

# DataCentral Workbench GenAI Survey Findings

## 1. Background

DataCentral Workbench, formerly known as Hubble, was inherited by BDT in 2024. Workbench enables data consumers to perform ad hoc queries on datasets in Redshift clusters using SQL syntax. In 2025, BDT is taking on a goal to “Integrate conversational Gen AI into DataCentral Workbench to accelerate query authoring.”

From 10/16/24 - 10/24/24, a survey was conducted with DataCentral users to 1) identify use cases in Workbench that would benefit from AI capabilities 2) determine users’ expectations for AI in Workbench.

## 2. Executive Summary

“Write me a query from a command. It would spot optimisation opportunities in queries I am writing or existing queries. It would point out syntax errors and offer corrections. It could summarise a query I had been given by someone else.” - Post delivery experience

***“AI has become a contentious buzzword, with every other tool having a painfully insufficient AI taped onto it. If you're going to do it, do it well.”*** - ICQA data analyst

- The majority of Workbench users are purely data consumers
- Query optimization is the primary use case where AI would be beneficial
- Users mostly use Cedric or no AI tools for their work
- Users want AI-driven query optimization to decrease query execution time
- Users want AI-driven syntax and error checking to reduce manual troubleshooting
- Users want AI-driven help with discovering the right datasets and columns to use
- Users want AI-driven query authoring and explanations to reduce time writing queries
- Users want non-intrusive AI integration in Workbench

**Recommendation:** The p0 AI integration in Workbench should 1) provide optimization suggestions for a provided query 2) check syntax and identify errors for a provided query. The experience should be unobtrusive and entirely optional. The p1 should 1) generate a query from a plain language command 2) autocomplete queries 3) provide an explanation for a provided query. Post-p1, the AI integration should assist with dataset discovery and recommendations.

| User Story                                                                                                                                             | Priority |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| As a Workbench user, I want GenAI to provide optimization suggestions for a provided query, so that my query execution time is decreased.              | 0        |
| As a Workbench user, I want GenAI to check syntax and identify errors for a provided query, so that my manual troubleshooting effort is reduced.       | 0        |
| As a Workbench user, I want an optional GenAI experience, so that it is unobtrusive and doesn't disrupt my typical workflows.                          | 0        |
| As a Workbench user, I want GenAI to generate a query from a plain language command, so that I spend less time writing queries.                        | 1        |
| As a Workbench user, I want GenAI to autocomplete my queries, so that I spend less time writing queries.                                               | 1        |
| As a Workbench user, I want GenAI to provide an explanation for a provided query, so that I can better understand existing queries.                    | 1        |
| As a Workbench user, I want GenAI to help with dataset discovery and recommendations, so that I can more quickly identify datasets and columns to use. | 1+       |

### 3. Detailed Findings

**The majority of Workbench users are purely data consumers.** Based on the survey findings, the 68.18% (15/22) of participants self-identified as purely data consumers. 27.27% (6/22) indicated they are both data consumers and dataset owners, while 0 indicated they are purely dataset owners.

| Persona                            | Count (22) | Percent |
|------------------------------------|------------|---------|
| Data consumer                      | 15         | 68.18%  |
| Both                               | 6          | 27.27%  |
| Neither (don't use Andes datasets) | 1          | 4.55%   |
| Dataset owner                      | 0          | 0%      |

**Query optimization is the primary use case where AI would be beneficial.** When asked to select up to 3 use cases where AI would be beneficial, 16/22 (72.73%) selected query optimization, 13/22 (59.09%) selected debugging and troubleshooting, and 12/22 (54.55%) selected dataset discovery. Participants did not seem to have a strong use case for cost estimation, which received only one vote.

| Use Case                      | Count (22) | Percent |
|-------------------------------|------------|---------|
| Query optimization            | 16         | 72.73%  |
| Debugging and troubleshooting | 13         | 59.09%  |
| Dataset discovery             | 12         | 54.55%  |
| Query explanations            | 10         | 45.45%  |
| Query authoring               | 9          | 40.91%  |
| Help and documentation        | 8          | 36.36%  |
| Other                         | 2          | 9.09%   |
| Cost estimation               | 1          | 4.55%   |

**Users mostly use Cedric or no AI tools for their work.** When asked which AI tools they use for their work, 8 participants said they use Cedric and 6 said they use none. Users primarily use AI tools to help with optimizing and improving queries, checking syntax, fixing code errors, general coding support, and summarizing and creating documentation. One user who doesn't use AI tools noted that they don't use them because "All I've tried have been inaccurate and frustratingly unhelpful."

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| AI Tool       | Count | What do you use them for?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cedric        | 8     | <i>"Mostly brainstorming, jumpstarting a doc in a certain framework, and summarization of files."</i><br><i>"for summarizing docs"</i><br><i>"for sql doubts and for writting"</i><br><i>"Query optmiization, discovering new syntax"</i><br><i>"for code help"</i><br><i>"coding support, text correction, idea generation, translation"</i><br><i>"Doc Writing, Markdown help (for example, creating tables to display on SIM from excel), Excel help, SQL help"</i><br><i>"To fix code errors, to optimize postgres sql queries, as a thought partner when logic building"</i> |
| None          | 6     | <i>"All I've tried have been inaccurate and frustratingly unhelpful. Copilot has been occasionally helpful for home/personal dev use but is not approved for use here."</i><br><i>"Currently none due to data privacy restrictions."</i>                                                                                                                                                                                                                                                                                                                                          |
| ChatGPT       | 4     | <i>"Query optmiization, discovering new syntax"</i><br><i>"Use for checking syntax, setting up case statements, and checking for some optimization to make queries run faster"</i><br><i>"to help make SQL queries"</i><br><i>"To fix code errors, to optimize postgres sql queries, as a thought partner when logic building"</i>                                                                                                                                                                                                                                                |
| Amazon Q      | 3     | <i>"for improving queries and questions in general about logic creation for particular queries"</i><br><i>"refactoring optimizing"</i>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Claude        | 2     | <i>"Use for checking syntax, setting up case statements, and checking for some optimization to make queries run faster"</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ChatOps       | 2     | <i>"to look up definitions on unfamiliar terms."</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| BedrockBot    | 1     | <i>"Doc Writing, Markdown help (for example, creating tables to display on SIM from excel), Excel help, SQL help"</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Party Rock    | 1     | <i>"Mostly brainstorming, jumpstarting a doc in a certain framework, and summarization of files."</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PowerChat     | 1     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CodeWhisperer | 1     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LLM Workbench | 1     | <i>"for code help"</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Users want AI-driven query optimization to decrease query execution time.

When asked their primary pain points and what they'd like to see in an AI integration, multiple users described how AI could be beneficial to improving existing queries by "reducing the run time" and "less query timeouts." It could help identify when "inefficient querying techniques" are being used or when the query is not "following best practices...specific to the table types." One user suggested having an indicator on submitted queries whether they were AI-generated to tell if it performed better or worse.

- *"AI can likely do a good job of determining when an analyst is accidentally doing a full scan of a large (1B+ row) table, or using other inefficient querying techniques."* - Anonymous
- *"Reducing the run time of a query by optimizing it."* - Anonymous
- *"Too much use of SELECT \* rather than SELECT column A, column B whcih results in heavier loads on Redshift based and other column-oriented engines so suggeesnt/creating queries with only what's needed helps clarify queries and improves execution."* - Principal digital music specialist
- *"Not sure if following best practices when writing SQL specific to the table types in the Redshift cluster (ex. Datashare vs local table vs Spectrum vs view, etc)...Help users write better queries that are optimized for the current Redshift cluster"* - Data engineer II
- *"[Biggest pain point is] The execution speed but that has significantly improved in the last year."* - Data analyst apprentice
- *"optimizing my time for writting queries"* - Business analyst intern
- *"less query time outs"* - Anonymous
- *"Might be helpful to have an indicator on the submitted query as to whether it was AI generated so we can tell if these perform better or worse"* - Principal digital music specialist

## Users want AI-driven syntax and error checking to reduce manual troubleshooting.

Users described how AI could help to “highlight common errors” because SQL servers are “terrible at giving specific error messaging.” Ideally AI could help identify syntax errors upfront to avoid “writing and running a query for it to then syntax error after running a few minutes.” It could also help those with accessibility concerns, such as “spot errors...or spelling mistakes from my dyslexia.”

- “AI can help highlight common errors, like leaving a hanging comma on the last part of a *SELECT* statement. Workbench, and SQL servers in general, are terrible at giving specific error messaging.” - Anonymous
- “I infrequently will write the query in the workbench interface. usually it is written in another tool and pasted in. If they are small edits I will make them in Workbench or if I am starting and need to grab the correct table / etc. out of the data catalogue. Auto complete, snippets, error checking, etc are not present in WB” - Sr. Prod customer insight manager
- “Writing and running a query for it to then syntax error after running for a few min. Hope would be to have an AI syntax check “must appear in group by or used in aggregate functions”” - ICQA data analyst
- “I think the AI would help spot errors for me or spelling mistakes from my dyslexia” - ICQA data analyst
- “If I have to add any, perhaps syntax suggestion.” - Transportation analyst
- “suggestions, auto-code fill,debugging, explain errors in detail.” - Anonymous
- “[Biggest pain point is] bad explanation of error and location” - Anonymous

## Users want AI-driven help with discovering the right datasets and columns to use.

Users noted that it is “often quite difficult to find the right field or table to use...Having some help there would be a time-saver and force multiplier.” It “would be nice if Workbench can give some notes/tips depending on which datasets are being queried” and provide “better explanations of tables”. Workbench “would have access to the actual data tables” so it could “help with figuring out the best joins, what tables to pull in...”

- “Would be nice if Workbench can give notes/tips depending on which datasets are being queried. ex. “did you know that X table is based on Y Andes dataset, and since it's a Spectrum table, you should always try to filter to partition columns 1, 2, 3” - Data engineer II
- “It is often quite difficult to find the right field or table to use in a company the size of Amazon. Having some help there would be a time-saver and force multiplier.” - Anonymous
- “Creating joins across fields with different names in different tables. Better explanations of tables including explanations or at least references to similar tables and tables often used in combination” - Principal digital music specialist
- “The difference with AI in workbench vs others, is that it would have access to the actual data tables and be where i execute the query. trying to optimize queries is only so good in an external tool, without the detail of the tables. In tool it COULD help with figuring out the best joins, what tables to pull in, findings indexes, sizes of tables, order of operations, etc. Also would be more helpful for error resolution vs copy/paste into another external tool” - Sr. Prod customer insight manager
- “The other most frustrating part is when the table isn't 100% up to date and I have the snapshot date as -1 so it runs without issues but returns 0 results. Have the tool check the tables and say something like “currently with (snapshot\_date - 1) will return 0 rows because of table” - ICQA data analyst
- “It's hard to find which table contains the information you need...I would like help selecting only the essential columns. I need assistance in writing filtering conditions. I would also appreciate suggestions for tables that contain the necessary information.” - BIE II
- “Knowing where to find the data within the datasets, and advanced grouping/analytics of the data” - Senior RME planner

- *"Help me navigate countless tables, when connected to cluster, and get query help, based on said tables/schema"* - Data analyst
- *"Multiple Joins, finding the right columns"* - Anonymous

### **Users want AI-driven query authoring and explanations to reduce time writing queries.**

Users described wanting the ability to provide a plain language instructions (e.g. "create a case statement...") and have AI generate the SQL code. Currently, users spend "a lot of time to write the same [code] for multiple tables," so AI would be useful to predict the structure and "autocomplete based on past queries." It could also help to give "explanation about functions."

- *"Syntax/table check and auto fill 'create a case statement with the following ranges for column\_1'"* - ICQA data analyst
- *"Taking a lot of time to write the same drop table/create temp table for multiple tables, which Q accelerates by predicting the structure"* - Investigation specialist
- *"Code completion is utter dogshit. AI can help make the completion engine slightly smarter, and make me productive."* - Anonymous
- *"Autocompletion/suggestion could potentially work, but it would have to be especially trained to work around Hubble's more important shortcomings."* - ICQA data analyst
- *"Autocomplete based on past queries. Prompt receiver with an understanding of internal data tables. Query optimization suggestions"* - Data analyst apprentice
- *"automatic joins between tables, group bys"* - Anonymous
- *"AI could help by given explanation about functions"* - Business analyst intern

### **Users want non-intrusive AI integration in Workbench.**

When asked their ideal AI integration with Workbench, multiple users described wanting the AI integration to be "unobtrusive" and "not forced" with the "ability to toggle on/off or adjust to a low/med/high setting..." One user suggested for AI functionality to be "a click away for a request, on the right side of the IDE" while another warned that "AI has become a contentious buzzword, with every other tool having a painfully insufficient AI taped onto it. If you're going to do it, do it well."

- *"An option to turn it off ;) To be honest I'm not interested in AI for Workbench. I have seen enough bad and wrong queries from people who should know better... I'm not really sure that AI is going to help people who don't know what they're doing in the first place... those people who just want to jump in and have queries given to them without understanding the queries, I'm concerned that AI is going to continue to enable them to rely on handouts (whether from other people or from AI), and as a result they will continue to use queries without understanding them, often using incorrect queries as a result. I would rather see high quality SQL training."* - ICQA data & reporting analyst
- *"Ability to toggle on/off or adjust to a low/med/high setting with its recommendations or interventions. AI should be unobtrusive and helpful. Workbench's current auto-complete is practically useless to me, as it recommends fields in tables I am not joining or querying. Datagrip does this much better."* - Anonymous
- *"To no be intrusive, but a click away for a request, on the right side of the IDE"* - Investigation specialist
- *"Not forced. AI has become a contentious buzzword, with every other tool having a painfully insufficient AI taped onto it. If you're going to do it, do it well."* - ICQA data analyst
- *"Opt in by type of usage (e.g. discovery vs. query creation)"* - Principal digital music specialist
- *"Non-intrusive. There when it's needed, not there when it's not."* - Senior RME planner

## 4. Additional Feedback

**Cost of AI is a potential concern.** One user asked about the cost of the AI: *"Who will pay for this? Is the cost of the AI going to be in the user's CPT or the BDT team's CPT?"* - Anonymous

**Users have pain points in Workbench that can be fixed without AI.** Users described issues with Workbench not directly related to AI integration. One user mentioned "browsing tables for columns" as their primary pain point, because "it's always slow...I don't even bother anymore, I go to Hoot." Another user said the failed run error is hidden behind a link, can't "save as" an existing query, and existing permissions do not work in Hubble so permissions need to be requested twice. Variables also should be fixed.

- *"Browsing tables for columns is my primary pain point when writing queries. The design used to be so great and the data was so fast in V3. Now it's always slow, even tables I have loaded before, it's constantly rebuilding and taking forever, such that I don't even bother anymore, I go to Hoot. I don't know how AI would help with that."* - ICQA data & reporting analyst
- *"That the failed run error has been hidden behind a link in the new version. Cannot 'Save as' an existing query or move to different folders. I have existing permissions with table access for ETL manager, these do not work for hubble, so I have to request permission to the same thing twice. I don't know if AI can help with those things but they are my primary pain points at the moment, some of which I just move back to ETL manager to avoid."* - Post delivery experience
- *"Seriously... Variables when? I know I sound anti-AI with this, but I'm not. There are just too many repackaged ChatGPTs floating around to not be disillusioned with bare minimum implementations."* - ICQA data analyst

## 5. Next Steps

The next steps are to prioritize p0 use cases based on user feedback and create preliminary designs.

## 6. Appendix: Study Details

### 6.1 METHODOLOGY

From 10/16/24 - 10/24/24, a survey was conducted with DataCentral users to 1) identify use cases in Workbench that would benefit from AI capabilities 2) determine users' expectations for AI in Workbench. Participants were recruited from Workbench-related Slack channels, including #datacentral-workbench-community-support and #workbench-voice-of-customers.

1. Are you a dataset owner (own Andes datasets) or data consumer (consume Andes datasets)?\* [radio button]
  - a. Dataset owner
  - b. Data consumer
  - c. Both
  - d. Neither (don't use Andes datasets)
2. Which AI tools do you use for your work (if any), and what do you use them for?\* [textarea]
3. What are your primary use cases where AI would be beneficial in Workbench? (select up to 3)\* [checkbox]
  - a. Query authoring
  - b. Query optimization
  - c. Query explanations
  - d. Dataset discovery
  - e. Cost estimation
  - f. Debugging and troubleshooting

- g. Help and documentation
  - h. Other (please note below)
4. What are your primary pain points with writing queries in Workbench and how might AI help?\* [textarea]
  5. What would you want in your ideal AI integration with Workbench?\* [textarea]
  6. Any other thoughts/comments? [textarea]

## 6.2 DELIVERABLES

- Raw survey results: orkbench-genai\_survey-results.xlsx
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| Participant | Which AI tools do you use for your work (if any), and what do you use them for?                                            | What are your primary use cases where AI would be beneficial in Workbench? (select up to 3) | What are your primary pain points with writing queries in Workbench and how might AI help?                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | What would you want in your ideal AI integration with Workbench?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Any other thoughts/comments?                                                                                                                                                                                                                                                                                                         |
|-------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           | none currently                                                                                                             | Query optimization;Query explanations;Debugging and troubleshooting                         | I think the AI would help spot errors for me or spelling mistakes from my dyslexia                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unsure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                      |
| 2           | None                                                                                                                       | Other (please note below)                                                                   | Browsing tables for columns is my primary pain point when writing queries. The design used to be so great and the data was so fast in V3. Now it's always slow, even tables I have loaded before, it's constantly rebuilding and taking forever, such that I don't even bother anymore, I go to Hoot. I don't know how AI would help with that.                                                                                                                                                                                                             | An option to turn it off :) To be honest I'm not interested in AI for Workbench. I have seen enough bad and wrong queries from people who should know better... I'm not really sure that AI is going to help people who don't know what they're doing in the first place... those people who just want to jump in and have queries given to them without understanding the queries, I'm concerned that AI is going to continue to enable them to rely on handouts (whether from other people or from AI), and as a result they will continue to use queries without understanding them, often using incorrect queries as a result. I would rather see high quality SQL training. | Nope, that's all!                                                                                                                                                                                                                                                                                                                    |
| 3           | Amazon Q - for improving queries and questions in general about logic creation for particular queries                      | Query optimization;Dataset discovery;Debugging and troubleshooting                          | Taking a lot of time to write the same drop table/create temp table for multiple tables, which Q accelerates by predicting the structure                                                                                                                                                                                                                                                                                                                                                                                                                    | To no be intrusive, but a click away for a request, on the right side of the IDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                      |
| 4           | Powerchat, Cedric, Partyrock. Mostly brainstorming, jumpstarting a doc in a certain framework, and summarization of files. | Query authoring;Query optimization;Dataset discovery                                        | AI can likely do a good job of determining when an analyst is accidentally doing a full scan of a large (1B+ row) table, or using other inefficient querying techniques. AI can help highlight common errors, like leaving a hanging comma on the last part of a SELECT statement. Workbench, and SQL servers in general, are terrible at giving specific error messaging. Finally, it is often quite difficult to find the right field or table to use in a company the size of Amazon. Having some help there would be a time-saver and force multiplier. | Ability to toggle on/off or adjust to a low/med/high setting with its recommendations or interventions. AI should be unobtrusive and helpful. Workbench's current auto-complete is practically useless to me, as it recommends fields in tables I am not joining or querying. Datagrip does this much better.                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                      |
| 5           | Code whisper in VSCode. Claude across the MANY interfaces we have to access                                                | Query optimization;Dataset discovery;Debugging and troubleshooting                          | I infrequently will write the query in the workbench interface, usually it is written in another tool and pasted in. If they are small edits I will make them in Workbench or if I am starting and need to grab the correct table / etc. out of the data catalogue. Auto complete, snippets, error checking, etc are not present in WB                                                                                                                                                                                                                      | The difference with AI in workbench vs others, is that it would have access to the actual data tables and be where I execute the query, trying to optimize queries is only so good in an external tool, without the detail of the tables. In tool it COULD help with figuring out the best joins, what tables to pull in, findings indexes, sizes of tables, order of operations, etc. Also would be more helpful for error resolution vs copy/paste into another external tool                                                                                                                                                                                                  | some of the things that this team is doing on this page are interesting -- <a href="https://sqlbank.bi.amazon.dev/ai_playground/inbein">https://sqlbank.bi.amazon.dev/ai_playground/inbein</a> g able to actually EXECUTE queries is what some of that is missing (and knowing details of tables if the data isn't easily available) |
| 6           | ChatOPS - to look up definitions on unfamiliar terms.                                                                      | Dataset discovery;Debugging and troubleshooting;Help and documentation                      | If I have to add any, perhaps syntax suggestion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                      |
| 7           | Cedric for summarizing docs                                                                                                | Query explanations;Dataset discovery                                                        | Too much use of SELECT * rather than SELECT column A, column B which results in heavier loads on Redshift based and other column-oriented engines so suggest/creating queries with only what's needed helps clarify queries and improves execution. Creating joins across fields with different names in different tables. Better explanations of tables including explanations or at least references to similar tables and tables often used in combination                                                                                               | Opt in by type of usage (e.g. discovery vs. query creation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Might be helpful to have an indicator on the submitted query as to whether it was AI generated so we can tell if these perform better or worse                                                                                                                                                                                       |
| 8           | Cedric, for sql doubts and for writing                                                                                     | Query optimization;Query explanations;Dataset discovery;Debugging and troubleshooting       | AI could help by given explanation about functions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | optimizing my time for writing queries                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                      |

|    |                                                                                                                                                                          |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                          |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9  | None                                                                                                                                                                     | Query optimization;Dataset discovery;Help and documentation                                                                                  | Not sure if following best practices when writing SQL specific to the table types in the Redshift cluster (ex. Datashare vs local table vs Spectrum vs view, etc)                                                                                                                                                                                                                                                                                                                           | Help users write better queries that are optimized for the current Redshift cluster                                                                                                                                                              | Would be nice if Workbench can give notes/tips depending on which datasets are being queried. ex. "did you know that X table is based on Y Andes dataset, and since it's a Spectrum table, you should always try to filter to partition columns 1, 2, 3" |
| 10 | None. All I've tried have been inaccurate and frustratingly unhelpful. Copilot has been occasionally helpful for home/personal dev use but is not approved for use here. | Query authoring;Dataset discovery;Other (please note below)                                                                                  | Missing instructions, such as variable declaration. (No, editor variables don't help.) I don't think AI can help with this. Autocompletion/suggestion could potentially work, but it would have to be especially trained to work around Hubble's more important shortcomings.                                                                                                                                                                                                               | Not forced. AI has become a contentious buzzword, with every other tool having a painfully insufficient AI taped onto it. If you're going to do it, do it well.                                                                                  | Seriously... Variables when? I know I sound anti-AI with this, but I'm not. There are just too many repackaged ChatGPTs floating around to not be disillusioned with bare minimum implementations.                                                       |
| 11 | Cedric/Chatgpt\nQuery optimization\ndiscovering new syntax                                                                                                               | Query authoring;Query optimization;Query explanations;Dataset discovery;Cost estimation;Debugging and troubleshooting;Help and documentation | Multiple Joins\n, finding the right columns                                                                                                                                                                                                                                                                                                                                                                                                                                                 | automatic joins between tables\n, group by\n                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |
| 12 | Claude                                                                                                                                                                   | Query optimization;Query explanations;Dataset discovery                                                                                      | Reducing the run time of a query by optimizing it.                                                                                                                                                                                                                                                                                                                                                                                                                                          | Chatbot                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                          |
| 13 | cedric and ilm workbench for code help                                                                                                                                   | Query authoring;Query optimization;Query explanations                                                                                        | query authoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | prompt to sql                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                          |
| 14 | amazon Q, refactoring optimizing                                                                                                                                         | Query authoring;Query optimization;Query explanations;Dataset discovery;Debugging and troubleshooting;Help and documentation                 | data discovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | suggestions, auto-code fill,debugging, explain errors in detail.                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |
| 15 | Currently none due to data privacy restrictions.                                                                                                                         | Query optimization;Help and documentation                                                                                                    | Knowing where to find the data within the datasets, and advanced grouping/analytics of the data                                                                                                                                                                                                                                                                                                                                                                                             | Non-intrusive. There when it's needed, not there when it's not.                                                                                                                                                                                  |                                                                                                                                                                                                                                                          |
| 16 | Cedric AI - coding support, text correction, idea generation, translation                                                                                                | Debugging and troubleshooting;Help and documentation                                                                                         | It's hard to find which table contains the information you need.                                                                                                                                                                                                                                                                                                                                                                                                                            | I would like help selecting only the essential columns. I need assistance in writing filtering conditions. I would also appreciate suggestions for tables that contain the necessary information.                                                |                                                                                                                                                                                                                                                          |
| 17 | BedrockBot, Cedric\n\nDoc Writing\n\nMarkdown help (for example, creating tables to display on SIM from excel)\n\nExcel help\n\nSQL help                                 | Query authoring;Query optimization;Query explanations;Debugging and troubleshooting                                                          | That the failed run error has been hidden behind a link in the new version\n\nCannot "Save as" an existing query or move to different folders\n\nI have existing permissions with table access for ETL manager, these do not work for hubble, so I have to request permission to the same thing twice\n\nI don't know if AI can help with those things but they are my primary pain points at the moment, some of which I just move back to ETL manager to avoid.                           | Write me a query from a command\n\nIt would spot optimisation opportunities in queries I am writing or existing queries\n\nIt would point out syntax errors and offer corrections\n\nIt could summarise a query I had been given by someone else |                                                                                                                                                                                                                                                          |
| 18 | Chat ops, and ChatGPT (after edits)\n\nUse for checking syntax, setting up case statements, and checking for some optimization to make queries run faster                | Query optimization;Debugging and troubleshooting                                                                                             | Writing and running a query for it to then syntax error after running for a few min.\n\nHope would be to have an AI syntax check "I must appear in group by or used in aggregate functions"\n\nThe other most frustrating part is when the table isn't 100% up to date and I have the snapshot date as -1 so it runs without issues but returns 0 results\n\nHave the tool check the tables and say something like "currently with (snapshot_date - 1) will return 0 rows because of table" | Syntax/table check and auto fill "create a case statement with the following ranges for column_1"                                                                                                                                                |                                                                                                                                                                                                                                                          |
| 19 | No AI tools currently in use. \n                                                                                                                                         | Query authoring;Query optimization;Dataset discovery                                                                                         | I do not write queries in Workbench                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Help me navigate countless tables, when connected to cluster, and get query help, based on said tables/schema                                                                                                                                    |                                                                                                                                                                                                                                                          |
| 20 | Amazon Q                                                                                                                                                                 | Query explanations;Debugging and troubleshooting;Help and documentation                                                                      | bad explanation of error and location                                                                                                                                                                                                                                                                                                                                                                                                                                                       | less query time outs                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                          |
| 21 | ChatGPT, to help make SQL queries                                                                                                                                        | Query authoring;Query optimization;Query explanations;Debugging and troubleshooting;Help and documentation                                   | Code completion is utter dogshit. AI can help make the completion engine slightly smarter, and make me productive.                                                                                                                                                                                                                                                                                                                                                                          | To not use any of my laptop's battery whatsoever when not in use                                                                                                                                                                                 | Who will pay for this? Is the cost of the AI going to be in the user's CPT or the BDT team's CPT?                                                                                                                                                        |
| 22 | ChatGPT. Cedric\n\nTo fix code errors\n\nTo optimize postgres sql queries\n\nas a thought partner when logic building                                                    | Query authoring;Query optimization;Debugging and troubleshooting                                                                             | The execution speed but that has significantly improved in the last year.                                                                                                                                                                                                                                                                                                                                                                                                                   | Autocomplete based on past queries\n\nPrompt receiver with an understanding of internal data tables\n\nQuery optimization suggestions                                                                                                            |                                                                                                                                                                                                                                                          |