

A typical cfg-file example

Step 1: First specify what operations to use

```
operations = vertex_split move merge coarsening interface_coarsening refinement interface_refinement smoothing interface_smoothing optimization
```

```
import params_vertex_split      = remeshing_params/vertex_split.cfg
import params_move              = remeshing_params/move.cfg
import params_merge             = remeshing_params/merge.cfg
import params_coarsening        = remeshing_params/coarsening.cfg
import params_interface_coarsening = remeshing_params/interface_coarsening.cfg
import params_refinement        = remeshing_params/refinement.cfg
import params_interface_refinement = remeshing_params/interface_refinement.cfg
import params_smoothing         = remeshing_params/smoothing.cfg          # Laplacian smoothing of non-interface vertices
import params_interface_smoothing = remeshing_params/interface_smoothing.cfg
import params_optimization       = remeshing_params/optimization.cfg      # edge flip optimization
```

Step 2: Create some namespaces from other cfg-files

```
#syntax: assign = operation_nameX label_valueY scope_name;
```

```
assign = vertex_split      0 vertex_split
assign = vertex_split      1 vertex_split

assign = move              1 params_move

assign = merge             0 params_merge
assign = merge            1 params_merge

assign = coarsening        0 params_coarsening
assign = coarsening        1 params_coarsening

assign = interface_coarsening 0 params_interface_coarsening
assign = interface_coarsening 1 params_interface_coarsening

assign = refinement        0 params_refinement
assign = refinement        1 params_refinement

assign = interface_refinement 0 params_interface_refinement
assign = interface_refinement 1 params_interface_refinement

assign = smoothing         0 params_smoothing
assign = smoothing         1 params_smoothing

assign = interface_smoothing 0 params_interface_smoothing
assign = interface_smoothing 1 params_interface_smoothing

assign = optimization      0 params_optimization
assign = optimization      1 params_optimization
```

```
#syntax: override = operation_nameX label_valueY parameter_nameX parameter_valueY
```

```
override = interface_refinement 0 max_iterations 0          # Turn off interface refinement for ambient space
override = interface_coarsening 0 max_iterations 0          # Turn off interface coarsening for ambient space

override = interface_refinement 1 lower_threshold 0.04
override = interface_coarsening 1 upper_threshold 0.001

override = refinement           1 lower_threshold 0.05
override = coarsening           1 upper_threshold 0.001

override = refinement           0 lower_threshold 0.08
override = coarsening           0 upper_threshold 0.02

override = merge                0 angle_threshold 175.0
override = merge                1 angle_threshold 175.0

override = move                 0 strength 0.99
override = move                 1 strength 0.99
```

Step 3: Assign values from namespaces to operations when working on specific phases

Step 4: Override assigned values to customise behaviour

Step 1 — Specify Operations

- One use the command syntax
 - `operations = {operation_name}`
 - `operation_name = vertex_split | move | merge coarsening | interface_coarsening | refinement | interface_refinement | smoothing | interface_smoothing | optimization`
- The operation names are hard-wired into GRIT as keywords and only those names are allowed.
- If a name is omitted then it means that GRIT will not perform this type of operation. It is effectively turned off.
- The names appear unordered and their order has nothing to do with the order that GRIT will perform the corresponding operation batches in.