EventIngestor

This is a demo repo to simulate an app which will ingest a high-volume events that could come from a device, user behavior, machine on a factory floor. From there, an aggravation or parsing and then persisting to a data store could take place. Currently, this app just outputs to Logger. Different types of supervision trees ar used, notably, a PartitionSupervisor is used to support horizontal scaling.

> Parent Supervisor: `Application` Supervisor
>
> PartitionSupervisors: `EventIngestorPartitionSupervisor`, `EventFlusherPartitionSupervisor`
>
> GenServers: `EventIngestor`, `EventFlusher(Acts like a Cronjob service)`

```
flowchart TD
    ISup(Application's Main Supervisor) -->
EIPSup(EventIngestorPartitionSupervisor)
    ISup(Application's Main Supervisor) -->
EFPSup(EventFlusherPartitionSupervisor)
    EIPSup(EventIngestorPartitionSupervisor) --> EI1(EventIngestor 1)
    EIPSup(EventIngestorPartitionSupervisor) --> EI2(EventIngestor 2)
    EIPSup(EventIngestorPartitionSupervisor) --> EI3(EventIngestor 3)
    EFPSup(EventFlusherPartitionSupervisor) --> EF1(EventFlusher 1)
    EFPSup(EventFlusherPartitionSupervisor) --> EF2(EventFlusher 2)
    EFPSup(EventFlusherPartitionSupervisor) --> EF3(EventFlusher 3)
```

Stress Testing

```
test_events = [
  %UserEvent{id: "1", user_id: "1", action_data: [type: :knob, left:
"5"]},
  %UserEvent{id: "2", user_id: "1", action_data: [type: :knob, right:
"6"]},
  %UserEvent{id: "3", user_id: "1", action_data: [type: :knob, left:
"8"]},
  %UserEvent{id: "4", user_id: "2", action_data: [type: :knob, left:
"5"]},
  %UserEvent{id: "5", user_id: "2", action_data: [type: :knob, right:
"1"]},
  %UserEvent{id: "6", user_id: "2", action_data: [type: :knob, left: "2"]}
]

# Run 100,000 simulated requests
1..100_000
|> Task.async_stream(
  fn _ ->
```

```
    # Pick a random event
    event = Enum.random(test_events)

    # Cast the event to an instance of `EventIngestor`
    EventIngestor.persist_event(event)
  end,
  # Run the tests with 2,000 concurrent process
  max_concurrency: 2_000
)
|> Stream.run()
```

Inspired by

The inspiration comes from the Elixir Patterns book, Chapter 5. Scaling up With PartitionSupervisor. As of this writing, *the elixirpatterns.dev site seems to be down*.

To start your Phoenix server:

- Run `mix setup` to install and setup dependencies
- Start Phoenix endpoint with `mix phx.server` or inside IEx with `iex -S mix phx.server`

Now you can visit `localhost:4000` from your browser.

Ready to run in production? Please check our deployment guides.

Learn more

- Official website: https://www.phoenixframework.org/
- Guides: https://hexdocs.pm/phoenix/overview.html
- Docs: https://hexdocs.pm/phoenix
- Forum: https://elixirforum.com/c/phoenix-forum
- Source: https://github.com/phoenixframework/phoenix