

I recommend the creation of a multi-attribute composite search index for RouteID, srcAirport and dstAirport in Routes. The index is a primary index since it contains routeID, unclustered since it is used for equality not range comparison. This index is beneficial because these attributes are present in the where clause of many queries (Q4, Q5b, Q7a, Q8a) where they are compared for equality. Choosing a composite search index for these fields will speed up the query when it is filtering by all of these fields in the same where clause.

Additionally, I recommend the creation of a single attribute, unclustered primary index on personID, since almost all queries in this assignment use personID to join the person, passenger, cabincrew, ground staff, or pilot tables. This index is unclustered again because it is used for equality comparisons, and primary because personID is a primary key. This will significantly speed up joins for schemas containing personID across all queries.