



# Plutus Examples

## Vesting Example

```
party Owner;
party Beneficiary;

policy TimeLock =
0x6b9c456aa650cb808a9ab54326e039d5235ed69f069c9664a8fe5b69;

type State {
  lock_until: Int,
  owner: Bytes,
  beneficiary: Bytes,
}

tx lock(
  quantity: Int,
  until: Int
) {
  input source {
    from: Owner,
    min_amount: Ada(quantity) + fees,
  }
}
```

```
    output target {
      to: TimeLock,
      amount: Ada(quantity),
      datum: State {
        lock_until: until,
        owner: Owner,
        beneficiary: Beneficiary,
      },
    }
  }

  output {
    to: Owner,
    amount: source - Ada(quantity) - fees,
  }
}

tx unlock(
  locked_utxo: UtxoRef
) {
  input gas {
    from: Beneficiary,
    min_amount: fees,
  }

  input locked {
    from: TimeLock,
    ref: locked_utxo,
    redeemer: (),
  }

  output target {
    to: Beneficiary,
    amount: gas + locked - fees,
  }
}
```

# Order-book Example

```
party Sender;
party Receiver;

// Always true plutus v2
policy OrderBook = 0x39c520d0627aafa728f7e4dd10142b77c257813c36f57e2cb88f72a

// Policy always true
asset ControlToken = 0x13a0e59ca61ab277e909ffd20def27d296051fbc634cf623c0232
asset Ask = 0x13a0e59ca61ab277e909ffd20def27d296051fbc634cf623c02322a5.ASK;
asset Bid = 0x13a0e59ca61ab277e909ffd20def27d296051fbc634cf623c02322a5.BID;

type AssetClass {
  policy: Bytes,
  name: Bytes,
}

type DatumValue {
  asset_class: AssetClass,
  amount: Int,
}

type OrderInfo {
  sender_address: Bytes,
  token: DatumValue,
}

type OrderDatum {
  info: OrderInfo,
  control_asset_class: AssetClass,
```

```

}

tx new_order() {
  input source {
    from: Sender,
    min_amount: fees + Bid(1) + Ada(2000000),
  }

  mint {
    amount: ControlToken(1),
    redeemer: (),
  }

  output change {
    to: Sender,
    amount: source - Ada(2000000) - fees - Bid(1),
  }

  output order {
    to: OrderBook,
    amount: Ada(2000000) + Bid(1),
    datum: OrderDatum {
      info: OrderInfo {
        // Problem: serialize address into datum
        sender_address:
0x00eb5a3cf99aa1d77357864ed2d2fcbdb07a292363f0944122c510a30d58305b9bc8f9bea6
        token: DatumValue {
          // Problem: serialize the ASK token
          asset_class: AssetClass {
            policy: 0x13a0e59ca61ab277e909ffd20def27d296051fbc63
            name: "ASK",
          },
          amount: 1,
        },
      },
    },
  },
}

```

```
- ,  
  // Problem: serialize the CONTROL token  
  control_asset_class: AssetClass {  
    policy: 0x13a0e59ca61ab277e909ffd20def27d296051fbc634cf623c0  
    name: "CONTROL",  
  },  
},  
},  
}
```