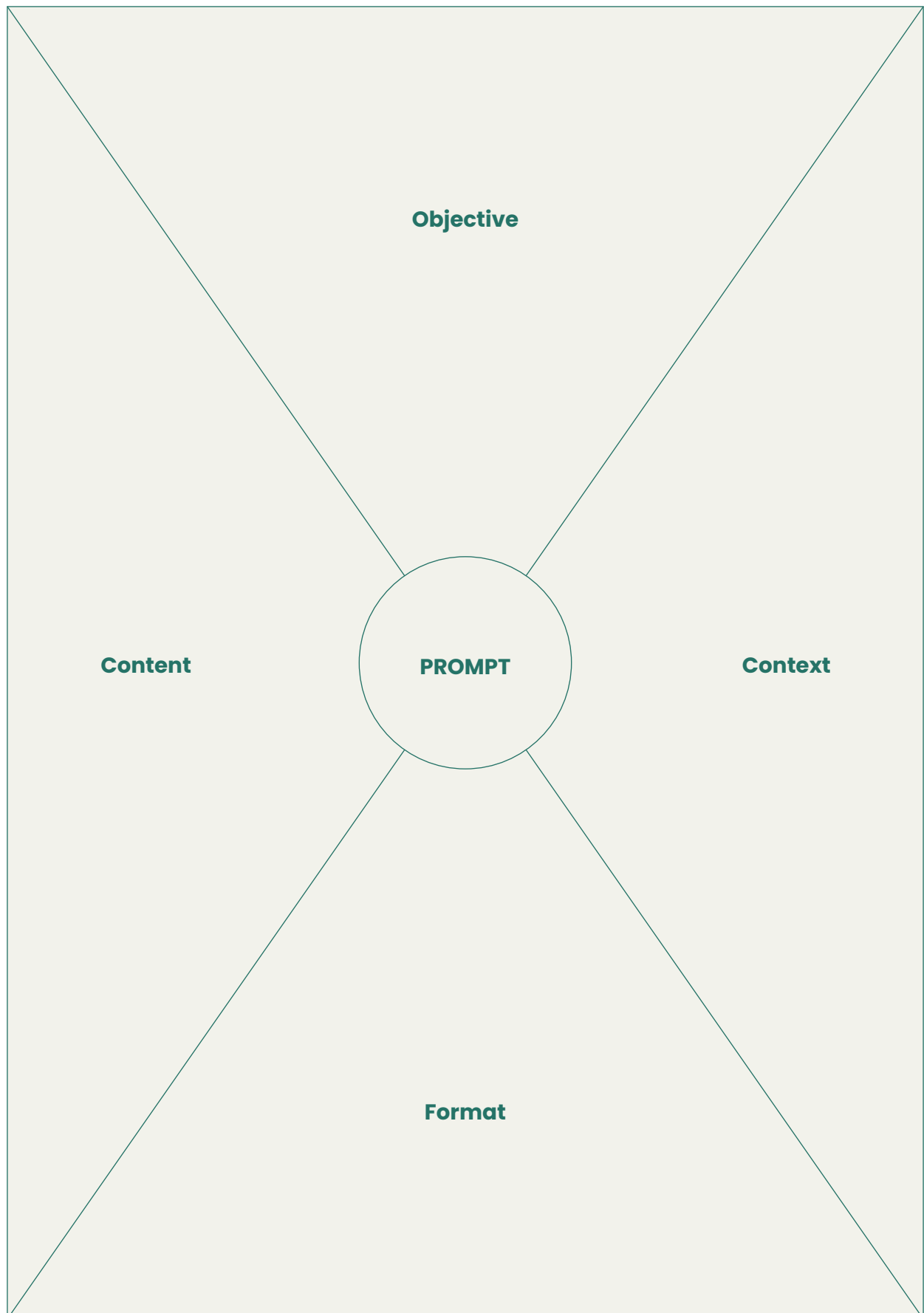
- *What is the teacher's profile?*
- *What is the skill level of the target group?*
- *What is the duration of the activity?*
- *In which VET sector will the activity be implemented?*
- *What resources (human, material, economic) are available?*

Content

- *What is the specific theme/challenge within the broader field of sustainable development that the training activity intends to address?*

Format/Methodology/Tools

- *What is the initial idea regarding the format, methodology, tools, and sources of inspiration?*



Be Inspired

Here are some frameworks that can help focus on themes and/or skills and learning objectives in the field of sustainability education:

- [GreenComp: the European sustainability competence framework](#)
- [SDGs: the Sustainable Development Goals](#)
- [Edus Framework: the Framework for Educating for Sustainable Development](#)



STEP 2: Mixing the Ingredients

Once the ingredients have been defined, you can move on to mixing them – that is, **composing the prompt**.

There is no universally correct order in which to arrange the elements: however, the most effective sequence for creating a successful prompt is generally:

1

Context & Content

2

Learning objective

3

Specific requests

(e.g., lesson's structure, sources of inspiration, etc.)

To obtain more contextually relevant responses, it's helpful to start by stating the role the AI should "assume", for example: Act as a VET teacher in the field of culinary arts. Let's keep in mind that the more specific the elements are – from the teacher's profile to the sources of inspiration – the more consistent the output will be with expectations.

Tips:

- If there are many specific requests, list them as **bullet points** – it will help you during the review phase!
- It is recommended to log in to the AI platform being used to avoid losing the content developed during the interaction.



Here is an example of a **human-generated – and validated by AI – prompt** for developing a lesson in the VET sector on the topic of sustainable development, combining all the ingredients identified in Step One and arranged according to the sequence suggested in Step Two:

Act as a VET teacher specialized in carpentry with limited knowledge of sustainable architecture. Create an educational activity that reflects this profile – keep the explanations practical and accessible, introduce sustainability concepts gradually, and connect them clearly to carpentry practice.

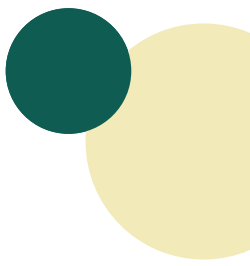
Design a 2-hour lesson about sustainable architecture for a class of 18 second-year vocational school students, who have limited knowledge of the topic. Each student has access to a tablet, and the classroom is equipped with a video projector.

Learning Objective:

By the end of the lesson, students will be able to list various applications of wood in sustainable architecture.

Here are some examples of specific requests based on the elements described above:

- Specify learning objectives (in addition to the main one), basing them on the GreenComp framework
- Breakdown the 2-hour lesson into phases (with approximate timing)
- Include suggestions for:
 - *Slides (topics + estimated number of slides)*
 - *Videos (suggested links)*
- Include intermediate assessment activities (e.g., quizzes or short-answer questions)
- Include strategies to engage students with little prior knowledge of the subject
- Base the activity on the co-creation learning methodology
- Alternate lectures with hands-on activities in the field of carpentry.



Now, you can fill in your Ingredient Mix Sheet to develop your own prompt:

	Act as...
	Context an context...
	Learning objective...
	Specific requests...

STEP 3: Check the Recipe (Verify, Iterate, Adapt)

Even if the ingredients have been carefully selected and combined, the first result generated by the AI is often not entirely satisfactory – and even when it is, it still needs to be reviewed before being “served.”

The final step in generating educational resources using AI involves three actions:

Verify

AI can make mistakes. Even when its results appear particularly confident – such as numbers or data – they may be the result of so-called “hallucinations,” meaning they are incorrect or even entirely fabricated.

That’s why **it’s important to verify the sources of any information it provides.**

Many AI models help with this by automatically listing the sources from which the information was taken, making it easy to check the reliability and accuracy by following the suggested links.

In any case, you can make the process of finding and verifying sources even easier by adding a sentence like this to your prompt: *“Provide reliable sources or verifiable references for the information given”.*

Keep in mind that AIs can also be a helpful ally for learning more about a specific topic: in addition to the references it has already provided for the educational activity, **you can ask it to provide further references** (e.g., websites, articles, studies, etc.) to deepen your understanding of the chosen topic.

Iterate

Just like you did when generating your prompt, **start by breaking down the AI’s output into its components** to identify what works and what could be improved or further developed.

- *Does the output align with the learning objective?*
- *Is it achievable given the students' level and available resources?*
- *Are the materials clear and engaging?*
- *Do the activities match the proposed teaching format?*

Then, **create new prompts to refine or enhance specific parts**. At this stage, it is useful to **break the main prompt into sub-prompts** to focus on the specific aspects you want to improve, expand, etc. For example, you can ask the AI for alternative quiz questions, for a more interactive version of an activity, or to replace a slide sequence with an educational video.

You can also ask the AI to suggest variations of the proposed activity – such as digital / in-person / blended or lecture-based / interactive / group-based – to get inputs you hadn't considered in your starting idea.

Remember, you can use different AI tools to generate all the teaching materials needed to implement the lesson or course, from slides to videos.

Tips:

- Devote all the necessary time to the iteration phase: AI can be a great ally for saving time, but there's no need to rush to the final result!
- Carefully consider the words you use when giving instructions aimed at improving the output: very general concepts like "make the output more original" rarely lead to a satisfactory result. Ask yourself which aspect of the output is unconvincing and formulate your request as specifically as possible. For example, asking for content that is "more playful" is already a more precise instruction than a generic "more original."

Adapt

Don't leave all the creative work to AI!

The output generated by the AI does not need to be followed as a strict guide, but **can simply be used as a source of inspiration to start designing** your own educational activities.

Even when the output is satisfying, it will always be more effective if you **add**

your personal touch, adapting part of the content to your own “repertoire” – for example by creating links to lessons the students have already experienced.

Also remember that the AI doesn’t know your students the way you do, so some materials may need to be revised for accessibility or to better engage them.



Tips for Sustainable Use of AI

We cannot talk about sustainability without considering that the use of AI also has an environmental impact and therefore requires some attention.

Here are some practical tips for using AI sustainably:

1

Avoid too many iterations

Following the steps in this tutorial is already a key to sustainable AI use. A well-thought-out and structured prompt facilitates generating a satisfactory result, which will require fewer revisions. Likewise, focusing on specific aspects during revisions instead of repeating the entire prompt helps produce a more targeted solution.

2

Limit the length of the output

Shorter outputs require less energy and less revision work, resulting in fewer additional iterations. Specifying quantitative elements in the prompt (for example: “generate quizzes with a maximum of five answers” or “generate three variants of the activity”) helps the AI produce shorter outputs.

3

Reuse prompts

Save effective prompts to reuse them, limiting future iterations. Organizing a prompt library is also useful to speed up the content generation process by revising existing prompts instead of starting the whole process over. To favour the reuse of prompts the “Agent” function available in many current LLMs can be integrated for tasks that refer to the same context, such as preparing lectures for a specific course.

Keep in mind that ethical AI use is itself an interesting topic within sustainable development, and you could use this tutorial to develop a metacognitive activity aimed at increasing students' awareness and critical thinking about sustainable use of Artificial Intelligence.



Appendix: practical case

Below is a real interaction between a VET teacher and an LLM.

Reading the example is useful to understand how the prompt was developed based on this guide: the provided elements facilitated the creation of a lesson plan consistent with the teacher's needs and integrated with their specific subject area (English).

Prompt

Act as an experienced teacher of English as a second language, who teaches in a VET secondary school for adults.

Design a 2-hour lesson for a class of mixed-age (16–60) vocational students from different fields who have limited knowledge of the UN Sustainable Development Goals. Each student has access to a phone, printed handouts, dictionaries, and the classroom is equipped with a video projector.

By the end of the lesson, students will be able to hold a conversation on the topic and will know how to use the future tenses (will – future, going to – future, present simple for future, and present continuous for future).


The class should include different elements and it can use the [SDGs website](#) as a source of inspiration. The elements to be included are, in any order you can suggest: a short introduction to the topic (e.g. a video); conversation-based group activities; introduction to future tenses based on the topic; exercises for future tenses with an answer key.

Provide a detailed lesson plan, including suggestions for: 1) strategies to engage students of various sectors and knowledge of the subject; 2) innovative assessment activities.

AI Output

Here's a **detailed 2-hour ESL lesson plan** designed for a **VET secondary school class of adult learners (ages 16–60)** with **limited knowledge of the UN Sustainable Development Goals (SDGs)**. The lesson integrates **language learning (future tenses)** with **global citizenship education, using interactive, inclusive, and vocationally relevant strategies**.

 **Lesson Duration:** 2 hours

 **Lesson Objectives:** By the end of the lesson, students will be able to:

- Understand the basic concept of the UN SDGs.
- Use four future tenses in English:
 - *will-future*
 - *going to-future*
 - *present simple for future*
 - *present continuous for future*
- Hold a short conversation about future actions related to sustainability in their vocational field.

Lesson Structure

0:00–0:15 | Warm-Up & Engagement

Activity: “What do you know about the future?”

- Ask students to discuss in pairs:
 - *What do you think the world will be like in 2030?*
 - *What changes will happen in your job or field?*
- Use Mentimeter or sticky notes to collect ideas and display them on the projector.

Strategy: This activates prior knowledge and connects the topic to their personal and vocational lives.

0:15–0:30 | Introduction to SDGs

Activity: Watch and Discuss

- Show this short video: UN SDGs Explained (choose a 2–3 minute overview video from the site).
- Hand out a simplified SDG chart (with icons and short descriptions).
- Ask students to choose one goal that interests them and explain why in pairs.

Differentiation: Students can use dictionaries or phones to translate key terms.

0:30–0:50 | Introduction to Future Tenses

Activity: *Grammar Through Context*

- Use examples from SDGs to introduce future tenses:
 - *Will:* “The UN will achieve the goals by 2030.”
 - *Going to:* “We are going to reduce waste in our workplace.”
 - *Present Simple:* “Goal 13 starts in January.”
 - *Present Continuous:* “We are working on clean energy solutions.”

Handout: Provide a grammar guide with examples and timelines.

0:50–1:10 | Practice Exercises

Activity: *Fill-in-the-blank & Sentence Matching*

- Students complete a worksheet with 3 types of exercises:
 - *Fill in the blanks with the correct future tense.*
 - *Match sentences to SDG goals.*
 - *Rewrite sentences using a different future tense.*

Answer Key Provided: Students self-check or peer-check.

1:10–1:30 | Group Conversation Activity

Activity: *“Future in My Field”*

- In small groups (3–4), students discuss:
 - *What changes will happen in your field by 2030?*
 - *What are you going to do to support sustainability?*
 - *What is your company doing next year?*
- Use sentence starters and vocabulary support handouts.

Vocational Relevance: Encourage students to relate SDGs to their sector (e.g., construction, healthcare, hospitality).

1:30–1:50 | Role Play & Speaking Assessment

Activity: *Mini Role Plays*

- Students pair up and role-play a short conversation:
 - *One is a UN ambassador, the other is a worker in their field.*
 - *They discuss future plans for sustainability.*
- Assessment Strategy:
 - *Use a simple rubric:*
 - ✓ Uses at least 3 future tenses correctly
 - ✓ Stays on topic
 - ✓ Participates actively

Innovative Assessment: Record short videos (with consent) for self-reflection or peer feedback.

1:50–2:00 | Wrap-Up & Reflection

Activity: *Exit Ticket*

On a sticky note or phone:

- *Write one thing you learned.*
- *Write one thing you will do for sustainability in your field.*

Optional Extension: Invite students to explore the SDGs website at home and bring one idea to the next class.

Strategies to Engage Mixed-Age, Mixed-Field Students

- Personalization: Connect SDGs to their vocational interests.
- Multimodal Learning: Use video, visuals, handouts, and conversation.
- Peer Support: Mixed-ability grouping for collaborative learning.
- Technology Use: Phones for translation, research, and recording.

Innovative Assessment Ideas

- Speaking Rubric with Peer Feedback
- Video Role Plays for Self-Assessment
- Exit Tickets for Reflection
- Grammar Quiz with Immediate Feedback

Would you like me to create the **handouts and worksheets** for this lesson (grammar guide, exercises, conversation prompts, etc.)?

Second Iteration

Prompt requesting edits

Before producing handouts and worksheets, I have two requests for edits. First, can you substitute the roleplay & speaking assessment with another assessment methodology? Second, can you connect more the future tenses with the group conversation activity?

Answer: Great! Here's the revised lesson plan with your two requests integrated:

 **Lesson Duration:** 2 hours

[Only the revised section of the lesson plan is provided below]

Updated Lesson Structure

1:10–1:40 | Group Conversation Activity (Now Enhanced with Grammar Focus)

Activity: *“Future in My Field” – Guided Discussion*

- Students work in small groups (3–4) to discuss:
 - What will change in your field by 2030?
 - What are you going to do to support sustainability?
 - What is your company doing next year?
- Each student must use at least one example of each future tense in their responses.

- Provide a conversation guide with sentence starters and a checklist:
 - ✓ Use "will" once
 - ✓ Use "going to" once
 - ✓ Use "present simple" once
 - ✓ Use "present continuous" once

Support: Vocabulary handout + dictionaries + teacher monitoring.

1:40–1:55 | Alternative Assessment Activity: "Future Tense Gallery Walk"

Activity: *Mini Poster Creation + Peer Review*

- Each student creates a mini-poster (A4 sheet) with:
 - *One SDG goal*
 - *Four sentences using each future tense to describe actions related to that goal or their field*
- Posters are displayed around the room.
- Students walk around, read, and vote (with stickers or marks) on:
 - *Most creative use of future tenses*
 - *Most relevant to their field*
 - *Most inspiring idea*

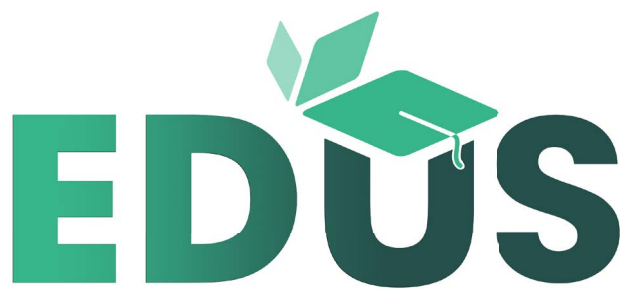
Assessment Strategy:

- Teacher uses a simple rubric:
 - ✓ All four tenses used correctly
 - ✓ Clear connection to SDG
 - ✓ Vocational relevance
- Students get feedback from peers and teacher.

✓ Summary of Your Requested Changes

Element	Original	Revised
Assessment	Roleplay & Speaking	Poster creation + Gallery Walk
Grammar Integration	Lightly connected to conversation	Explicit use of all four future tenses in group discussion with checklist

This is the starting point developed by the AI: from here, the teacher can ask the AI to produce specific materials (for example, worksheets) and thus customize activities and resources based on the specific characteristics of their class, materials and activities used in previous lessons, and their own creativity!



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