

```
{nav2_core::Controller
  ||}
```



```
{cl_nav2z::backward
_local_planner::BackwardLocal
  Planner
|- nh_
|- name_
|- backwardsPlanPath_
|- costmapRos_
|- tf_
|- goalMarkerPublisher_
|- planPub_
|- k_rho_
|- k_alpha_
|- k_beta_
|- pure_spinning_allowed
  _beta_error_
|- linear_mode_rho_error
  _threshold_
|- alpha_offset_
|- beta_offset_
|- max_linear_x_speed_
|- max_angular_z_speed_
|- yaw_goal_tolerance_
|- xy_goal_tolerance_
|- carrot_distance_
|- carrot_angular_distance_
|- divergenceDetectionLastCarrot
  LinearDistance_
|- transform_tolerance_
|- waitingTimeout_
|- waitingStamp_
|- goalReached_
|- initialPureSpinningStage_
|- straightBackwardsAndPure
  SpinningMode_
|- enable_obstacle_checking_
|- inGoalPureSpinningState_
|- waiting_
|- currentCarrotPoseIndex_
|+ BackwardLocalPlanner()
+ ~BackwardLocalPlanner()
+ configure()
+ activate()
+ deactivate()
+ cleanup()
+ setPlan()
+ computeVelocityCommands()
+ isGoalReached()
+ setSpeedLimit()
- updateParameters()
- findInitialCarrotGoal()
- updateCarrotGoal()
- resamplePrecisePlan()
- straightBackwardsAndPure
  SpinCmd()
- clearMarkers()
- publishGoalMarker()
- computeCurrentEuclideanAnd
  AngularErrorsToCarrotGoal()
- checkGoalReached()
- checkCurrentPoseInGoalRange()
- resetDivergenceDetection()
- divergenceDetectionUpdate()
- checkCarrotHalfPlainConstraint()
- generateTrajectory()
- computeNewPositions()
}
```