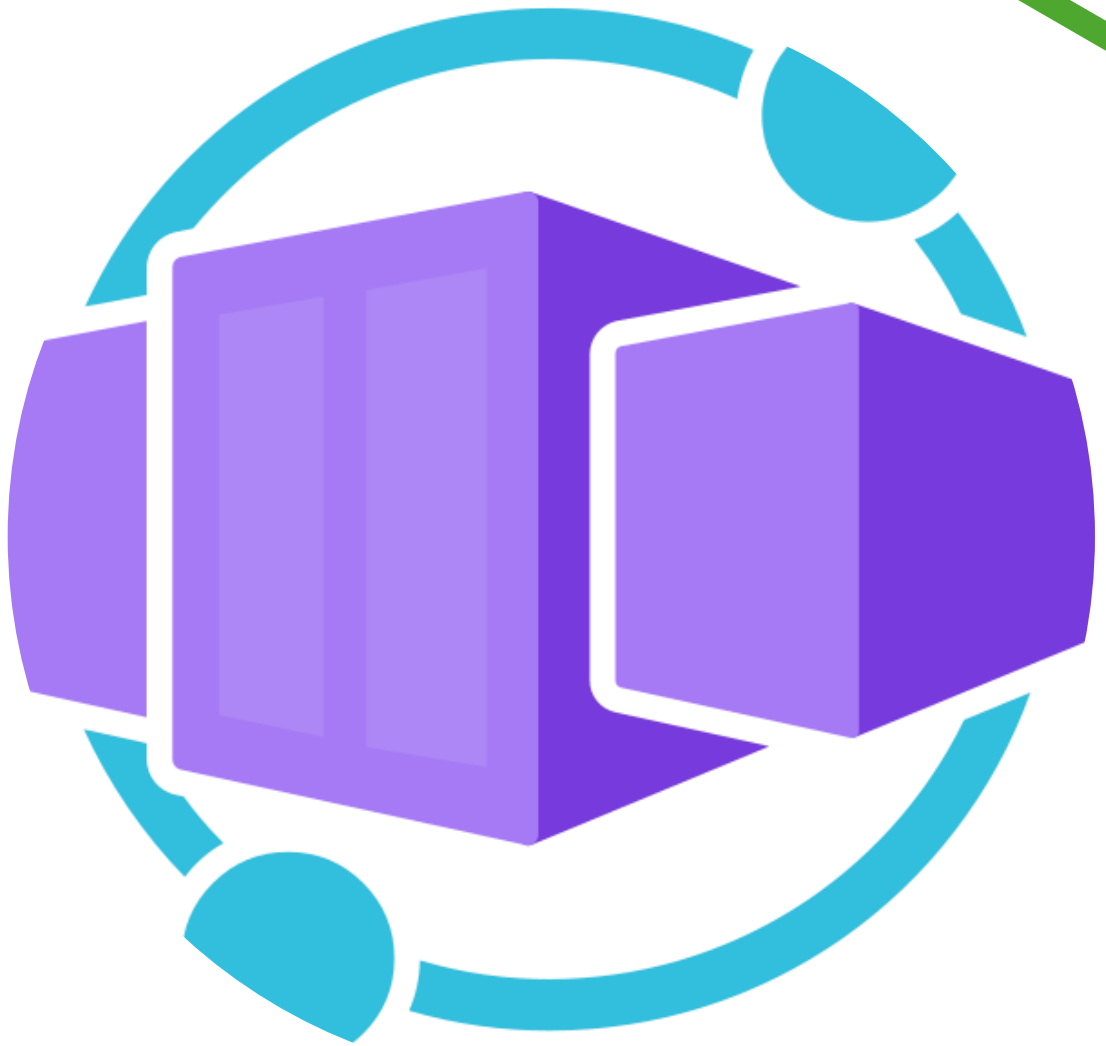
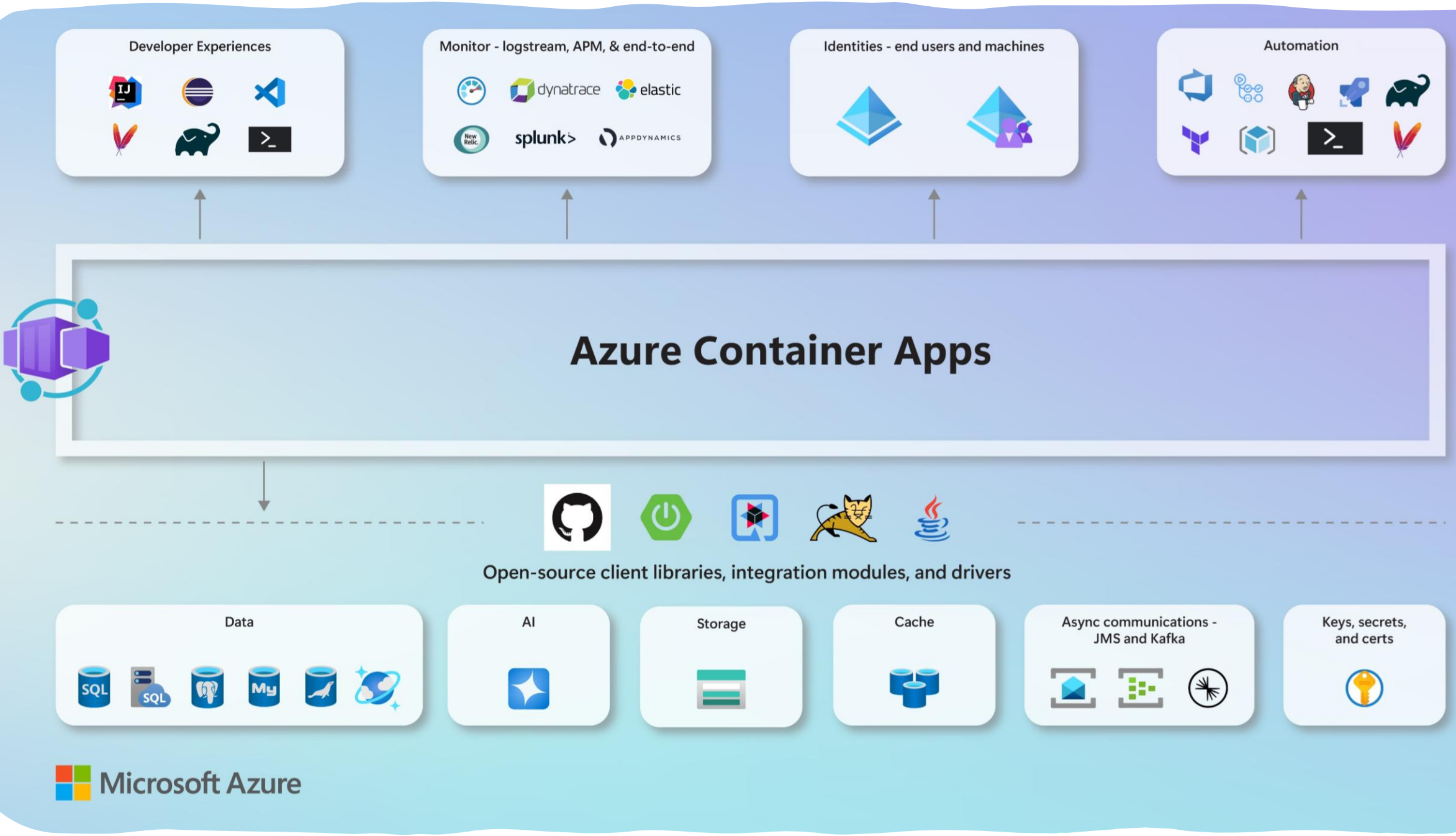


ACA Dynamic Sessions for Java with Langchain4j

Brian Benz
Cloud Advocate
Microsoft
@bbenz


Developer Experiences
Monitor - logstream, APM, & end-to-end
dynatrace
elastic
splunk>
APPDYNAMICS
Identities - end users and machines
Automation
Azure Container Apps
Open-source client libraries, integration modules, and drivers
Data
SQL
SQL
My
AI
Storage
Cache
Async communications - JMS and Kafka
Keys, secrets, and certs
Microsoft Azure

Use case

- Python Interpreter
- Custom Container
- Temporary environments that need isolation and quick startup performance
  - Isolation: For arbitrary/untrusted code execution (e.g. LLM or user-defined scripts)
  - Speed: For brief executions

Sample User scenarios

AI Chats

Prompt testing

Transient processing

Remote builds

Cloud shells

User-facing components

Session pool

Sessions

Session pool

- Resource type that sessions will run in
  - Microsoft.App/sessionPools
- Defines the container to run in sessions. Either:
  - Python interpreter (platform-managed)
  - Custom container
- If custom container: create the Session pool resource in a Container App Environment

Session pool settings

- Max # of sessions (scale out max)
- Cooldown period (scale in): any statefulness is lost after this idle period
- Secrets

Session

Represents an execution, not a resource type

Invoke via API for each execution

Can preserve state between executions with same token id (until cooldown)

Session invocation – code

- **Format:** POST https://<region>.acasessions.io/subscriptions/<subId>/resourceGroups/<rg>/sessionPools/<sessionname>/python/**execute**?identifier=myArbitrarySession1
- Body:

```
{
   "properties": {
      "codeInputType": "inline",
      "executionType": "synchronous",
      "pythonCode": “x=1;print(x);import
       time;time.sleep(1)",
      "timeoutInSeconds": 100
   }
}
```

Session invocation – authentication

Get an Azure token (e.g. via Managed Identity, Entra app, etc)

Azure ContainerApps Session Creator

Audience claim (aud): https://dynamicsessions.io

Authentication: Bearer *<token>*

Session invocation – upload file

- **Format:**

  POST https://<region>.dynamicsessions.io/subscriptions/<subId>/resourceGroups/<rg>/sessionPools/<sessionname>/python/**uploadFile**?identifier=myArbitrarySession1

- **Body:**

```
{
    “file": <binary>
}
```

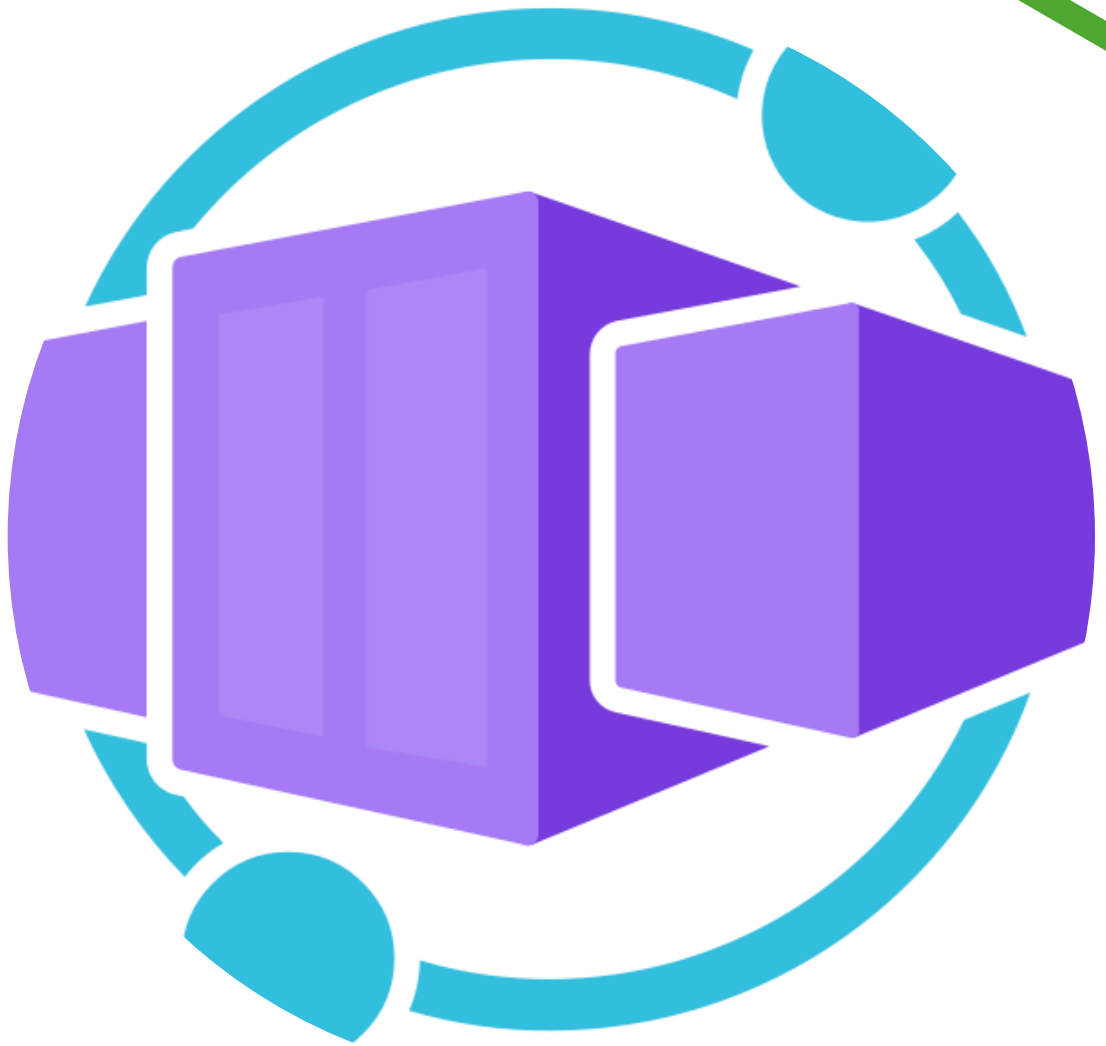
Session invocation – file list and download

- **List:**

GET https://<region>.dynamicsessions.io/subscriptions/<subId>/resourceGroups/<rg>/sessionPools/<sessionname>/python/**list**?identifier=myAbitrarySession1

- **Download:**

GET https://<region>.dynamicsessions.io/subscriptions/<subId>/resourceGroups/<rg>/sessionPools/<sessionname>/python/**downloadFile**?identifier=myAbitrarySession1&**fileName**=*myFile.txt*



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