In the present work we investigate into security proofs techniques in symmetric cryptography with aim at authenticated encryption schemes. The results of this area are in each chapter shown and proven. We begin with studying security notions of symmetric cryptography and relations among them. Then we analyze security of authenticated encryption schemes designed by generic composition and introduce keyed hash functions and the NMAC scheme. The last topic we study is an authenticated encryption with associated data. Finally, we describe presented proofs generally and unify the methods used.