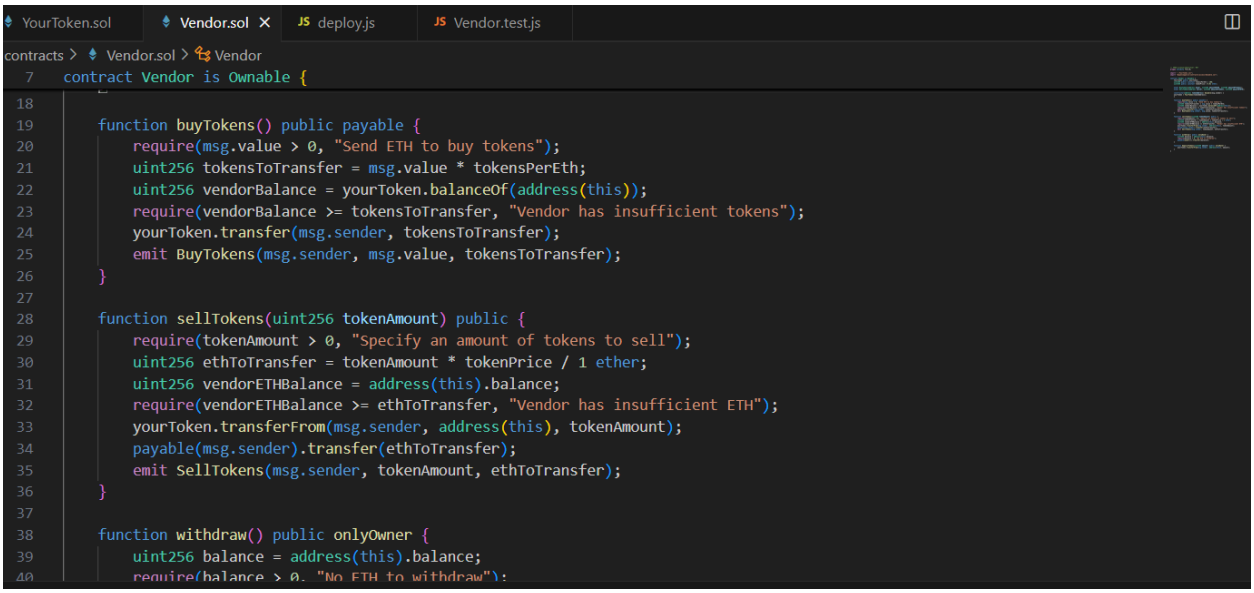
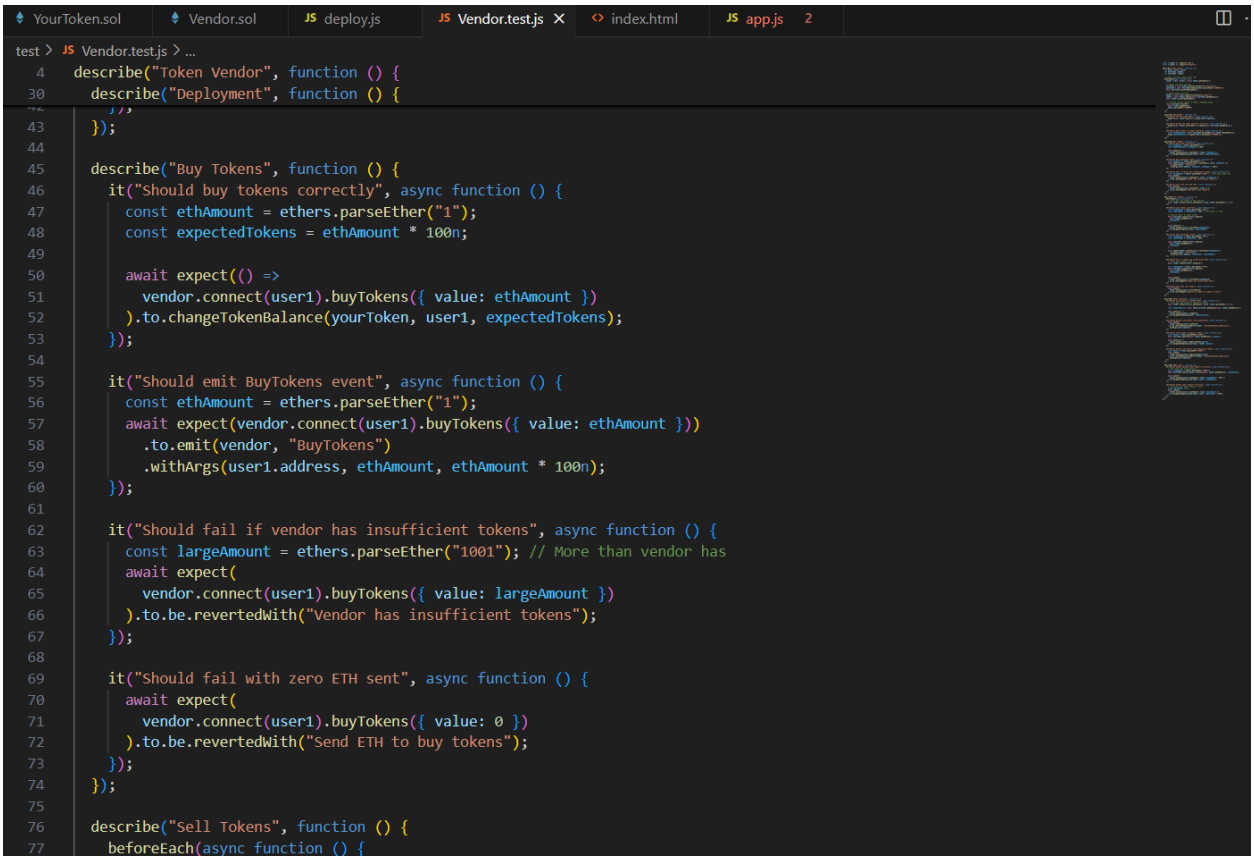
Hàm buy và sell trong vendor contract



file test buy and sell token

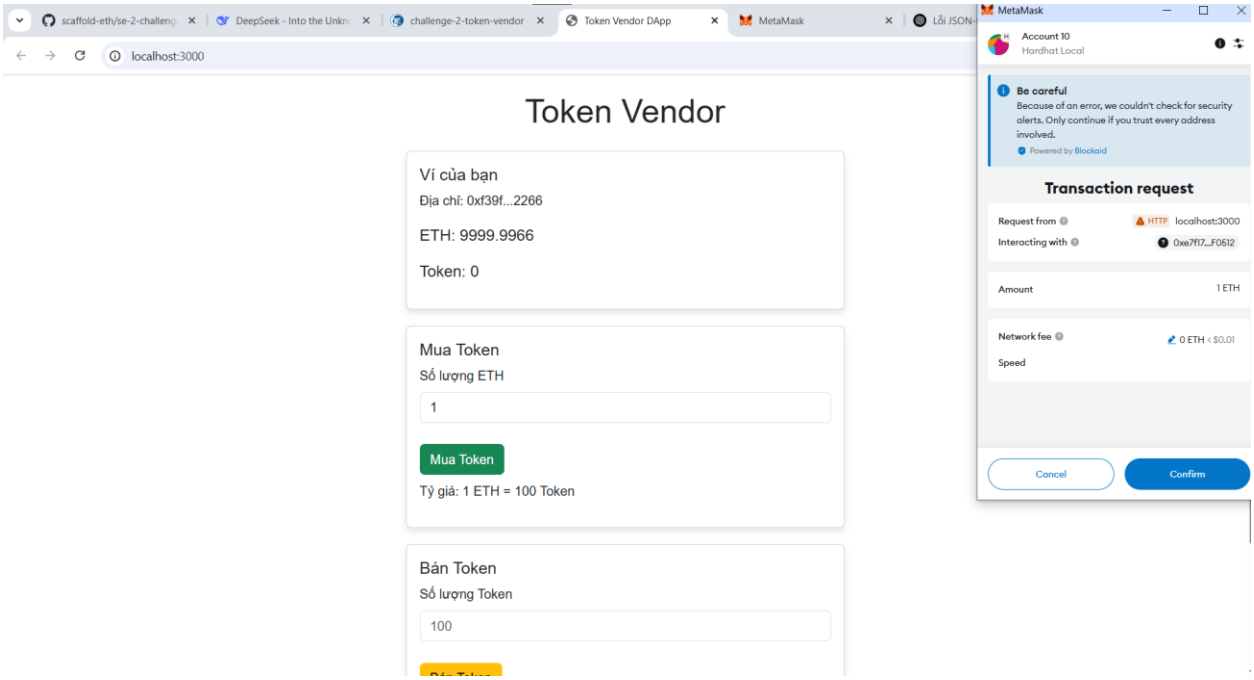


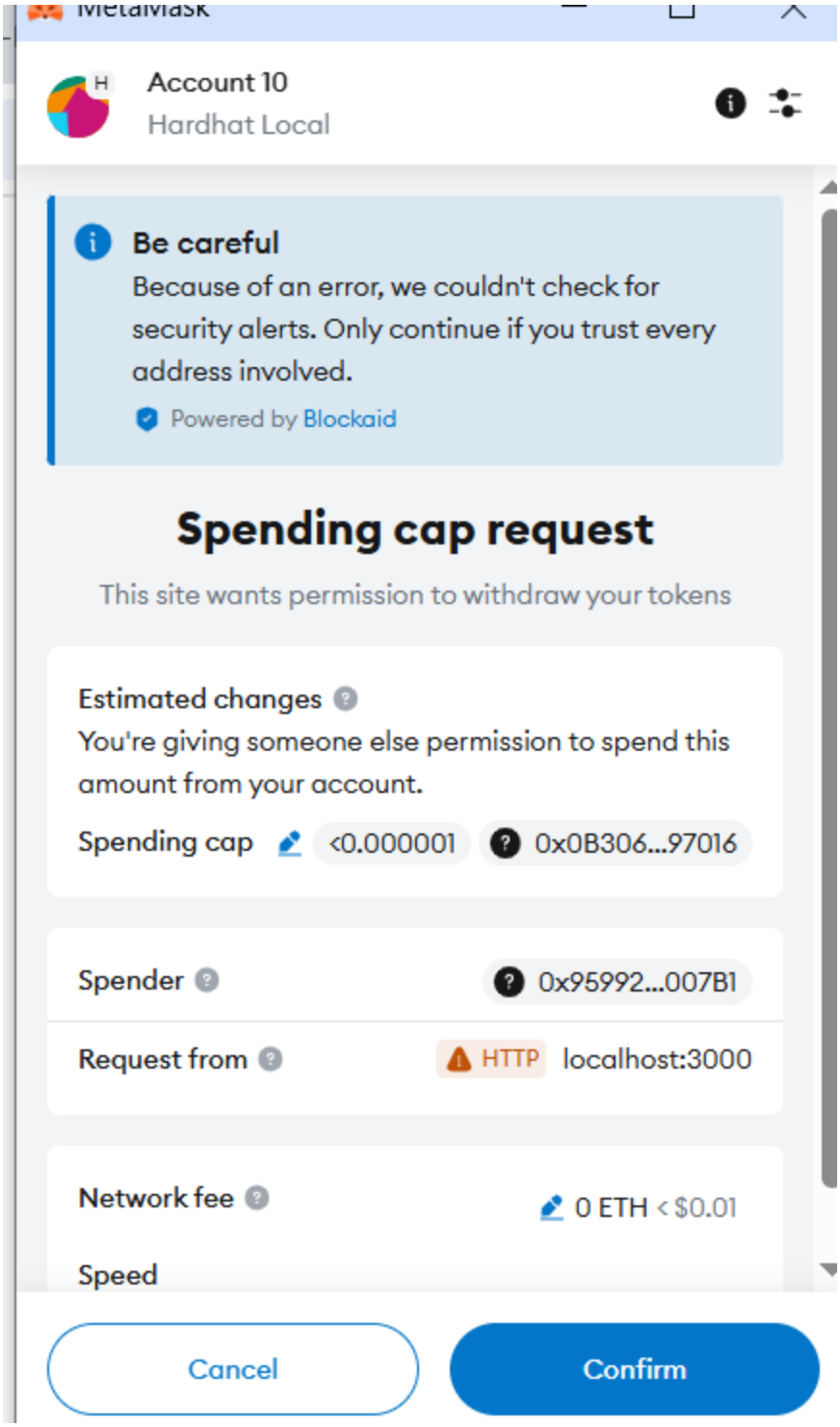
```
it("Should sell tokens correctly", async function () {
  const tokenAmount = ethers.parseEther("100");
  const expectedEth = tokenAmount / 100n; // 100 tokens = 1 ETH

  // Approve vendor to spend tokens
  await yourToken.connect(user1).approve(
    await vendor.getAddress(),
    tokenAmount
  );

  await expect(() =>
    vendor.connect(user1).sellTokens(tokenAmount)
  ).to.changeEtherBalance(user1, expectedEth);
});

it("Should emit SellTokens event", async function () {
  const tokenAmount = ethers.parseEther("100");
  const expectedEth = tokenAmount / 100n;

  await yourToken.connect(user1).approve(
    await vendor.getAddress(),
    tokenAmount
  );

  await expect(vendor.connect(user1).sellTokens(tokenAmount))
    .to.emit(vendor, "SellTokens")
    .withArgs(user1.address, tokenAmount, expectedEth);
});

it("Should fail if vendor has insufficient ETH", async function () {
  // First drain vendor's ETH
  await vendor.connect(owner).withdraw();

  const tokenAmount = ethers.parseEther("100");
```

```
describe("Sell Tokens", function () {
  it("Should emit SellTokens event", async function () {
    await yourToken.connect(user1).approve(
      await vendor.getAddress(),
      tokenAmount
    );

    await expect(vendor.connect(user1).sellTokens(tokenAmount))
      .to.emit(vendor, "SellTokens")
      .withArgs(user1.address, tokenAmount, expectedEth);
  });

  it("Should fail if vendor has insufficient ETH", async function () {
    // First drain vendor's ETH
    await vendor.connect(owner).withdraw();

    const tokenAmount = ethers.parseEther("100");
    await yourToken.connect(user1).approve(
      await vendor.getAddress(),
      tokenAmount
    );

    await expect(
      vendor.connect(user1).sellTokens(tokenAmount)
    ).to.be.revertedWith("Vendor has insufficient ETH");
  });

  it("Should fail with zero tokens", async function () {
    await expect(
      vendor.connect(user1).sellTokens(0)
    ).to.be.revertedWith("Specify an amount of tokens to sell");
  });
});
```

kết quả

```
      ✓ Should transfer the funds to the owner (71ms)

Token Vendor
  Deployment
    ✓ Should set the right owner
    ✓ Should assign the token contract correctly
    ✓ Should have tokens in vendor contract
  Buy Tokens
    ✓ Should buy tokens correctly
    ✓ Should emit BuyTokens event (45ms)
    ✓ Should fail if vendor has insufficient tokens
    ✓ Should fail with zero ETH sent
  Sell Tokens
    ✓ Should sell tokens correctly
    ✓ Should emit SellTokens event (41ms)
    ✓ Should fail if vendor has insufficient ETH
    ✓ Should fail with zero tokens
    ✓ Should fail if vendor has insufficient ETH
    ✓ Should fail if vendor has insufficient ETH
    ✓ Should fail with zero tokens
  Owner Functions
    ✓ Should allow owner to withdraw ETH
    ✓ Should prevent non-owners from withdrawing
    ✓ Should allow owner to deposit tokens
    ✓ Should prevent non-owners from depositing tokens
  Edge Cases
    ✓ Should handle maximum token amounts correctly
    ✓ Should handle small amounts correctly
```


scaffold-eth/se-2-challeng
DeepSeek - Into the Unkn
challenge-2-token-vendor
Token Vendor DApp
MetaMask
Lỗi JSON
localhost:3000
Token Vendor
Ví của bạn
Địa chỉ: 0xf39f...2266
ETH: 9999.9966
Token: 0
Mua Token
Số lượng ETH
1
Mua Token
Tỷ giá: 1 ETH = 100 Token
Bán Token
Số lượng Token
100
MetaMask
Account 10
Hardhat Local
Be careful
Because of an error, we couldn't check for security alerts. Only continue if you trust every address involved.
Powered by Blockaid
Transaction request
Request from
HTTP localhost:3000
Interacting with
0xe7f17...F0512
Amount
1 ETH
Network fee
0 ETH < $0.01
Speed
Cancel
Confirm


MetaMask
Account 10
Hardhat Local
Be careful
Because of an error, we couldn't check for security alerts. Only continue if you trust every address involved.
Powered by Blockaid
Spending cap request
This site wants permission to withdraw your tokens
Estimated changes
You're giving someone else permission to spend this amount from your account.
Spending cap
<0.000001
0x0B306...97016
Spender
0x95992...007B1
Request from
HTTP
localhost:3000
Network fee
0 ETH < $0.01
Speed
Cancel
Confirm