Web Search Tool

PDF (/pdfs/bedrock-agentcore/latest/devguide/bedrock-agentcore-dg.pdf#gateway-target-connector-web-search-tool)
RSS (bedrock-agentcore-dg.rss)
Markdown (gateway-target-connector-web-search-tool.md)
Agent Setup
Focus mode

On this page

Select your cookie preferences
We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

Accept
Decline
Customize

managed connector that you connect to your AgentCore Gateway. Agents discover it with a standard `tools/list` call and invoke it like any other Model Context Protocol tool. There are no search APIs to provision, no outbound credentials to manage, and no result-parsing glue to maintain.

The following sections walk through the key capabilities, the architecture of the purpose-built web index, privacy guarantees, use cases, and how to set up Web Search Tool.

Topics

- Key capabilities (#gateway-target-connector-web-search-tool-key-capabilities)
- Purpose-built web index (#gateway-target-connector-web-search-tool-web-index)
- Private by design (#gateway-target-connector-web-search-tool-privacy)
- How it works (#gateway-target-connector-web-search-tool-how-it-works)
- Use cases (#gateway-target-connector-web-search-tool-use-cases)
- Set up Web Search Tool (#gateway-target-connector-web-search-tool-setup)
- Use with a harness (#gateway-target-connector-web-search-tool-harness)
- Configure domain filtering (#gateway-target-connector-web-search-tool-domain-filtering)
- Configure the Gateway Service Role (#gateway-target-connector-web-search-tool-service-role)
- Input schema (#gateway-target-connector-web-search-tool-input-schema)
- Response format (#gateway-target-connector-web-search-tool-response-format)
- Availability (#gateway-target-connector-web-search-tool-availability)
- Acceptable use (#gateway-target-connector-web-search-tool-acceptable-use)

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

- **Domain and date filtering** — Restrict searches with a target-level domain exclude list. In connector version `1.2.0` and later, targets also support a domain include list, and agents can pass per-request domain include and exclude lists and published-date bounds.
- **Purpose-built web index** — Backed by an Amazon-operated web index spanning tens of billions of documents.
- **Knowledge graph for high-confidence facts** — Grounds entities and their relationships to provide factual answers rather than leaving the model to infer them from extracted page text.
- **Semantic snippet extraction** — Pulls semantically relevant passages from each web page, optimized for a model's context window, rather than returning raw HTML or full pages.

Purpose-built web index

Many solutions that add web search to an agent are wrappers over a third-party search engine. Web Search Tool on Amazon Bedrock AgentCore is different — it is backed by a web index that Amazon builds and operates directly.

Broad coverage

The index spans tens of billions of documents. That scale matters for coverage — long-tail questions about niche libraries or obscure product specifications can be more effectively answered when the index is broad rather than limited to the most popular pages.

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose "Customize" or "Decline" to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose "Accept" or "Decline." To make more detailed choices, choose "Customize."

Semantic snippet extraction optimized for model context

Rather than handing the model a raw HTML dump or a full page, the tool performs semantically relevant snippet extraction. It pulls the passages from each web page that actually bear on the query and returns them in a form optimized for a model's context window. The result is denser, more relevant context per token — the model sees the parts that matter and spends fewer tokens on boilerplate and navigation chrome, which helps improve the precision of cited answers.

Private by design

For many enterprises, the question that stalls a web search rollout isn't "does it work" — it's "where do my users' queries go, and what happens to them?" Web Search Tool is built so those answers are straightforward.

Queries never leave AWS

When your agent issues a search, the query is served entirely within AWS infrastructure. Customer queries are not sent to a third-party search engine or routed outside AWS. The Gateway authenticates to the AWS-owned connector and routes the request internally, so the data path stays inside AWS end to end. For teams with data egress concerns, this removes an entire category of review.

How it works

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose "Customize" or "Decline" to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose "Accept" or "Decline." To make more detailed choices, choose "Customize."

5. **Grounded response** — Your agent uses the results to compose a response with cited sources.

Use cases

- **Up-to-date research** — Answer questions about current events, stock prices, or recent announcements by searching the web and synthesizing results with source citations.
- **Fact-checking** — Verify claims in documents by searching for primary sources and confirming or correcting figures using knowledge graph-backed factual answers.
- **Competitive intelligence** — Monitor competitor announcements, product launches, or pricing changes from public web sources.
- **Stale knowledge elimination** — Give agents access to information published after their training cutoff, such as new software releases, policy changes, or breaking developments.

Set up Web Search Tool

For instructions on how to create a Gateway Target with the Web Search Tool connector configuration, including setup examples using the Python SDK and CLI, see Set up Web Search Tool (./gateway-add-target-api-target-config.html#gateway-add-target-api-connector-web-search-setup) in the target configuration guide.

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

Use with a harness

To give an AgentCore harness (./harness.html) web search capability, attach the gateway target created in Set up Web Search Tool to the harness as a tool. For more information, see Tools (./harness-tools.html) in the harness documentation.

Configure domain filtering

Web Search Tool supports 2 layers of filtering that compose on every request:

- **Target-level domain exclude list and include list.** When setting up the target, the administrator configures lists of domains that the target excludes from or restricts every search to. Both lists are hidden from the calling agent and applied to every request that flows through the target.
- **Request-level filters (connector version `1.2.0` and later).** The calling agent can pass an optional `filters` object with each `tools/call` request:
  - `domainFilter` — `include` and `exclude` lists, up to 100 domains per list. Web Search Tool returns results only from domains on the `include` list and drops any result whose domain appears on the `exclude` list.
  - `publishedDateFilter` — `from` and `to` bounds, inclusive, ISO-8601 UTC. Web Search Tool returns only results with a published date that falls on or between the `from` and `to` dates.

Request-level filters compose with the target-level exclude list and include list:

- A domain is dropped from results if it appears on either the target-level exclude list or the request-level exclude list.
- A domain is returned only if it appears on every include list that is set. If only the target-level include list or only the request-level include list is set, that list is honored. If both are set, only domains present in both are returned. If the two share no domains, no results are returned.

Request-level filters cannot override the target-level exclude list or expand results beyond the target-level include list.

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

The Web Search Tool accepts the following input schema when invoked through `tools/call`. The `filters` field is available only when the target is pinned to connector version `1.2.0` or later. On earlier versions, the schema exposes only `query` and `maxResults`.

```
{
  "inputSchema": {
    "type": "object",
    "properties": {
      "query": {
        "description": "The search query string",
        "type": "string"
      },
      "maxResults": {
        "description": "Maximum number of results to return.
Valid range: 1-25. Defaults to 10.",
        "type": "integer"
      },
      "filters": {
        "description": "Optional request-level filters
(connector version 1.2.0+). Applied on top of the target-
level exclude list and include list.",
        "type": "object",
        "properties": {
```


Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

```
                "items": {"type": "string"}
              }
            }
          },
          "publishedDateFilter": {
            "description": "Per-call published-date filter.
Bounds inclusive, ISO-8601 UTC. Applies to web results
only.",
            "type": "object",
            "properties": {
              "from": {
                "description": "Earliest publication date
(ISO-8601 UTC).",
                "type": "string"
              },
              "to": {
                "description": "Latest publication date
(ISO-8601 UTC).",
                "type": "string"
              }
            }
          }
        }
      }
    },
    "required": ["query"]
  }
}
```

Field	Type	Req	Description
query	string	Yes	The search query string. Must be 200 characters or fewer.
maxResults	integer	No	Maximum number of results to return. Valid range: 1-25. Defaults to 10.

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

Field	Type	Required	Description
`filters`	object	No	Optional request-level filters. Available in connector version `1.2.0` and later.
`filters.domainFilter.include`	array of strings	No	Domains to include. Up to 100 entries.
`filters.domainFilter.exclude`	array of strings	No	Domains to exclude. Up to 100 entries.
`filters.publishedDateFilter.from`	string	No	Earliest publication date, ISO-8601 UTC.
`filters.publishedDateFilter.to`	string	No	Latest publication date, ISO-8601 UTC.

Response format

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

```
    }
  ]
}
```

Field	Type	Required	Description
`text`	string	Yes	Text content or snippet of the search result
`url`	string	No	URL of the source webpage
`title`	string	No	Title of the source webpage
`publishedDate`	string	No	Publication date of the result

Availability

The Web Search Tool connector is available in the following AWS Regions:

- US East (N. Virginia) `us-east-1`
- Europe (Ireland) `eu-west-1`
- Asia Pacific (Tokyo) `ap-northeast-1`

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”

If you use Web Search Tool, you are responsible for your use, and any use by your end users, of content retrieved from Web Search Tool ("Search Results"). You must retain and display the source citations and links provided with each Search Result in any output you surface to your end users that uses the Search Result. You may not use Web Search Tool to (a) extract, store, or reproduce content from Search Results in bulk, or (b) build or populate a competing index or database.

Top

Did this page help you?

Yes

No

Provide feedback (https://docs.aws.amazon.com/feedback/doc-feedback.html?hidden_service_name=bedrock-agentcore&topic_url=https%3A%2F%2Fdocs.aws.amazon.com%2Fbedrock-agentcore%2Flatest%2Fdevguide%2Fgateway-target-connector-web-search-tool.html)

Get Started

AWS Hands-On Tutorials (https://aws.amazon.com/getting-started/hands-on/)

AWS Solutions Library (https://aws.amazon.com/solutions/)

AWS Decision Guides (https://docs.aws.amazon.com/decision-guides/)

Service Guides

Choosing a generative AI service (https://docs.aws.amazon.com/decision-guides/latest/decision-guides/genai-guide.html)

AWS service guides (https://docs.aws.amazon.com/#gateway-quickstarts)

AWS CLI Tutorials on GitHub (https://github.com/aws-samples/sample-developer-tutorials)

Developer Tools

AWS Code Example Library (https://docs.aws.amazon.com/code-library/latest/ug/what-is-code-library.html)

AWS CLI (https://docs.aws.amazon.com/cli/)

AWS Builder Center (https://builder.aws.com/)

AWS Developer Tools Blog (https://aws.amazon.com/blogs/developer/)

Helpful Links

Download the AWS Docs MCP Server (https://github.com/awslabs/mcp/tree/main/src/aws-documentation-mcp-server)

Sign into the AWS Console (https://console.aws.amazon.com/)

AWS re:Post (https://repost.aws/)

Privacy (https://aws.amazon.com/privacy) | Site terms (https://aws.amazon.com/terms) | Cookie

Select your cookie preferences

We use essential cookies and similar tools that are necessary to provide our site and services. We use performance cookies to collect anonymous statistics, so we can understand how customers use our site and make improvements. Essential cookies cannot be deactivated, but you can choose “Customize” or “Decline” to decline performance cookies.

If you agree, AWS and approved third parties will also use cookies to provide useful site features, remember your preferences, and display relevant content, including relevant advertising. To accept or decline all non-essential cookies, choose “Accept” or “Decline.” To make more detailed choices, choose “Customize.”