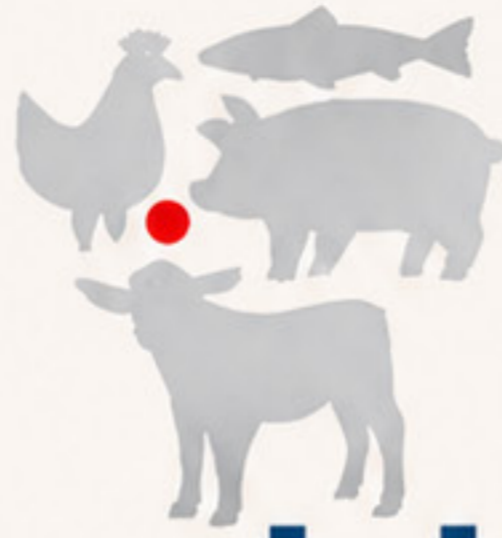




The

DE CIDE Cookbook



*A recipe for developing
data-driven decision support tools*



Inspired by the **DECIDE** project



The DECIDE Cookbook



Acknowledgements



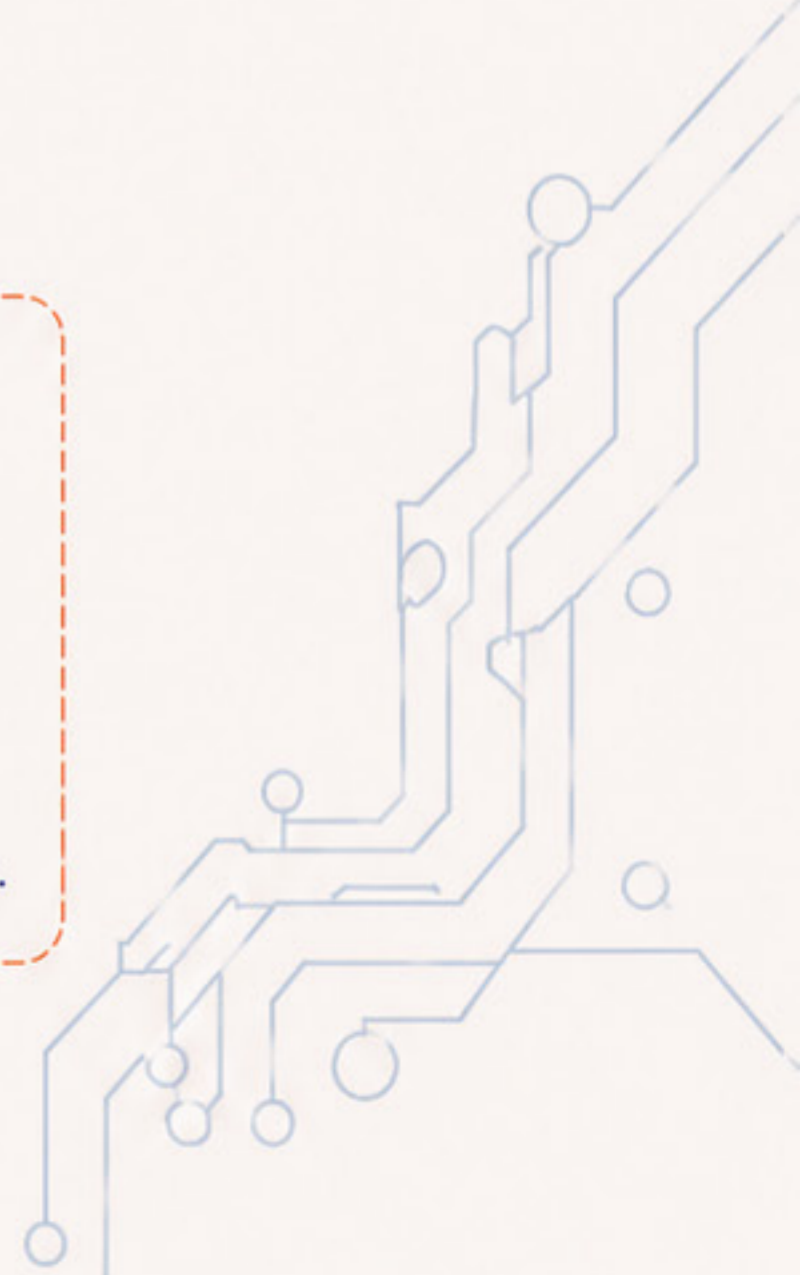
This booklet was inspired by the collective work of the DECIDE project (Data-driven control and prioritisation of endemic animal diseases), a five-year multidisciplinary Horizon 2020 collaboration (<https://decideproject.eu/>).

We gratefully acknowledge the DECIDE consortium and the farmers, veterinarians, advisors, data providers, researchers, and other stakeholders whose expertise, data, and feedback shaped the tools, prototypes, and lessons distilled in this Cookbook.



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The DECIDE project

DECIDE (Data-driven control and prioritisation of endemic animal diseases) was a five-year Horizon 2020 project that brought together a multidisciplinary team with an interdisciplinary culture to research, develop and evaluate data-driven decision support tools for livestock and aquaculture sectors.



Our work packages



WP1

Data identification, characterisation, acquisition, metadata, sharing frameworks and interoperability.



WP2

Analysis and modelling methods to turn data into decision-relevant information and explore what-if scenarios.



WP3

Co-creation, design, development, testing, and practical integration of decision-support tools.



WP4

Diseases and interventions ranked for economic burden, welfare implications, and antimicrobial use for prioritization of control options.



WP5

Social science, behavioural strategies, living labs, stakeholder uptake, and implementation.




WP6

Website, publications, newsletter, flyers, meetings, practice abstracts and roadmap with business models for tool exploitation.




WP7

Project coordination, management, consortium integration, and overall project oversight.



The strength of DECIDE lay in linking veterinary epidemiology, data science, economics, modelling, software development, and social sciences into one coordinated framework.



From data to tools

WP3 acted as a bridge between data, analyses, and practical decision support. With support from the other WPs, it translated project knowledge into usable tools and prototypes that help stakeholders make better, evidence-informed decisions.



1. Co-creation with users

We worked closely with farmers, veterinarians, advisors, and other stakeholders to identify real needs, co-define priorities, and refine what the tools should do and show.



2. Tool design and prototyping

We transformed analytical ideas into intuitive dashboards, interfaces, and decision-support prototypes that translate complex results into clear, actionable insights.



3. Iterative testing and refinement

Prototypes served as discussion objects. We gathered feedback through workshops and pilot testing, and continuously improved features, logic, and visualisations.



4. Integration with other work packages

We combined data foundations (WP1), analyses and modelling (WP2), economic and welfare insights (WP4), and social-science findings (WP5) to ensure tools are comprehensive and relevant.



5. Practical implementation

We supported the transition from prototype to usable tool by focusing on usability, robustness, documentation, and real-world fit within stakeholders' decision-making contexts.

How the Cookbook emerged

Cooking is more than putting ingredients in a pot... and so is tool development



The Cookbook emerged from five years of multidisciplinary work within the DECIDE project. Across livestock and aquaculture sectors, the project developed and evaluated data-driven decision support tools and generated both research outputs and practical experience with stakeholder engagement, data sharing, metadata, modelling, software design, deployment, evaluation, and sustainability.

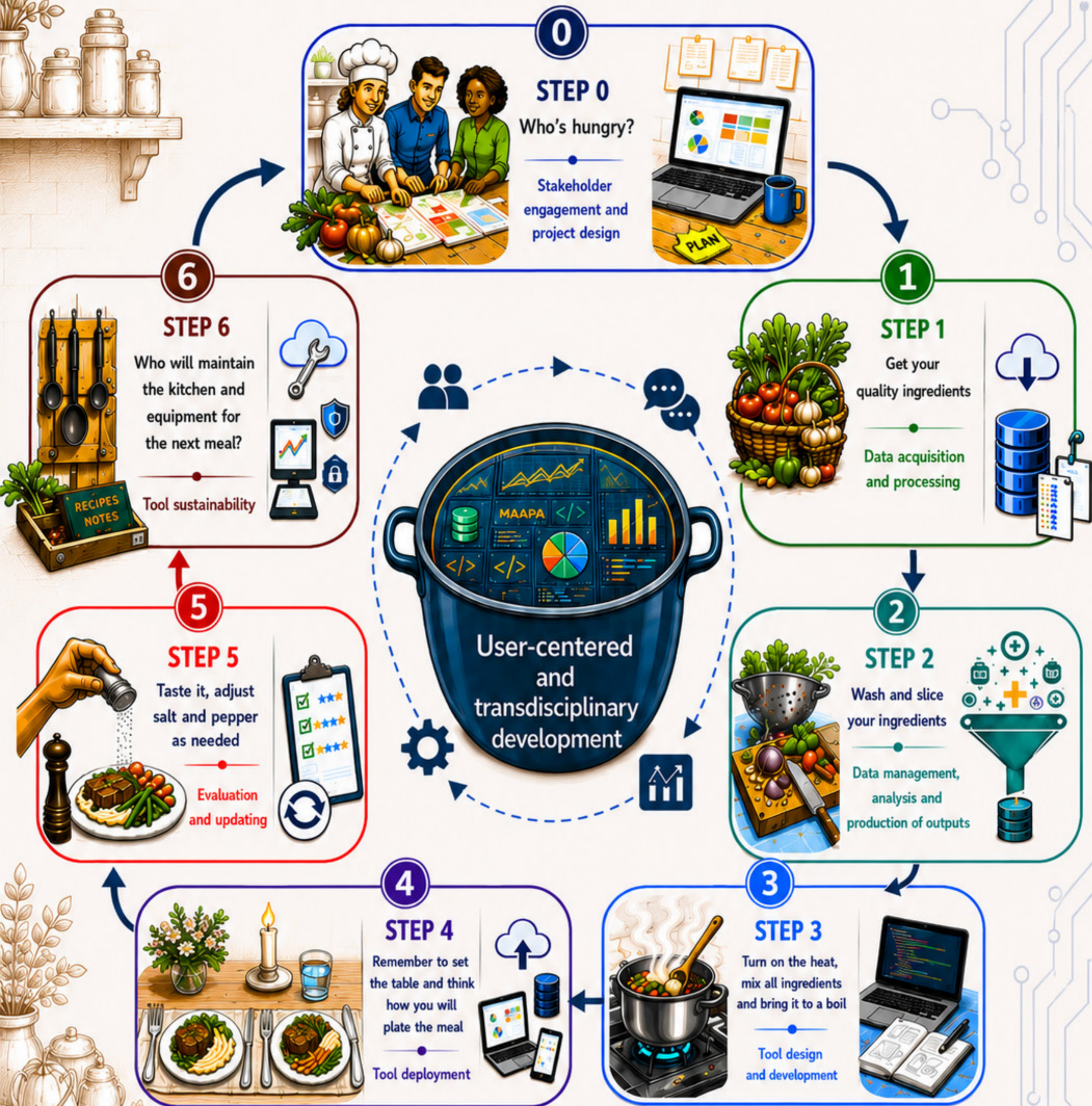


The goal of this Cookbook is to translate that experience into a practical and flexible framework for teams developing data-driven decision support tools. It is intended as a guide rather than a rigid recipe: development is iterative, stakeholder-driven, and shaped by technical, scientific, organisational, and social considerations.



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The overall framework



Structured steps for clarity — but iterative, overlapping, and continuously refined in practice.



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STEP
0

Who's hungry?

Stakeholder engagement and project design



- Define the problem and the outcome of interest.
- Ask: What are you trying to learn from the data?
- Engage stakeholders early through interviews, focus groups, observation, or surveys.
- Bring technical possibilities and practical needs into dialogue.
- Build trust from the outset and consider sustainability early.



STEP
1

Get your quality ingredients

Data acquisition and processing



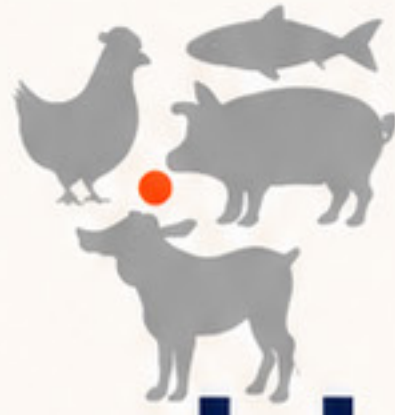
- Identify relevant data sources and assess quality, provenance, precision, and interoperability.
- Establish data-sharing agreements, governance, roles, and secure transfer mechanisms.
- Plan data flows and update routines.
- Document metadata and limitations so data remain interpretable and reusable.





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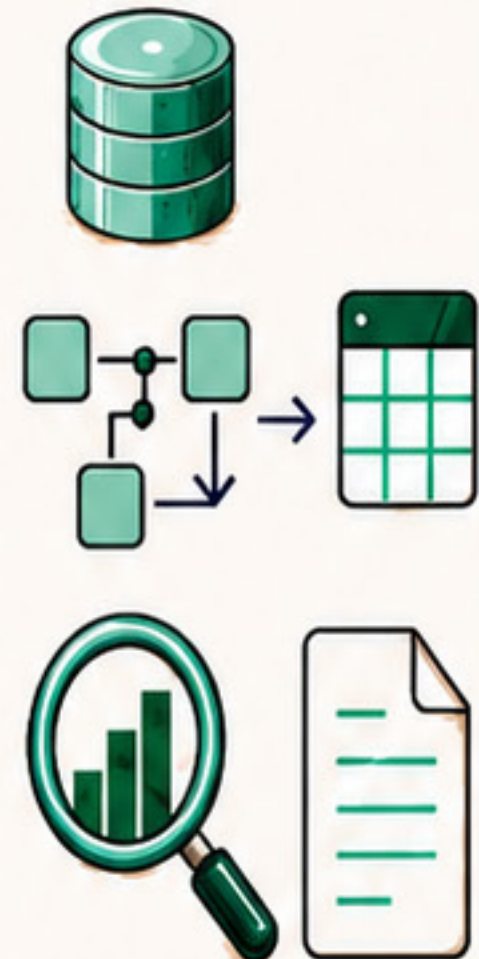
STEP
2

Wash and slice your ingredients



- Clean, structure, transform, and analyse data using reproducible workflows.
- Automate pipelines where possible and minimise manual intervention.
- Ensure the necessary expertise and infrastructure are in place.
- Make analytical choices transparent, robust, and aligned with the intended outputs (remember the needs identified in [Step 0!](#)).

Data management, analysis and production of outputs



STEP
3

Turn on the heat, mix all ingredients and bring it to a boil



- Translate analytical outputs into an accessible tool, dashboard, or interface.
- Reduce user burden through clarity, usability, and relevance.
- Prototype early and test concepts with users.
- Choose coding approaches and software practices that support maintenance and future development.



Tool design and development





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STEP 4

Remember to set the table and think how you will plate the meal



- Make the tool available in real-world settings through suitable platforms, access arrangements, and user support.
- Use prototypes to trial the tool and collect feedback.
- Consider tutorials, onboarding, user profiles, and integration into existing workflows.
- Deployment should help users understand when, why, and how the tool creates value.



Tool deployment



STEP 5

Taste it, adjust salt and pepper as needed



- Treat the tool as a living instrument rather than a static product.
- Evaluate usability, trust, relevance, and actionability.
- Use feedback to refine visualisations, features, data sources, thresholds, and outputs.
- Updating is a natural consequence of learning and changing user needs.



Evaluation and updating





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STEP
6

Planning for the next meal

Tool
sustainability

Who will maintain the kitchen and equipment for the next meal?

- Plan early for long-term ownership, hosting, financing, governance, and maintenance.
- Sustainable tools must create clear value for users and address a real demand.
- Define responsibilities, ambassadors, and organisational ownership.
- Support sustainability with legal agreements, reliable long-term data flows, robust pipelines, and technical maintenance.
- Partnerships, communication, and business planning are essential from the beginning.



**Sustainability is not an afterthought –
it should be considered from the start.**



Concluding remarks



1



The **DECIDE** Cookbook provides a practical framework for organising the most relevant steps in the development of data-driven decision support tools.

2



Stakeholder engagement and transdisciplinary collaboration are central throughout the process.

3



The framework should not be interpreted as strictly linear; development is iterative and earlier steps are often revisited.

4



Because the framework emerged from the experience and research of **DECIDE** and its tools and prototypes, it offers grounded guidance for future tool-development initiatives.

5



As livestock production digitalises and artificial intelligence becomes more common, the Cookbook can help support a more organised, transparent, and user-centred digitalisation process in the veterinary sciences community.



*A recipe to organise development –
and to support better data-driven decisions.*

Let's cook more meals.



A practical guide for developing data-driven decision support tools.



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