Answer on Question #67328, Chemistry / General Chemistry

For the following equation, indicate the original acid and base and the conjugate acid and base and indicate the reasoning for your answer.

$$NH_{3\,(aq)} + H_2O \leftrightarrow NH_{4\,(aq)}^{+} + OH_{(aq)}^{-}$$

Solution:

According to Brensted-Lowry acid-base theory, the acid is H^+-donor and the base is H^+-acceptor. In our case, the donor is H_2O, and the acceptor is NH_3. For H_2O – acid the conjugated base must be OH^- and for NH_3 – base the conjugated acid must be NH_4^+.