These instructions can be used to prepare a tabulated summary of the differences in the sizes of two AOT snapshots. The instructions assume that the Flutter Engine has been [setup](#) on the host (at `FLUTTER_ENGINE` in these instructions).

Build the AOT snapshot (`flutter build aot`) for the application but pass in the `--verbose` flag. We need to find the `gen_snapshot` invocation and re-run it with an extra option (`--print-instructions-sizes-to`). If you are instrumenting with a local engine, the `flutter build` takes the `--local-engine` flag as well.

Here is an example of the updated invocation. Specify the path to a JSON file that acts as a summary (`SUMMARY_LOCATION` in these instructions) as follows.

```
$FLUTTER_ENGINE/out/host_debug_unopt/gen_snapshot                        \
  --print-instructions-sizes-to=$SUMMARY_LOCATION                        \
  --causal_async_stacks                                                  \
  --packages=.packages                                                   \
  --deterministic                                                        \
  --snapshot_kind=app-aot-blobs                                          \
  --vm_snapshot_data=build/aot/vm_snapshot_data                         \
  --isolate_snapshot_data=build/aot/isolate_snapshot_data               \
  --vm_snapshot_instructions=build/aot/vm_snapshot_instr               \
  --isolate_snapshot_instructions=build/aot/isolate_snapshot_instr    \
  build/aot/app.dill
```

Save the file at `SUMMARY_LOCATION` as `before.json`

Now, either change the Dart code with the changes you wish to see the effects, or, rebuild the engine to create an updated `gen_snapshot` binary.

After you have made necessary changes, re-run `flutter build aot` again. This step is important because AOT compilation has a [kernel compilation step](#) before the `gen_snapshot` invocation.

Re-run the gen_snapshot invocation and save the resulting file to `after.json` .

Run the `compare_size.dart` tool and pass in the `before.json` and `after.json` files to generate the summary.

An example invocation looks as follow.

```
$FLUTTER_ENGINE/out/host_debug_unopt/dart-sdk/bin/dart \
  before.json                                                    \
  after.json
```

This should dump something like the following to the console.

```
+-----------+------------------------------------------------------------+-------------
-+
| Library   | Method                                                     | Diff (Bytes)
|
+-----------+------------------------------------------------------------+-------------
-+
| dart:async | new ZoneSpecification.from                                |      +2136
|
| dart:async | runZoned                                                  |      +1488
```

dart:async	new _CustomZone	+927
dart:async	runZoned.<anonymous closure>	+881
dart:async	_rootFork	+504
dart:async	_rootCreatePeriodicTimer	+500
dart:async	_rootCreateTimer	+498
dart:async	_rootRegisterUnaryCallback	+485
dart:async	_rootRegisterBinaryCallback	+485
dart:async	_rootRegisterCallback	+485
dart:async	_rootPrint	+453
dart:async	_CustomZone.fork	+396
dart:async	_rootErrorCallback	+389
dart:async	_CustomZone.bindUnaryCallbackGuarded	+368
dart:async	_rootHandleUncaughtError	+342
dart:async	_CustomZone.runBinary	+296
dart:async	_CustomZone.runUnary	+293
dart:async	_CustomZone.[]	+291
dart:async	_CustomZone.registerCallback	+290
dart:async	_CustomZone.run	+290
dart:async	_CustomZone.registerUnaryCallback	+290
dart:async	_CustomZone.registerBinaryCallback	+290
dart:async	_CustomZone.runBinaryGuarded	+289
dart:async	_CustomZone.runUnaryGuarded	+286
dart:async	_RootZone.fork	+283
dart:async	_CustomZone.bindCallback	+259
dart:async	_CustomZone.bindUnaryCallback	+259
dart:async	_CustomZone.bindUnaryCallback.<anonymous closure>	+248

```
|
| dart:async | _RootZone.bindUnaryCallback.<anonymous closure>         |        +248
|
| dart:async | _CustomZone.bindUnaryCallbackGuarded.<anonymous closure> |        +248
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|            | [Stub] Type Test Type: class 'PopupMenuEntry'            |        -128
|
|            | [Stub] Type Test Type: class '_SyncIterator@0150898'     |        -128
|
|            | [Stub] Type Test Type: class 'PopupMenuItem'             |        -128
|
|            | [Stub] Type Test Type: class 'FormFieldState'            |        -128
|
|            | [Stub] Type Test Type: class 'PopupMenuButton'           |        -128
|
|            | [Stub] Type Test Type: class '_SyncIterator@0150898'     |        -131
|
|            | [Stub] Type Test Type: class '_SplayTreeMapNode@3220832' |        -139
|
|            | [Stub] Type Test Type: class '_SplayTreeMapNode@3220832' |        -165
|
| dart:io    | new Directory                                            |        -211
|
| dart:io    | new Link                                                 |        -211
|
+-----------+---------------------------------------------------------+-------------
-+
Total change +24036 bytes.
```