Some important classes of infinite groups share some properties satisfied by free groups. For example, residual finiteness is satisfied by many infinite groups. In addition, it has been conjectured that some well-known groups, including one relator groups with torsion and hyperbolic groups, are residually finite. And also, group algebras of those groups are often primitive. In may talk, we consider the relationship between such properties of infinite groups and primitivity of group algebras of their groups.